L'ORÉAL USA

# SAFETY DATA SHEET

**SDS #00-22-014-0**

**ISSUANCE DATE: April 22, 2016**

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

L'Oreal USA Products, Inc.
133 Terminal Avenue
Clark, NJ 07066

L'Oreal Canada
4895 rue Hickmore
Ville St-Laurent, H4Y 1K5
Canada

**Emergency Telephone Number:**
1-800-535-5053 (International: 352-323-3500)
In Canada – 1-613-996-6666 (Canutec) (*666 cellular)

**For further information**:
1-732-499-2741

**Poison Control Number:** 412-390-3326

**Product Name: Redken City Beats**
**(Clear, Brooklyn Blue, Times Square Teal, High Line Green, Chelsea Coral, City Ballet Pink, Midtown Magenta, Big Apple Red, Yellow Cab)**

**Recommendations on use:** Personal care product used on the hair for cosmetic effect.

**Restrictions on use:** For external use only. Use only as directed. Avoid direct contact with eyes.

## SECTION 2: HAZARDS IDENTIFICATION

**Signal Word: WARNING**

| Symbol | Classification | Hazard Statement | Prevention Statements |
|---|---|---|---|
|  | Eye Irritation Category 2A | Causes serious eye irritation | • Wash hands thoroughly after handling.<br>• Wear eye protection appropriate for the manufacturing operation being performed (goggles or face shield). |

This material is considered hazardous by the US Occupational Safety and Health Administration Hazard Communication Standard (29 CFR 1910.1200)

General Precautionary Statements: Keep out of reach of children. Read label before use.

Hazards Not Otherwise Classified: None

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Only hazardous constituents associated with the product are listed below**

| INGREDIENT: | CAS NO. | % WT |
|---|---|---|
| Behentrimonium Chloride | 68607-24-9 | ≤ 2.1% |
| Amodimethicone | 68554-54-1 | ≤ 1.2% |

## SECTION 4: FIRST AID MEASURES

**Response Statements:**

**IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing until material is sufficiently removed from the eye. **If eye irritation persists:** Get medical advice/attention.

**IF ON SKIN**: If skin irritation occurs: Wash with plenty of water. **If skin irritation persists:** Get medical attention. Take off contaminated clothing and wash it before reuse.

**IF INHALED:** Remove victim to fresh air and keep comfortable for breathing. Call a Poison Control Center if you feel unwell.

**IF SWALLOWED:** Do not induce vomiting. Never give anything by mouth to an unconscious individual. Consult a physician or Poison Control Center immediately.

**SYMPTOMS/EFFECTS**: Causes serious eye irritation.

**NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:** Consult product labeling. No special advice.

## SECTION 5: FIRE-FIGHTING MEASURES

**Notes for Non-Emergency Personnel:**

**EXTINGUISHING MEDIA:** In case of fire: Use carbon dioxide, dry chemical, foam and/or water spray to extinguish. Selection of a fire extinguisher should also be appropriate to address the location of the fire and equipment involved. Please review the tools available at your location to ensure proper availability of equipment.

**Notes for those trained to participate in an emergency:**

**SPECIAL FIRE FIGHTING PROCEDURES:** Follow National Fire Protection Association Guidelines or local guidelines appropriate for emergency response.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** None required.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxides of carbon, hydrocarbons, and/or derivatives.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Notes for non-emergency personnel:**
Consult trained response personnel for clean-up of large spills or locations where providing preliminary control of the chemical release is hazardous. Hazardous locations include areas where ignition sources cannot be controlled. Isolate the area and deny entry to unnecessary and unprotected personnel. Sections 2, 5, 7 and 8 of this document should be consulted upon use of material, to become knowledgeable of the material's hazards and how to control associated risks.

If the location is not hazardous and only a small amount of material is released, control the spill using absorbent pads while wearing the protective equipment as noted below. Clean the area with detergent and water. Prohibit discharge to drains, soil, surface and ground waters. Dispose in accordance with Section 13 of this document.

**PERSONAL PROTECTIVE EQUIPMENT:** Nitrile or vinyl gloves, safety glasses/goggles, protective clothing (e.g. apron) may be required for clean-up of large spills. Respiratory protection is typically not necessary, but may be used depending upon the size of the spill and occupational exposure limits. Respiratory protection may include the use of organic vapor cartridges. Refer to Section 8 for additional information.

**Notes for those trained to participate in an emergency:**

**ACCIDENTAL RELEASE MEASURES:** Dike and contain the free liquid and absorb on vermiculite or spill pillows/pads. Solidified materials should be placed in sturdy containers for disposal. Place spill residual in appropriate containers for disposal. Wash area completely with water. Avoid contact with wet surfaces or walkways that may become slick when residue is present. Prohibit discharge to drains, soil, surface and ground waters.

Recommendations for personal protective equipment selection are noted above. Dispose in accordance with section 13 of this document.

## SECTION 7: HANDLING AND STORAGE

**PRECAUTIONS FOR SAFE HANDLING:**
Do not eat, drink or smoke while working with chemical materials. Employees should be advised to wear appropriate protective equipment in the manufacturing environment. See section 8 of this document for protective equipment selection. All manufacturing should be performed indoors, in an enclosed environment.

Maintain a clean work environment which includes use of properly functioning containers, proper housekeeping practices.

**CONDITIONS FOR SAFE STORAGE:**

**Storage precautions for unpackaged product (manufacturing environment):** Store in a well-ventilated place and keep cool. Keep containers closed when not in use. Store where releases can easily be contained.

**Storage precautions for packaged product:** See consumer packaging.

Keep away from open drains and access to the environment.

**Incompatible materials**: None known.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**CONTROL PARAMETERS:** These criteria have been published by the referenced authority to establish exposure limits in the work environment. Employee work areas should be monitored to ensure that permissible limits are not exceeded during the work day. These references do not coincide with product use. These references are meant to be in association with the manufacturing environment.

**OCCUPATIONAL EXPOSURE VALUES:**

| Component Name (CAS-No.) | Reference | TWA | | STEL/CEILING | |
|---|---|---|---|---|---|
| | | ppm | $mg/m^3$ | ppm | $mg/m^3$ |
| No OEVs have been established for noted constituents. | OSHA PEL | -- | -- | -- | -- |
| | ACGIH TLV | -- | -- | -- | -- |
| | NIOSH REL | -- | -- | -- | -- |

**WORK HYGIENIC PRACTICES:** Ensure all work surfaces are maintained, to prevent contamination.

**ENGINEERING CONTROLS:** None required for product use. For handling large quantities of material, such as in the manufacturing of product, ventilation should be utilized. Exhaust ventilation should be utilized to maintain air concentrations of material below the occupational exposure guidelines noted above.

Local exhaust ventilation is not typically required for product use. For handling large quantities of material, such as in the manufacturing of product **--** Local Exhaust: Explosion proof. Mechanical (general): Explosion proof.

**PERSONAL PROTECTIVE EQUIPMENT:** Consistent with good hygiene practices, personal protective equipment (PPE) should be used in conjunction with other control measures including engineering controls, ventilation and isolation. See also Section 5 of this document for PPE advice, in the event of an emergency.

**Eye/Face Protection (Non-Emergency):** None required for product use. For handling of large quantities of liquid material, safety glasses with side shields/goggles are recommended.

**Skin Protection (Non-Emergency):** None required for product use. For handling large quantities of material, such as in product manufacturing, nitrile or vinyl gloves should be considered for use. Tyvek clothing may also be suitable for handling large quantities of material in the manufacturing environment.

**Respiratory Protection (Non-Emergency):** Respiratory protection is not required for product use. For manufacturing of product, respiratory protection may be considered. Ensure that the respirator meets current local occupational health and safety standards.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **APPEARANCE**: | Cream |
| **ODOR:** | Not Available |
| **ODOR THRESHOLD:** | Not Available |
| **pH:** | 3.3 – 3.7 |
| **MELTING/FREEZING POINT:** | **F:** Not Available **C:** Not Available |
| **BOILING POINT:** | **F:** Not Available **C:** Not Available |
| **FLASH POINT:** | **F:** > 212 **C:** > 100 **METHOD USED:** Closed cup |
| **EVAPORATION RATE:** | Not Available **(Butyl acetate = 1)** |
| **FLAMMABILITY:** | Not Applicable to Liquids |
| **FLAMMABLE LIMITS IN AIR:** | Not Applicable |
| **VAPOR PRESSURE (mmHg):** | @ F: Not Available @ C: Not Available |
| **VAPOR DENSITY (AIR = 1):** | @ F: Not Available @ C: Not Available |
| **RELATIVE DENSITY (H2O = 1):** | ≥ 0.98 |
| **SOLUBILITY IN WATER:** | Not Available |
| **PARTITION COEFFICIENT:** | Not Available |
| **AUTOIGNITION TEMPERATURE:** | Not Available |
| **DECOMPOSITION TEMPERATURE:** | Not Available |
| **VISCOSITY:** | Not Available |

## SECTION 10: STABILITY AND REACTIVITY

**REACTIVITY:** Material is not considered reactive under typical handling and storage conditions.

**STABILITY:** Product is stable.

**POSSIBILITY OF HAZARDOUS REACTIONS:** None known. Hazardous polymerization is not expected to occur.

**CONDITIONS TO AVOID:** None known.

**INCOMPATIBILITY (MATERIAL TO AVOID):** None known.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxides of carbon, hydrocarbons, and/or derivatives.

## SECTION 11: TOXICOLOGICAL INFORMATION

**Where information is not listed specifically for constituents, published information was not available.**

**POTENTIAL HEALTH EFFECTS**

**ACUTE HEALTH EFFECTS:**
**SKIN CORROSION/IRRITATION**: None expected
**SERIOUS EYE DAMAGE/IRRITATION**: Causes serious eye irritation.
**RESPIRATORY/SKIN SENSITIZATION**: None expected
**INGESTION**: Harmful if swallowed
**INHALATION**: None expected

**ROUTES OF EXPOSURE**: Inhalation, eyes, skin, ingestion

**SYMPTOMS**: Causes serious eye irritation.

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE**: None known.

**ACUTE TOXICOLOGY DATA FOR COMPONENTS**

| Material | Route | Species | Test Results |
|---|---|---|---|
| Behentrimonium Chloride | Oral $LD_{50}$ | Rat (OECD 401 eq.) | > 3,190 mg/kg bw |

**Skin Corrosion/Irritation:**
*Behentrimonium Chloride:* Irritating (Rabbit, OECD 404)
*Amodimethicone:* Irritating (Rabbit)

**Serious Eye Damage/Irritation:**
*Behentrimonium Chloride:* Corrosive (Rabbit, OECD 405)
*Amodimethicone:* Irritating (Rabbit)

**Respiratory Irritation:**
No Data

**Skin Sensitization:**
*Behentrimonium Chloride:* Not Sensitizing (Guinea Pig, OECD 406)

**CHRONIC HEALTH HAZARDS:**

**REPEAT DOSE TOXICITY:**
NOAEL (Behentrimonium Chloride, oral): 10 mg/kg bw/d (28d) (Rat, OECD 407) – GI tract effects

**CARCINOGENICITY:**

| Component Name (CAS-No.) | OSHA | ACGIH | NTP | IARC |
|---|---|---|---|---|
| None established | -- | -- | -- | --- |

**MUTAGENICITY:**
*Behentrimonium Chloride:* A variety of *in vitro* tests have produced negative results.

**REPRODUCTIVE TOXICITY:**
*Behentrimonium Chloride:* NOAEL: 75 mg/kg/day (Rat, OECD 421) – No effects on fertility

**DEVELOPMENTAL TOXICITY/TERATOGENICITY:**
*Behentrimonium Chloride:* NOAEL: 30 mg/kg/day (Rat, OECD 421)

## SECTION 12: ECOLOGICAL INFORMATION

Contact with the environment should be avoided. Spills and leaks should be immediately cleaned up and removed. All precautions should be taken to prevent contact with the environment. Published information regarding ingredients listed on this document area found below; where data is not listed, documentation was unavailable.

**ACUTE AND PROLONGED TOXICITY TO FISH**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Behentrimonium Chloride | $LC_{50}$ (OECD 203) | 0.5 – 1.0 mg/L | Danio rerio | 96 h |

**ACUTE TOXICITY TO AQUATIC INVERTEBRATES**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Behentrimonium Chloride | $EC_{50}$ (OECD 202) | 1.39 mg/L | Daphnia magna | 48 h |

**TOXICITY TO AQUATIC PLANTS**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Behentrimonium Chloride | $EC_{50}$ (OECD 201) | 3.48 mg/L | Desmodesmus subspicatus | 72 h |

**TOXICITY TO MICROORGANISMS**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Behentrimonium Chloride | $EC_{50}$ (OECD 209) | 43 mg/L | Activated Sludge | 3 h |

**PERSISTENCY AND DEGRADABILITY:**
*Behentrimonium Chloride:* Readily Biodegradable – OECD 301 B – 80% (28d)

**BIOACCUMULATIVE POTENTIAL:**
No Data

## SECTION 13: DISPOSAL CONSIDERATIONS

**Those responsible for the performance of disposal, recycling or reclamation activities should refer to Section 8 of this document for advice on personal protective equipment and exposure controls.**

**WASTE DISPOSAL CONTAINERS:** Appropriate containers should be utilized which may include cardboard boxes for products, metal or plastic drums.

**WASTE DISPOSAL METHOD:** This product is not considered a federal RCRA hazardous wastes when intended for disposal. Controlled incineration at a licensed waste facility is the recommended technology for treatment and disposal. This material must not be disposed through sewage.

**RCRA HAZARD CLASS:** Not Regulated

Follow all local governmental requirements intended for disposal.

## SECTION 14: TRANSPORT INFORMATION

**North American Ground Transportation**
- **IN CONSUMER PACKAGING:** Not Regulated
- **OTHER THAN CONSUMER PACKAGING:** Not Regulated

**Transport Via Water**
- **IN CONSUMER PACKAGING:** Not Regulated
- **OTHER THAN CONSUMER PACKAGING:** Not Regulated

**Transport Via Air (Domestic/International)**
- **IN CONSUMER PACKAGING:** Not Regulated
- **OTHER THAN CONSUMER PACKAGING:** Not Regulated

**Please be aware of carrier transport variations before shipping hazardous materials.**

## SECTION 15: REGULATORY INFORMATION

**National Fire Protection Association Codes:** Health: 2 Fire: 1 Reactivity: 0 Other: None

**Workplace Hazardous Materials Identification System:** Class D; Division 2, Subdivision B; Eye Irritation

This regulatory information represents the product, in its consumer packaging.

## SECTION 16: OTHER INFORMATION

**PREPARATION INFORMATION:** This is the first issuance of this document.

Author: Ronald Weslosky (Corporate Regulatory Services)

L'ORÉAL USA

# SAFETY DATA SHEET

**SDS # 00-21-015-0**

**ISSUANCE DATE: March 18, 2016**

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

L'Oreal USA Products, Inc.
133 Terminal Avenue
Clark, NJ 07066

L'Oreal Canada
4895 rue Hickmore
Ville St-Laurent, H4Y 1K5
Canada

**Emergency Telephone Number**
1-800-535-5053 US (International: 352-323-3500)
In Canada – 1-613-996-6666 (Canutec) (*666 cellular)

**For further information**:
1-732-499-2741

**Poison Control Number:** 412-390-3326

**Product Name: Redken Blonde Idol High Lift Conditioning Cream**

**Recommendations on use:** Personal care product to be mixed with companion product(s) in accordance with instructions and applied to hair for cosmetic enhancement.

**Restrictions on use:** For external use only. Use only as directed. Avoid direct contact with eyes.

## SECTION 2: HAZARDS IDENTIFICATION

**Signal Word: DANGER**

| Symbol | Classification | Hazard Statement | Prevention Statements |
|---|---|---|---|
|  | Eye Damage Category 1 | Causes serious eye damage | • Wear eye protection appropriate for the manufacturing operation being performed (goggles or face shield). |
|  | Toxic to Reproduction Category 2 | Suspected of damaging fertility or the unborn child | • Obtain special instructions before use<br>• Do not handle until all safety precautions have been read and understood.<br>• Wear nitrile or vinyl protective gloves. |
|  | Skin Sensitizer Category 1 | May cause an allergic skin reaction | • Avoid breathing mist/vapors.<br>• Contaminated work clothing must not be allowed out of the workplace. |

| Symbol | Classification | Hazard Statement | Prevention Statements |
|---|---|---|---|
| No symbol required | Skin Irritation Category 2 | Causes skin irritation | • Wash hands thoroughly after handling. |

This material is considered hazardous by the US Occupational Safety and Health Administration Hazard Communication Standard (29 CFR 1910.1200)

General Precautionary Statements: Keep out of reach of children. Read label before use.

Hazards Not Otherwise Classified: None.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Only hazardous constituents associated with the product are listed below**

| INGREDIENT: | CAS NO. | % WT |
|---|---|---|
| Ammonium Hydroxide | 1336-21-6 | ≤ 8.2% |
| Pentasodium Pentetate | 140-01-2 | ≤ 0.8% |
| **Ingredients listed below may only be contained in some shades:** | | |
| Toluene-2,5-Diamine | 95-70-5 | ≤ 0.2% |
| Resorcinol | 108-46-3 | ≤ 0.2% |

## SECTION 4: FIRST AID MEASURES

**Response Statements:**

**IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing until material is sufficiently removed from the eye. **If eye irritation persists:** Immediately call a Poison Control Center or get medical advice/attention.

**IF ON SKIN**: Wash with plenty of water. **If skin irritation or rash occurs:** Get medical advice/attention. Take off contaminated clothing and wash it before reuse. See product labeling/insert for additional treatment recommendations.

**IF INHALED:** Remove person to fresh air and keep in a position comfortable for breathing. Call a Poison Control Center if you feel unwell.

**IF SWALLOWED:** Do not induce vomiting. Never give anything by mouth to an unconscious individual. Consult a physician or Poison Control Center immediately.

**IF EXPOSED OR CONCERNED:** Get medical advice/attention.

**SYMPTOMS/EFFECTS**: Causes serious eye damage. Suspected of damaging fertility or the unborn child. May cause an allergic skin reaction. Causes skin irritation.

**NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:** Consult product labeling. No special advice.

## SECTION 5: FIRE-FIGHTING MEASURES

**Notes for Non-Emergency Personnel:**

**EXTINGUISHING MEDIA:** In case of fire: Use carbon dioxide, dry chemical, foam and/or water spray to extinguish. Selection of a fire extinguisher should also be appropriate to address the location of the fire and equipment involved. Please review the tools available at your location to ensure proper availability of equipment.

**Notes for those trained to participate in an emergency:**

**SPECIAL FIRE FIGHTING PROCEDURES:** Follow National Fire Protection Association Guidelines or local guidelines appropriate for emergency response.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** None required.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxides of carbon, ammonia, hydrocarbons, and/or derivatives.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Notes for non-emergency personnel:**
Consult trained response personnel for clean-up of large spills or locations where providing preliminary control of the chemical release is hazardous. Hazardous locations include areas where ignition sources cannot be controlled. Isolate the area and deny entry to unnecessary and unprotected personnel. Sections 2, 5, 7 and 8 of this document should be consulted upon use of material, to become knowledgeable of the material's hazards and how to control associated risks.

If the location is not hazardous and only a small amount of material is released, control the spill using absorbent pads while wearing the protective equipment as noted below. Clean the area with detergent and water. Prohibit discharge to drains, soil, surface and ground waters. Dispose in accordance with Section 13 of this document.

**PERSONAL PROTECTIVE EQUIPMENT:** Nitrile or vinyl gloves, safety glasses/goggles, protective clothing (e.g. apron) may be required for clean-up of large spills. Respiratory protection is typically not necessary, but may be used depending upon the size of the spill and occupational exposure limits. Respiratory protection may include the use of organic vapor cartridges. Refer to Section 8 for additional information.

**Notes for those trained to participate in an emergency:**

**ACCIDENTAL RELEASE MEASURES:** Dike and contain the free liquid and absorb on vermiculite or spill pillows/pads. Solidified materials should be placed in sturdy containers for disposal. Place spill residual in appropriate containers for disposal. Wash area completely with water. Avoid contact with wet surfaces or walkways that may become slick when residue is present. Prohibit discharge to drains, soil, surface and ground waters.

Recommendations for personal protective equipment selection are noted above. Dispose in accordance with section 13 of this document.

## SECTION 7: HANDLING AND STORAGE

**PRECAUTIONS FOR SAFE HANDLING:**
Do not eat, drink or smoke while working with chemical materials. Employees should be advised to wear appropriate protective equipment in the manufacturing environment. See section 8 of this document for protective equipment selection. All manufacturing should be performed indoors, in an enclosed environment.

Maintain a clean work environment which includes use of properly functioning containers, proper housekeeping practices.

**CONDITIONS FOR SAFE STORAGE:**

**Storage precautions for unpackaged product (manufacturing environment):** Store in a well-ventilated place and keep cool. Keep containers closed when not in use. Store locked up. Store where releases can easily be contained.

**Storage precautions for packaged product:** See consumer packaging.

Keep away from open drains and access to the environment.

**Incompatible materials**: None known.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**CONTROL PARAMETERS:** These criteria have been published by the referenced authority to establish exposure limits in the work environment. Employee work areas should be monitored to ensure that permissible limits are not exceeded during the work day. These references do not coincide with product use. These references are meant to be in association with the manufacturing environment.

**OCCUPATIONAL EXPOSURE VALUES:**

| Component Name (CAS-No.) | Reference | TWA | | STEL/CEILING | |
|---|---|---|---|---|---|
| | | ppm | mg/m$^3$ | ppm | mg/m$^3$ |
| Ammonium Hydroxide (as Ammonia) (7664-41-7) | OSHA PEL | 50 | 35 | -- | -- |
| | ACGIH TLV | 25 | 17 | 35 | 24 |
| | NIOSH REL | 25 | 18 | 35 | 27 |
| Resorcinol (108-46-3) | OSHA PEL | -- | -- | -- | -- |
| | ACGIH TLV | 10 | 45 | 20 | 90 |
| | NIOSH REL | 10 | 45 | 20 | 90 |

No occupational exposure values have been published for other constituents noted in Section 3.

**WORK HYGIENIC PRACTICES:** Ensure all work surfaces are maintained, to prevent contamination.

**ENGINEERING CONTROLS:** None required for product use. For handling large quantities of material, such as in the manufacturing of product, ventilation should be utilized. Exhaust ventilation should be utilized to maintain air concentrations of material below the occupational exposure guidelines noted above.

Local exhaust ventilation is not typically required for product use. For handling large quantities of material, such as in the manufacturing of product **--** Local Exhaust: Explosion proof. Mechanical (general): Explosion proof.

**PERSONAL PROTECTIVE EQUIPMENT:** Consistent with good hygiene practices, personal protective equipment (PPE) should be used in conjunction with other control measures including engineering controls, ventilation and isolation. See also Section 5 of this document for PPE advice, in the event of an emergency.

**Eye/Face Protection (Non-Emergency):** None required for product use. For handling of large quantities of liquid material, safety glasses with side shields/goggles are recommended.

**Skin Protection (Non-Emergency):** None required for product use. For handling large quantities of material, such as in product manufacturing, nitrile or vinyl gloves should be considered for use. Tyvek clothing may also be suitable for handling large quantities of material in the manufacturing environment.

**Respiratory Protection (Non-Emergency):** Respiratory protection is not required for product use. For manufacturing of product, respiratory protection may be considered. Ensure that the respirator meets current local occupational health and safety standards.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **APPEARANCE**: | Cream |
| **ODOR:** | Characteristic – Thio |
| **ODOR THRESHOLD:** | Not Available |
| **pH:** | 9.8 – 10.8 |
| **MELTING/FREEZING POINT:** | **F:** Not Available **C:** Not Available |
| **BOILING POINT:** | **F:** Not Available **C:** Not Available |
| **FLASH POINT:** | **F:** > 212 **C:** > 100 **METHOD USED:** |
| **EVAPORATION RATE:** | Not Available **(Butyl acetate = 1)** |
| **FLAMMABILITY:** | Not Applicable to Liquids |
| **FLAMMABLE LIMITS IN AIR:** | Not Applicable |
| **VAPOR PRESSURE (mmHg):** | @ F: Not Available @ C: Not Available |
| **VAPOR DENSITY (AIR = 1):** | @ F: Not Available @ C: Not Available |
| **RELATIVE DENSITY (H2O = 1):** | 0.95 – 0.99 |
| **SOLUBILITY IN WATER:** | Not Available |
| **PARTITION COEFFICIENT:** | Not Available |
| **AUTOIGNITION TEMPERATURE:** | Not Available |
| **DECOMPOSITION TEMPERATURE:** | Not Available |
| **VISCOSITY:** | Not Available |

## SECTION 10: STABILITY AND REACTIVITY

**REACTIVITY:** Material is not considered reactive under typical handling and storage conditions.

**STABILITY:** Product is stable.

**POSSIBILITY OF HAZARDOUS REACTIONS:** None known. Hazardous polymerization is not expected to occur.

**CONDITIONS TO AVOID:** None known.

**INCOMPATIBILITY (MATERIAL TO AVOID):** None known.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxides of carbon, ammonia, hydrocarbons, and/or derivatives.

## SECTION 11: TOXICOLOGICAL INFORMATION

**Where information is not listed specifically for constituents, published information was not available.**

**POTENTIAL HEALTH EFFECTS**

**ACUTE HEALTH EFFECTS:**
**SKIN CORROSION/IRRITATION**: Causes skin irritation
**SERIOUS EYE DAMAGE/IRRITATION:** Causes serious eye damage
**RESPIRATORY/SKIN SENSITIZATION**: May cause an allergic skin reaction
**INGESTION**: Harmful if swallowed
**INHALATION**: None expected

**ROUTES OF EXPOSURE**: Inhalation, eyes, skin, ingestion

**SYMPTOMS**: Causes serious eye damage. Suspected of damaging fertility or the unborn child. May cause an allergic skin reaction. Causes skin irritation.

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE**: None known.

**ACUTE TOXICOLOGY DATA FOR COMPONENTS**

| Material | Route | Species | Test Results |
|---|---|---|---|
| Ammonium Hydroxide | Oral $LD_{50}$ | Rat (OECD 401) | 350 mg/kg bw |
| Ammonium Hydroxide | $LC_{50}$ (1 hr) | Rat | 11,590 mg/L air |
| Pentasodium Pentetate | Oral $LD_0$ | Rat (OECD 401) | > 5,000 mg/kg bw |
| Pentasodium Pentetate | Dermal $LD_{50}$ | Rat (OECD 402) | > 2,000 mg/kg bw |
| Toluene-2,5-diamine | Oral $LD_{50}$ | Rat | 100 mg/kg bw |
| Resorcinol | Oral $LD_{50}$ | Rat (OECD 401) | 510 mg/kg bw |

**Skin Corrosion/Irritation:**
*Ammonium Hydroxide* Irritating (5 - 10%); Corrosive (>10%) (Rat, OECD 404)
*Pentasodium Pentetate:* Not Irritating (Rabbit, OECD 404)
*Toluene-2,5-Diamine:* Not Irritating (Rabbit, OECD 404)
*Resorcinol:* Not Irritating (Rabbit, OECD 404)

**Serious Eye Damage/Irritation:**
*Ammonium Hydroxide* Corrosive (Rabbit)
*Pentasodium Pentetate:* Not Irritating (Rabbit, OECD 405)
*Toluene-2,5-Diamine:* Irritating (Rabbit, OECD 405)
*Resorcinol:* Not Irritating (Rabbit, OECD 405)

**Respiratory Irritation:**
*Ammonium Hydroxide* Highly Irritating (>50 ppm) (Human)

**Skin Sensitization:**
*Ammonium Hydroxide* Not Sensitizing (Guinea Pig)
*Pentasodium Pentetate:* Not *S*ensitizing (Guinea Pig, OECD 406)
*Toluene-2,5-Diamine:* Sensitizing (Guinea Pig, OECD 406)
*Resorcinol:* Sensitizing (Mouse) (OECD 429)

**CHRONIC HEALTH HAZARDS**:

**REPEAT DOSE TOXICITY:**
NOAEL (Pentasodium Pentetate, oral): ca. 75 mg/kg bw/day
NOAEL (Resorcinol, oral): 80 mg/kg bw/d (Rat, OECD 408)

**CARCINOGENICITY:**

| Component Name (CAS-No.) | OSHA | ACGIH | NTP | IARC |
|---|---|---|---|---|
| Toluene-2,5-diamine | -- | -- | -- | IARC-3 |
| Resorcinol (108-46-3) | -- | TLV-A4 | -- | IARC-3 |

**Notes:** *ACGIH TLV*-A4 – This reference indicates that the material is "Not Classifiable as a Human Carcinogen".
*IARC-3* – This reference indicated that the material is "Unclassifiable as Carcinogenicity in Humans"

**MUTAGENICITY:**

*Ammonium Hydroxide:* A variety of *in vitro* tests have produced negative results.
*Pentasodium Pentetate:* A variety of *in vitro* tests have produced negative results.
*Toluene-2,5-Diamine:* A variety of *in vitro* tests have produced negative results
*Resorcinol:* A variety of *in vitro* tests have produced positive results and *in vivo* tests negative results.

**REPRODUCTIVE TOXICITY:**

*Resorcinol:* NOAEL: > 3,000 mg/kg bw/day (Rat, OECD 416)

**DEVELOPMENTAL TOXICITY/TERATOGENICITY:**

*Ammonium Hydroxide:* NOAEL: 1,000 mg/kg bw/d (Mouse)
*Pentasodium Pentetate* NOAEL: 100 mg/kg bw/day (nominal)
*Resorcinol:* NOAEL: 250 mg/kg/day (Rat, OECD 414)

## SECTION 12: ECOLOGICAL INFORMATION

Contact with the environment should be avoided. Spills and leaks should be immediately cleaned up and removed. All precautions should be taken to prevent contact with the environment. Published information regarding ingredients listed on this document area found below; where data is not listed, documentation was unavailable.

**ACUTE AND PROLONGED TOXICITY TO FISH**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Ammonium Hydroxide | $LC_{50}$ | 1.73 mg/L | Lepomis cyanellus | 96 h |
| Pentasodium Pentetate | $LC_{50}$ (OECD 203) | 1115 mg/L | Lepomis macrochirus | 96 h |
| Resorcinol | $LC_{50}$ | 29.5 mg/L | Pimephales promelas | 96 h |

**ACUTE TOXICITY TO AQUATIC INVERTEBRATES**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Ammonium Hydroxide | $EC_{50}$ (E729-80) | 101 mg/L | Daphnia magna | 48 h |
| Pentasodium Pentetate | $EC_{50}$ (OECD 202) | 245 mg/L | Daphnia magna | 48 h |
| Resorcinol | $EC_{50}$ (OECD 202) | 4.7 mg/L | Daphnia magna | 48 h |

**TOXICITY TO AQUATIC PLANTS**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Pentasodium Pentetate | $EC_{50}$ (OECD 201) | 2.6 mg/L | Desmodesmus subspicatus | 72 h |
| Resorcinol | $EC_{50}$ (OECD 201) | > 97 mg/L | Pseudokirchneriella subcapitata | 72 h |

**TOXICITY TO MICROORGANISMS**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Resorcinol | $EC_{50}$ (OECD 209) | 79 mg/L | Activated Sludge | 3 h |

**PERSISTENCY AND DEGRADABILITY:**

| | |
|---|---|
| *Ammonium Hydroxide* | Readily Biodegradable – Converts to nitrates |
| *Pentasodium Pentetate:* | Readily Biodegradable – OECD 301 B eq. |
| *Toluene-2,5-Diamine* | Not Readily Biodegradable |
| *Resorcinol* | Readily Biodegradable – OECD 301 C |

**BIOACCUMULATIVE POTENTIAL:**

| | |
|---|---|
| *Ammonium Bicarbonate:* | log Pow: -2.4 (OECD 107) – Not expected to bioaccumulate |
| *Diammonium Dithiodiglycolate:* | log Pow: -3.6 – Not expected to bioaccumulate |
| *Resorcinol* | BCF: 3.162 – Not expected to bioaccumulate |

## SECTION 13: DISPOSAL CONSIDERATIONS

**Those responsible for the performance of disposal, recycling or reclamation activities should refer to Section 8 of this document for advice on personal protective equipment and exposure controls.**

**WASTE DISPOSAL CONTAINERS:** Appropriate containers should be utilized which may include fiberboard boxes for products and metal or plastic drums for liquids.

**WASTE DISPOSAL METHOD:** As manufactured, this product does not exhibit any RCRA characteristics of hazardous waste. Controlled incineration at a hazardous waste facility is the recommended technology for treatment and disposal. This material must not be disposed through sewage.

**RCRA HAZARD CLASS: NOT APPLICABLE**

Follow all local governmental requirements intended for disposal.

## SECTION 14: TRANSPORT INFORMATION

**North American Ground Transportation**

- **IN CONSUMER PACKAGING:** Not Regulated
- **OTHER THAN CONSUMER PACKAGING:** Not Regulated

**Transport Via Water**

- **IN CONSUMER PACKAGING:** Not Regulated
- **OTHER THAN CONSUMER PACKAGING:** Not Regulated

**Transport Via Air (Domestic/International)**

- **IN CONSUMER PACKAGING:** Not Regulated
- **OTHER THAN CONSUMER PACKAGING:** Not Regulated

**Please be aware of carrier transport variations before shipping hazardous materials.**

## SECTION 15: REGULATORY INFORMATION

**National Fire Protection Association Codes:** Health: 2 Fire: 1 Reactivity: 0 Other: None

**Workplace Hazardous Materials Identification System:** Class D; Division 2, Subdivision A; Teratogenic/Reproductive Toxic; Class D; Division 2, Subdivision B; Skin Sensitization; Class E; Corrosive Material (Eye)

This regulatory information represents the product, in its consumer packaging.

## SECTION 16: OTHER INFORMATION

**PREPARATION INFORMATION:** This is the first issuance of this document.

Author: Ronald Weslosky (Corporate Regulatory Services)

L'ORÉAL USA

# SAFETY DATA SHEET

**SDS # 15-227**

**ISSUANCE DATE: May 28, 2015**

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

L'Oreal USA Products, Inc.
111 Terminal Avenue
Clark, NJ 07066

L'Oreal Canada
4895 rue Hickmore
Ville St-Laurent, H4Y 1K5
Canada

**Emergency Telephone Number:**
1-800-535-5053 (International: 352-323-3500)
In Canada – 1-613-996-6666 (Canutec) (*666 cellular)

**For further information**:
1-732-499-2741

**Poison Control Number:** 412-390-3326

**Product Name: Redken Blonde Idol Customizable Blue Powder Activator**

**Recommendations on use:** Personal care product to be mixed with companion product(s) in accordance with instructions and applied to hair for lightening effect.

**Restrictions on use:** For external use only. Use only as directed.

## SECTION 2: HAZARDS IDENTIFICATION

**Signal Word: DANGER**

| Symbol | Classification | Hazard Statement | Prevention Statements |
|---|---|---|---|
|  | Oxidizing Solids Category 2 | May intensify fire Oxidizer | • Keep away from heat. Keep/Store away from metal and combustible materials.<br>• Take any precaution to avoid mixing with combustibles. |
|  | Eye Damage Category 1 | Causes serious eye damage | • Wash hands and all skin surfaces contacted thoroughly after handling<br>• Wear nitrile or vinyl gloves. Wear eye protection appropriate for the manufacturing operation being performed (goggles or face shield). |
|  | Sensitization Respiratory | May cause allergy or asthma symptoms or breathing difficulties if inhaled | • Avoid breathing dust.<br>• In case of inadequate ventilation wear respiratory protection |

| Symbol | Classification | Hazard Statement | Prevention Statements |
|---|---|---|---|
|  | Acute Toxicity Oral Category 4 | Harmful if swallowed | • Do not eat, drink or smoke when using this product |
| No symbol Required | Sensitization – Skin Category 1 | May cause an allergic skin reaction | • Contaminated work clothing must not be allowed out of the workplace |
| No symbol Required | Skin Irritation Category 2 | Causes skin irritation | • See prevention statements above |
| No symbol Required | Specific Target Organ Toxicity (Single Exposure) Category 3 | May cause respiratory irritation | • Use only outdoors or in a well-ventilated area |

This material is considered hazardous by the US Occupational Safety and Health Administration Hazard Communication Standard (29 CFR 1910.1200)

General Precautionary Statements: Keep out of reach of children. Read label/directions before use. Keep from heat and moisture. Do not use metal utensils.

Hazards Not Otherwise Classified: None

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Only hazardous constituents associated with the product are listed below**

| INGREDIENT: | CAS NO. | % WT |
|---|---|---|
| Sodium Lauryl Sulfate | 68955-19-1 | ≤ 0.5% |
| Silica | 7631-86-6 / 112926-00-8 | ≤ 1.0% |
| Ammonium Persulfate | 7727-54-0 | ≤ 5.0% |
| Sodium Persulfate | 7775-27-1 | ≤ 23.5% |
| Potassium Persulfate | 7727-21-1 | ≤ 23.5% |
| Sodium Silicate | 1344-09-8 | ≤ 24.5% |

## SECTION 4: FIRST AID MEASURES

**Response Statements:**

**IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing until material is sufficiently removed from the eye. **If eye irritation persists:** Immediately call a poison control center or get medical advice/attention.

**IF ON SKIN**: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. **If skin irritation or rash occurs:** Get medical advice/attention.

**IF INHALED:** If breathing is difficult, remove person to fresh air and keep in a position comfortable for breathing. **If experiencing respiratory symptoms:** Call a poison control center or get medical advice/attention.

**IF SWALLOWED:** Rinse mouth. Do not induce vomiting. Never give anything by mouth to an unconscious individual. Call a poison control center or get medical advice/attention if you fell unwell.

**SYMPTOMS/EFFECTS**: Causes serious eye damage. May cause asthma symptoms or breathing difficulties. Harmful if swallowed. May cause an allergic skin reaction. Causes skin irritation. May cause respiratory irritation.

**NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:** Consult product labeling. No special advice.

## SECTION 5: FIRE-FIGHTING MEASURES

**Notes for Non-Emergency Personnel:**

**EXTINGUISHING MEDIA:** In case of fire: Use carbon dioxide, dry chemical and/or foam to extinguish. Water spray may be used to soak other materials surrounding the product, to prevent the spread of the fire. Selection of a fire extinguisher should also be appropriate to address the location of the fire and equipment involved. Review the tools available at your location to ensure proper availability of equipment.

**Notes for those trained to participate in an emergency:**

**SPECIAL FIRE FIGHTING PROCEDURES:** Follow National Fire Protection Association Guidelines or local guidelines appropriate for emergency response.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Persulfates yield oxygen and may stimulate combustion of flammable and combustible materials.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxygen, ammonia, oxides of carbon, sulfur, hydrocarbons, and/or derivatives.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Notes for non-emergency personnel:**

Consult trained response personnel for clean-up of large spills or locations where providing preliminary control of the chemical release is hazardous. Hazardous locations include areas where ignition sources cannot be controlled and where mixture with organic material is possible. Isolate the area and deny entry to unnecessary and unprotected personnel. Sections 2, 5, 7 and 8 of this document should be consulted upon use of material, to become knowledgeable of the material's hazards and how to control associated risks.

If the location is not hazardous and only a small amount of material is released, the material can be swept up or wiped with damp towels/sponges while wearing the protective equipment as noted below. Clean the area with detergent and water. Prohibit discharge to drains, soil, surface and ground waters. Dispose in accordance with section 13 of this document.

**PERSONAL PROTECTIVE EQUIPMENT:** Nitrile or vinyl gloves, safety glasses/goggles and protective clothing (e.g. apron) may be required for clean-up of large releases. Respiratory protection is typically not necessary, but may be used depending upon the size of the spill and occupational exposure limits. Respiratory protection may include the use of particulate cartridges. See also section 8 of this document.

**Notes for those trained to participate in an emergency:**

**ACCIDENTAL RELEASE MEASURES:** Materials in powder form are not expected to migrate greatly during release. Released material should be swept up and accumulated in appropriate UN specification containers while minimizing dust generation. Wash area completely with water. Take care to avoid contact with wet surfaces or walkways that may become slick when residue is present. Rinse response equipment (e.g. towels, sponges, mops) thoroughly prior to disposal or storage. Prohibit discharge to drains, soil, surface and ground waters.

Recommendations for personal protective equipment selection are noted above. Dispose in accordance with section 13 of this document.

## SECTION 7: HANDLING AND STORAGE

**PRECAUTIONS FOR SAFE HANDLING:**
Do not eat, drink or smoke while working with hazardous chemicals. Employees should be advised to wear appropriate protective equipment in the manufacturing environment. See section 8 of this document for protective equipment selection. Use only with adequate ventilation and avoid inhalation. Avoid contact with eyes and skin. Do not use with metal utensils. All manufacturing should be performed indoors, in an enclosed environment.

Maintain a clean work environment which includes use of properly functioning containers, proper housekeeping practices.

**CONDITIONS FOR SAFE STORAGE:**

**Storage precautions for unpackaged product (manufacturing environment):** Keep in a cool and well-ventilated area. Keep containers closed when not in use. Store away from moisture. Do not store metal utensils with product. This material should be stored locked up in an area where production inventory may be controlled by authorized personnel. Store in a location where spill containment will be easily accessible and releases can be contained.

**Storage precautions for packaged product:** See consumer packaging.

Keep away from open drains and access to the environment.

**Incompatible materials**: Organic compounds and reducing agents. Store away from incompatible materials and moisture.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**CONTROL PARAMETERS:** These criteria have been published by the referenced authority to establish exposure limits in the work environment. Employee work areas should be monitored to ensure that permissible limits are not exceeded during the work day. These references do not coincide with product use. These references are meant to be in association with the manufacturing environment.

**OCCUPATIONAL EXPOSURE VALUES:**

| Component Name (CAS-No.) | Reference | TWA | | STEL/CEILING | |
|---|---|---|---|---|---|
| | | ppm | $mg/m^3$ | ppm | $mg/m^3$ |
| Silica, amorphous (112926-00-8) | OSHA PEL | -- | -- | -- | -- |
| | ACGIH TLV | 20 mppcf or 80 $mg/m^3$ / $\%SiO_2$ | | | |
| | NIOSH REL | -- | 6 | -- | -- |
| Ammonium Persulfate, as $S_2O_8$ 7727-54-0 | OSHA PEL | -- | -- | -- | -- |
| | ACGIH TLV | -- | 0.1 | -- | -- |
| | NIOSH REL | -- | -- | -- | -- |

| Component Name (CAS-No.) | Reference | TWA | | STEL/CEILING | |
|---|---|---|---|---|---|
| | | ppm | mg/m$^3$ | ppm | mg/m$^3$ |
| **Sodium Persulfate, as $S_2O_8$ (7775-27-1)** | **OSHA PEL** | -- | -- | -- | -- |
| | **ACGIH TLV** | -- | **0.1** | -- | -- |
| | **NIOSH REL** | -- | -- | -- | -- |
| **Potassium Persulfate (Persulfates) 7727-21-1** | **OSHA PEL** | -- | -- | -- | -- |
| | **ACGIH TLV** | -- | **0.1** | -- | -- |
| | **NIOSH REL** | -- | -- | -- | -- |

No occupational exposure values have been published for other constituents noted in Section 3.

**WORK HYGIENIC PRACTICES:** Ensure all work surfaces are maintained, to prevent contamination.

**ENGINEERING CONTROLS:** None required for product use. For handling large quantities of material, such as in the manufacturing of product, ventilation should be utilized. This ventilation should be compatible with the control of oxidizing materials. Exhaust ventilation should be utilized to maintain air concentrations of material below the occupational exposure guidelines noted above.

Local exhaust ventilation is not typically required for product use. For handling large quantities of material, such as in the manufacturing of product **--** Local Exhaust: Explosion proof. Mechanical (general): Explosion proof.

**PERSONAL PROTECTIVE EQUIPMENT:** Consistent with good hygiene practices, personal protective equipment (PPE) should be used in conjunction with other control measures including engineering controls, ventilation and isolation. See also Section 5 of this document for PPE advice, in the event of an emergency.

**Eye/Face Protection (Non-Emergency):** None required for product use. Contact with eyes should be avoided. For handling of large quantities of material, safety glasses with side shields/goggles are recommended.

**Skin Protection (Non-Emergency):** Gloves should be worn when mixing kit components and applying mixture. For handling large quantities of material, such as in product manufacturing, nitrile or vinyl gloves should be considered for use. Tyvek clothing may also be suitable for handling large quantities of material in the manufacturing environment.

**Respiratory Protection (Non-Emergency):** Respiratory protection is not required for product use. For manufacturing of product, respiratory protection such may be considered. Ensure that the respirator meets current local occupational health and safety standards.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

**APPEARANCE**: Finely divided, free-flowing powder

**ODOR:** Not Available

**ODOR THRESHOLD:** Not Available

**pH:** 10.3 – 10.7 (Solution)

**MELTING/FREEZING POINT:** **F:** Not Available **C:** Not Available

**BOILING POINT:** **F:** Not Available **C:** Not Available

**FLASH POINT:** **F:** > Not Applicable **C:** >Not Applicable **METHOD USED:** Not Applicable

**EVAPORATION RATE:** Not Applicable

**FLAMMABILITY:** Not Applicable

| | | |
|---|---|---|
| **VAPOR PRESSURE (mmHg):** | @ 70F: Not Available | @ 21 C: Not Available |
| **VAPOR DENSITY (AIR = 1):** | @ 70F: Not Available | @ 21 C: Not Available |
| **RELATIVE DENSITY (H2O = 1):** | Not Available | |
| **SOLUBILITY IN WATER:** | Not Available | |
| **PARTITION COEFFICIENT:** | Not Available | |
| **AUTOIGNITION TEMPERATURE:** | Not Available | |
| **DECOMPOSITION TEMPERATURE:** | Not Available | |
| **VISCOSITY:** | Not Available | |

## SECTION 10: STABILITY AND REACTIVITY

**REACTIVITY:** Material is not considered reactive under typical handling and storage conditions.

**STABILITY:** Product is stable.

**POSSIBILITY OF HAZARDOUS REACTIONS:** None known. Hazardous polymerization is not expected to occur.

**CONDITIONS TO AVOID:** Heat, moisture and contamination with organic materials and metal utensils.

**INCOMPATIBILITY (MATERIAL TO AVOID):** Organic compounds and reducing agents.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxygen, ammonia, oxides of carbon, sulfur, hydrocarbons, and/or derivatives.

## SECTION 11: TOXICOLOGICAL INFORMATION

**Where information is not listed specifically for constituents, published information was not available.**

**POTENTIAL HEALTH EFFECTS**

**ACUTE HEALTH EFFECTS:**
**SKIN CORROSION/IRRITATION**: Causes skin irritation
**SERIOUS EYE DAMAGE/IRRITATION**: Causes serious eye damage
**RESPIRATORY/SKIN SENSITIZATION**: May cause allergic reaction/breathing difficulty; May cause allergic skin reaction
**INGESTION**: Harmful if swallowed.
**INHALATION**: May cause respiratory irritation

**ROUTES OF EXPOSURE**: Eyes, skin, ingestion, inhalation

**SYMPTOMS**: Causes serious eye damage. May cause asthma symptoms or breathing difficulties. Harmful if swallowed. May cause an allergic skin reaction. Causes skin irritation. May cause respiratory irritation.

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE**: Existing dermatological conditions (such as eczema) and respiratory conditions (such as bronchial asthma and/or bronchitis) may be exacerbated.

**ACUTE TOXICOLOGY DATA FOR COMPONENTS**

| Material | Route | Species | Test Results |
|---|---|---|---|
| Sodium Lauryl Sulfate | Oral $LD_{50}$ | Rat | 6,000 mg/kg bw |
| Sodium Lauryl Sulfate | Dermal $LD_{50}$ | Rabbit | > 2,000 mg/kg bw |
| Sodium Lauryl Sulfate | $LC_{50}$ (4 hr) | Rat | 8.67 mg/l air |
| Silica | Oral $LD_{50}$ | Rat | > 5,000 mg/kg |
| Silica | Dermal $LD_{50}$ | Rabbit | > 5,000 mg/kg |
| Silica | $LC_0$ (4hr) | Rat | > 0.139 mg/L |
| Ammonium Persulfate | Oral $LD_{50}$ | Rat (OECD 401) | 700 mg/kg bw |
| Ammonium Persulfate | Dermal $LD_{50}$ | Rat (OECD 402) | > 2,000 mg/kg bw |
| Ammonium Persulfate | $LC_{50}$ (4 hr) | Rat (EPA OPP 81-3) | > 2.95 mg/l air |
| Sodium Persulfate | Oral $LD_{50}$ | Rat (OECD 401 eq.) | 920 mg/kg bw |
| Sodium Persulfate | Dermal $LD_{50}$ | Rabbit | > 10,000 mg/kg bw |
| Sodium Persulfate | $LC_{50}$ (4 hr) | Rat (OECD 403) | > 5.1 mg/l air |
| Potassium Persulfate | Oral $LD_{50}$ | Rat (OECD 401 eq.) | 1,130 mg/kg bw |
| Potassium Persulfate | Dermal $LD_{50}$ | Rabbit | > 10,000 mg/kg bw |
| Potassium Persulfate | $LC_{50}$ (1 hr) | Rat | > 42.9 mg/l air |
| Sodium Silicate | Oral $LD_{50}$ | Rat (OECD 401 eq.) | 3,400 mg/kg bw |
| Sodium Silicate | Dermal $LD_{50}$ | Rat | > 5,000 mg/kg bw |

**Skin Corrosion/Irritation:**

*Sodium Lauryl Sulfate:* Irritating (Rabbit, OECD 404)
*Silica:* Not Irritating (Rabbit)
*Ammonium Persulfate:* Not Irritating (Rabbit, OECD 404)
*Sodium Persulfate:* Irritating (Rabbit)
*Potassium Persulfate:* Irritating (Rabbit)
*Sodium Silicate:* Corrosive (≥ 28%); Irritating (<28%) (Rabbit, 16 CFR 1500.42)

**Serious Eye Damage/Irritation:**

*Sodium Lauryl Sulfate:* Mildly Irritating: 5.1%; Moderately Irritating: 10%; Severely Irritating: 21% (Rat)
*Silica:* Not Irritating (Rabbit)
*Ammonium Persulfate:* Slightly Irritating (Rabbit, OECD 405)
*Sodium Persulfate:* Irritating (Rabbit)
*Potassium Persulfate:* Irritating (Rabbit)
*Sodium Silicate:* Corrosive (≥ 39%); Irritating (<39%) (Rabbit, OECD 404)

**Respiratory Irritation:**

*Silica:* Irritating (Rat)
*Ammonium Persulfate:* Irritating (Human)
*Sodium Persulfate:* Irritating (Human)
*Potassium Persulfate:* Irritating (Human)
*Sodium Silicate:* Irritating

**Skin Sensitization:**

*Sodium Lauryl Sulfate:* Possibly sensitizing with repeated contact
*Silica:* Not sensitizing (Guinea Pig)
*Ammonium Persulfate:* Sensitizing (Guinea Pig, OECD 406)
*Sodium Persulfate:* Sensitizing (Guinea Pig, OECD 406)
*Potassium Persulfate:* Sensitizing (Mouse, OECD 429 eq.)
*Sodium Silicate:* Not Sensitizing (Human, RIPT)

**CHRONIC HEALTH HAZARDS**:

**REPEAT DOSE TOXICITY:**
NOAEL (*Sodium Lauryl Sulfate*, oral): 100 mg/kg/day (Rat )
NOAEL (*Silica*, inh.): 1.3 mg/$m^3$ day (Rat)
NOAEL (*Ammonium Persulfate,* oral): 41.1 mg/kg bw/day (Rat, OECD 407 eq., 28d)
NOAEC (*Ammonium Persulfate, inh.*): 10.3 mg/$m^3$ air (Rat, OECD 413, 90d)
LOAEL (*Sodium Persulfate*): 200 mg/kg bw/day (Rat, OECD 408 eq., 90d)
NOAEL (*Potassium Persulfate*, oral): 131.5 mg/kg bw/day (Rat, OECD 407 eq., 28d)
NOAEL (*Sodium Silicate,* oral): 2,400 mg/kg bw/day (Rat, OECD 407 eq., 90d)

**CARCINOGENICITY:**

| Component Name (CAS-No.) | OSHA | ACGIH | NTP | IARC |
|---|---|---|---|---|
| Silica, amorphous (7631-86-9) | -- | -- | -- | IARC-3 |

*IARC-3* – This reference indicates that the material is "Unclassifiable to Carcinogenicity to Humans"

**MUTAGENICITY:**
*Sodium Lauryl Sulfate:* A variety of *in vitro* and i*n vivo* tests have products negative results.
*Silica*: A variety of *in vitro* tests have produced negative results.
*Ammonium Persulfate:* A variety of *in vitro* tests have produced negative results.
*Sodium Persulfate:* A variety of *in vitro* and i*n vivo* tests have products negative results.
*Potassium Persulfate:* A variety of *in vitro* tests have produced negative results.
*Sodium Silicate:* A variety of *in vitro* and i*n vivo* tests have products negative results.

**REPRODUCTIVE TOXICITY:**
*Sodium Lauryl Sulfate:* No adverse effect was seen on fertility.
*Silica:* NOAEL: 497 mg/kg bw (OECD 415) – No reproductive effects
*Ammonium Persulfate* NOAEL: ≥ 250 mg/kg bw/d (Rat, OECD 421)
*Sodium Silicate:* NOAEL: >159 mg/kg bw/d (Rat) – No reproductive effects

**DEVELOPMENTAL TOXICITY/TERATOGENICITY:**
*Sodium Lauryl Sulfate*: NOAEL: 300 mg/kg/day; LOAEL: 600 mg/kg/day (Mice/Rat)
*Silica:* NOAEL: 1,350 mg/kg bw (OECD 414) – No developmental effects
*Ammonium Persulfate* NOAEL: ≥ 250 mg/kg bw/d (Rat, OECD 421)

## SECTION 12: ECOLOGICAL INFORMATION

Contact with the environment should be avoided. Spills and leaks should be immediately cleaned up and removed. All precautions should be taken to prevent contact with the environment. Published information regarding ingredients listed on this document area found below; where data is not listed, documentation was unavailable.

**ACUTE AND PROLONGED TOXICITY TO FISH**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Silica | $LC_0$ (OECD 203) | > 10,000mg/L | Danio rerio | 96 h |
| Ammonium Persulfate | $LC_{50}$ (EPA OPP 72-1) | 76 mg/L | Oncorhynchus mykiss | 96 h |
| Sodium Persulfate | $LC_{50}$ (EPA OPP 72-1) | 163 mg/L | Oncorhynchus mykiss | 96 h |
| Potassium Persulfate | $LC_{50}$ | 76 mg/L | Oncorhynchus mykiss | 96 h |
| Sodium Silicate | $LC_{50}$ (OECD 203) | 1,108 mg/L | Danio rerio | 96 h |

**ACUTE TOXICITY TO AQUATIC INVERTEBRATES**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Sodium Lauryl Sulfate | $EC_{50}$ | 5.55 mg/L | Ceriodaphnia Dubia | 48 h |
| Silica | $EC_{50}$ (OECD 202) | > 10,000mg/L | Daphnia magna | 48 h |
| Ammonium Persulfate | $EC_{50}$ (EPA OPP 72-2) | 120 mg/L | Daphnia Magna | 48 h |
| Sodium Persulfate | $EC_{50}$ (EPA OPP 72-2) | 133 mg/L | Daphnia Magna | 48 h |
| Potassium Persulfate | $EC_{50}$ | 120 mg/L | Daphnia Magna | 48 h |
| Sodium Silicate | $EC_{50}$ (EU Method C.2) | 1,700 mg/L | Daphnia Magna | 48 h |

**TOXICITY TO AQUATIC PLANTS**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Sodium Lauryl Sulfate | $EC_{50}$ | > 120mg/L | Green Algae | 72 h |
| Silica | $EC_{50}$ (ISO 8692) | 440 mg/L | Scenedesmus capricornutum | 72 h |
| Ammonium Persulfate | $EC_{50}$ (OECD 201) | 83.7 mg/L | Pseudokirchneriella subcapitata | 72 h |
| Sodium Persulfate | $EC_{50}$ (OECD 201) | 116 mg/L | Pseudokirchneriella subcapitata | 72 h |
| Sodium Silicate | $EC_{50}$ (DIN 38412, 9) | >345.4 mg/L | Desmodesmus subspicatus | 72 h |

**TOXICITY TO MICROORGANISMS**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Sodium Lauryl Sulfate | $EC_{50}$ | 0.38 mg/L | Photobacterium Phosphoreum | 15 min |
| Ammonium Persulfate | $EC_{10}$ (NEN 6509) | 36 mg/L | Pseudomonas putida | 18 h |
| Sodium Silicate | $EC_{0}$ (DIN 38412, 27) | 3,454 mg/L | Pseudomonas putida | 30 min |

**PERSISTENCY AND DEGRADABILITY:**
No Data

**BIOACCUMULATIVE POTENTIAL:**

| | |
|---|---|
| *Silica:* | Not expected to bioaccumulate |
| *Ammonium Persulfate*: | Not expected to bioaccumulate |
| *Sodium Persulfate:* | Not expected to bioaccumulate |
| *Potassium Persulfate:* | Not expected to bioaccumulate |
| *Sodium Silicate:* | Not expected to bioaccumulate |

## SECTION 13: DISPOSAL CONSIDERATIONS

**Those responsible for the performance of disposal, recycling or reclamation activities should refer to Section 8 of this document for advice on personal protective equipment and exposure controls.**

**WASTE DISPOSAL CONTAINERS:** Appropriate US DOT containers should be utilized which may include cardboard boxes for products, plastic/lined drums for solids. These containers should meet the packaging specifications required for DOT compliance. Packaging containers must not include incompatible materials.

**WASTE DISPOSAL METHOD:** As manufactured, this product exhibits the ignitable (D001) RCRA characteristic of hazardous waste. Controlled incineration at a licensed waste facility is the recommended technology for treatment and disposal. Material must not be disposed of through sewage.

**RCRA HAZARD CLASS: D001**

Follow all local governmental requirements intended for disposal.

## SECTION 14: TRANSPORT INFORMATION

**North American Ground Transportation**

- **IN CONSUMER PACKAGING:** Limited Quantity/Consumer Commodity (≤ 1 kg)
  **UN ID Number:** UN 1479
  **Proper Shipping Name:** Oxidizing solid, n.o.s.
  **Technical Name:** Potassium persulfate, sodium persulfate
  **Hazard Class:** 5.1
  **Packing Group:** II
  **Label Statements:** Exempt – Limited Quantity Marking Only

- **OTHER THAN CONSUMER PACKAGING:**
  **UN ID Number:** UN 1479
  **Proper Shipping Name:** Oxidizing solid, n.o.s.
  **Technical Name:** Potassium persulfate, sodium persulfate
  **Hazard Class:** 5.1
  **Packing Group:** II
  **Label Statements:** Oxidizing (Division 5.1)

**Transport Via Water**

- **IN CONSUMER PACKAGING:** Limited Quantity/Consumer Commodity (≤ 1 kg)
  **UN ID Number:** UN 1479
  **Proper Shipping Name:** Oxidizing solid, n.o.s.
  **Technical Name:** Potassium persulfate, sodium persulfate
  **Hazard Class:** 5.1
  **Packing Group:** II
  **Label Statements:** Exempt – Limited Quantity Marking Only

- **OTHER THAN CONSUMER PACKAGING:**
  **UN ID Number:** UN 1479
  **Proper Shipping Name:** Oxidizing solid, n.o.s.
  **Technical Name:** Potassium persulfate, sodium persulfate
  **Hazard Class:** 5.1
  **Packing Group:** II
  **Label Statements:** Oxidizing (Division 5.1)

**Transport Via Air (Domestic/International)**

- **IN CONSUMER PACKAGING:** Limited Quantity (≤ 0.5 kg) (*Not eligible for ID 8000, Consumer Commodity*)
  **UN ID Number:** UN 1479
  **Proper Shipping Name:** Oxidizing solid, n.o.s.
  **Technical Name:** Potassium persulfate, sodium persulfate
  **Hazard Class:** 5.1
  **Packing Group:** II
  **Label Statements:** Limited Quantity Marking & Oxidizer (Division 5.1)

- **OTHER THAN CONSUMER PACKAGING:**
  **UN ID Number:** UN 1479
  **Proper Shipping Name:** Oxidizing solid, n.o.s.
  **Technical Name:** Potassium persulfate, sodium persulfate
  **Hazard Class:** 5.1
  **Packing Group:** II
  **Label Statements:** Oxidizing (Division 5.1)

**Please be aware of carrier transport variations before shipping hazardous materials.**

## SECTION 15: REGULATORY INFORMATION

**National Fire Protection Association Codes:** Health: 2 Fire: 0 Reactivity: 1 Other: OX

**Workplace Hazardous Materials Identification System:** Class C; Oxidizing Material; Class D; Division 2, Subdivision B; Corneal Damage/Skin Irritation;

This regulatory information represents the product, in its consumer packaging.

## SECTION 16: OTHER INFORMATION

**PREPARATION INFORMATION:** This is the first issuance of this document.

Author: Ronald Weslosky (Corporate Regulatory Services)

L'ORÉAL USA

# SAFETY DATA SHEET

**SDS # 30-21-001-0**

**ISSUANCE DATE: March 17, 2016**

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

L'Oreal USA Products, Inc.
133 Terminal Avenue
Clark, NJ 07066

L'Oreal Canada
4895 rue Hickmore
Ville St-Laurent, H4Y 1K5
Canada

**Emergency Telephone Number:**
1-800-535-5053 (International: 352-323-3500)
In Canada – 1-613-996-6666 (Canutec) (*666 cellular)

**For further information**:
1-732-499-2741

**Poison Control Number:** 412-390-3326

**Product Name: Redken Blonde Idol Base Breaker (Cool & Clear)**

**Recommendations on use**: Personal care product to be mixed with companion product(s) in accordance with instructions and applied to hair for cosmetic enhancement.

**Restrictions on use**: Avoid fire, flame, heat and other sources of ignition. For external use only. Use only as directed. Avoid direct contact with eyes. Liquid dispensed from the container is considered flammable until dry.

## SECTION 2: HAZARDS IDENTIFICATION

**Signal Word: DANGER**

| Symbol | Classification | Hazard Statement | Prevention Statements |
|---|---|---|---|
|  | Flammable Liquids Category 3 | Flammable liquid and vapor | • Keep away from heat, sparks, open flames and hot surfaces. No smoking.<br>• Keep container tightly closed.<br>• Ground/bond container and receiving equipment.<br>• Use explosion-proof electrical, ventilating, lighting, manufacturing and packaging equipment.<br>• Use only non-sparking tools.<br>• Take precautionary measures against static discharge. |
|  | Eye Damage Category 1 | Causes serious eye damage | • Wear eye protection appropriate for the manufacturing operation being performed (goggles or face shield). |

| Symbol | Classification | Hazard Statement | Prevention Statements |
|---|---|---|---|
| No symbol required | Skin Irritation Category 2 | Causes skin irritation | • Wash hands thoroughly after handling.<br>• Wear nitrile or vinyl protective gloves. |

This material is considered hazardous by the US Occupational Safety and Health Administration Hazard Communication Standard (29 CFR 1910.1200)

General Precautionary Statements: Keep out of reach of children. Read label before use.

Hazards Not Otherwise Classified: None

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Only hazardous constituents associated with the product are listed below**

| INGREDIENT: | CAS NO. | % WT |
|---|---|---|
| Ethyl Alcohol | 64-17-5 | ≤ 8.2% |
| PEG-4 Rapeseedamide | 85536-23-8 | ≤ 8.2% |
| Glyceryl Lauryl Ether | 9022-75-75 | ≤ 7.0% |
| Deceth-3 | 66455-15-0 | ≤ 7.0% |
| Laureth-5 Carboxylic Acid | 27306-90-7 | ≤ 4.5% |
| Ethanolamine | 141-43-5 | ≤ 3.7% |
| Hexylene Glycol | 107-41-5 | ≤ 3.0% |
| Ammonium Hydroxide | 1336-21-6 | ≤ 1.3% |

## SECTION 4: FIRST AID MEASURES

**Response Statements:**

**IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing until material is sufficiently removed from the eye. **If eye irritation persists:** Immediately call a Poison Control Center or get medical advice/attention.

**IF ON SKIN**: Take off immediately all contaminated clothing. Wash with plenty of water. **If skin irritation occurs:** Get medical attention. Wash contaminated clothing before reuse. See product labeling/insert for additional treatment recommendations.

**IF INHALED:** Remove victim to fresh air and keep comfortable for breathing. Call a Poison Control Center if you feel unwell.

**IF SWALLOWED:** Do not induce vomiting. Never give anything by mouth to an unconscious individual. Consult a physician or Poison Control Center immediately.

**SYMPTOMS/EFFECTS**: Causes serious eye damage. Causes skin irritation.

**NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:** Consult product labeling. No special advice.

## SECTION 5: FIRE-FIGHTING MEASURES

**Notes for Non-Emergency Personnel:**

**EXTINGUISHING MEDIA:** In case of fire: Use carbon dioxide, dry chemical and/or foam to extinguish. Water spray may be used to soak other materials surrounding the product, to prevent the spread of the fire. Selection of a fire extinguisher should also be appropriate to address the location of the fire and equipment involved. Please review the tools available at your location to ensure proper availability of equipment.

**Notes for those trained to participate in an emergency:**

**SPECIAL FIRE FIGHTING PROCEDURES:** Treat as flammable liquid. Follow National Fire Protection Association Guidelines or local guidelines appropriate for emergency response. Minimize all sources of static electricity.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Observe all appropriate precautions for handling flammable materials.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxides of carbon, ammonia, hydrocarbons and/or derivatives.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Notes for non-emergency personnel:**
Consult trained response personnel for clean-up of large spills or locations where providing preliminary control of the chemical release is hazardous. Hazardous locations include areas where ignition sources cannot be controlled. Isolate the area and deny entry to unnecessary and unprotected personnel. Sections 2, 5, 7 and 8 of this document should be consulted upon use of material, to become knowledgeable of the material's hazards and how to control risks associated with handling flammable liquids.

If the location is not hazardous and only a small amount of material is released, control the spill using absorbent pads while wearing the protective equipment as noted below. Clean the area with detergent and water. Prohibit discharge to drains, soil, surface and ground waters. Dispose in accordance with Section 13 of this document.

**PERSONAL PROTECTIVE EQUIPMENT:** Nitrile or vinyl gloves, safety glasses/goggles, protective clothing (e.g. apron) may be required for clean-up of large spills. Respiratory protection is typically not necessary, but may be used depending upon the size of the spill and occupational exposure limits. Respiratory protection may include the use of organic vapor cartridges. Refer to Section 8 for additional information.

**Notes for those trained to participate in an emergency:**

**ACCIDENTAL RELEASE MEASURES:** Eliminate all sources of ignition. Dike and contain the free liquid and absorb on vermiculite or spill pillows/pads. Place spent absorbents in UN specification drums for disposal. All precautions associated with controlling a flammable liquid should be employed during clean-up. Wash area completely with water. Take care to avoid contact with wet surfaces or walkways that may become slick when residue is present. Prohibit discharge to drains, soil, surface and ground waters.

Recommendations for personal protective equipment selection are noted above. Non-sparking tools should be utilized in all clean-up associated with flammable liquids. Dispose in accordance with section 13 of this document.

## SECTION 7: HANDLING AND STORAGE

**PRECAUTIONS FOR SAFE HANDLING:**
Do not eat, drink or smoke while working with hazardous materials. Employees should be advised to wear appropriate protective equipment in the manufacturing environment. See section 8 of this document for protective equipment selection. Do not expose to heat or flame. All manufacturing should be performed indoors, in an enclosed environment free from uncontrolled ignition sources. Employees should be advised not to handle flammable products in close proximity to incompatible materials. Use only non-sparking tools. Use explosion-proof electrical/ventilating/lighting equipment. Take precautionary measures against static discharge.

Maintain a clean work environment which includes use of properly functioning containers, proper housekeeping practices.

**CONDITIONS FOR SAFE STORAGE:**

**Storage precautions for unpackaged product (manufacturing environment):** Store in a well-ventilated place and keep cool. Keep containers closed when not in use. Minimize inventory. Use only non-sparking tools. Use explosion-proof electrical/ventilating/lighting equipment. Take precautionary measures against static discharge. Appropriate fire suppression and detection equipment should be utilized. Store on spill pallets or other locations where spill containment will be easily accessible.

**Storage precautions for packaged product:** See consumer packaging.

Keep away from open drains and access to the environment.

**Incompatible materials**: Oxidizing agents. Store away from incompatible materials.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**CONTROL PARAMETERS:** These criteria have been published by the referenced authority to establish exposure limits in the work environment. Employee work areas should be monitored to ensure that permissible limits are not exceeded during the work day. These references do not coincide with product use. These references are meant to be in association with the manufacturing environment.

**OCCUPATIONAL EXPOSURE VALUES:**

| Component Name (CAS-No.) | Reference | TWA | | STEL/CEILING | |
|---|---|---|---|---|---|
| | | ppm | $mg/m^3$ | ppm | $mg/m^3$ |
| Ethyl Alcohol (64-17-5) | OSHA PEL | 1,000 | 1,900 | -- | -- |
| | ACGIH TLV | -- | -- | 1,000 | 1,880 |
| | NIOSH REL | 1,000 | 1,900 | -- | -- |
| Ethanolamine (141-43-5) | OSHA PEL | 3 | 6 | -- | -- |
| | ACGIH TLV | 3 | 7.5 | 6 | 15 |
| | NIOSH REL | 3 | 8 | 6 | 15 |
| Hexylene Glycol (1309-37-1) | OSHA PEL | -- | -- | -- | -- |
| | ACGIH TLV | -- | -- | 25 (C) | 121 (C) |
| | NIOSH REL | -- | -- | 25 (C) | 125 (C) |
| Ammonium Hydroxide (as Ammonia) (7664-41-7) | OSHA PEL | 50 | 35 | -- | -- |
| | ACGIH TLV | 25 | 17 | 35 | 24 |
| | NIOSH REL | 25 | 18 | 35 | 27 |

No occupational exposure values have been published for other constituents noted in Section 3.

**WORK HYGIENIC PRACTICES:** Ensure all work surfaces are maintained, to prevent contamination.

**ENGINEERING CONTROLS:** None required for product use. For handling large quantities of material, such as in the manufacturing of product, ventilation should be utilized. This ventilation should be compatible with the control of flammable materials. Exhaust ventilation should be utilized to maintain air concentrations of material below the occupational exposure guidelines noted above.

Local exhaust ventilation is not typically required for product use. For handling large quantities of material, such as in the manufacturing of product **--** Local Exhaust: Explosion proof. Mechanical (general): Explosion proof.

**PERSONAL PROTECTIVE EQUIPMENT:** Consistent with good hygiene practices, personal protective equipment (PPE) should be used in conjunction with other control measures including engineering controls, ventilation and isolation. See also Section 5 of this document for PPE advice, in the event of an emergency.

**Eye/Face Protection (Non-Emergency):** None required for product use. For handling of large quantities of liquid material, safety glasses with side shields/goggles are recommended.

**Skin Protection (Non-Emergency):** None required for product use. For handling large quantities of material, such as in product manufacturing, nitrile or vinyl gloves should be considered for use. Tyvek clothing may also be suitable for handling large quantities of material in the manufacturing environment.

**Respiratory Protection (Non-Emergency):** Respiratory protection is not required for product use. For manufacturing of product, respiratory protection may be considered. Ensure that the respirator meets current local occupational health and safety standards. Organic vapor cartridges should be utilized with filtering respiratory protection.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|---|---|---|---|
| **APPEARANCE**: | Liquid | | |
| **ODOR:** | Ammonia | | |
| **ODOR THRESHOLD:** | Not Available | | |
| **pH:** | 9.8 – 10.8 | | |
| **MELTING/FREEZING POINT:** | **F:** Not Available | **C:** Not Available | |
| **BOILING POINT:** | **F:** > 212 | **C:** > 100 | |
| **FLASH POINT:** | **F:** 100.4 | **C:** 38 | **METHOD USED:** Closed cup |
| **FIRE POINT:** | **F:** > 212 | **C:** > 100 | **METHOD USED:** ISO 2592 |
| **EVAPORATION RATE:** | Not Available | **(Butyl acetate = 1)** | |
| **FLAMMABILITY:** | Not Applicable to Liquids | | |
| **FLAMMABLE LIMITS IN AIR:** | Ethyl Alcohol: 19.0% UEL; 3.3% LEL<br>Ethanolamine: 23.5% UEL; 3.0% LEL<br>Ammonia: 28.0% UEL; 15.0% LEL | | |
| **VAPOR PRESSURE (mmHg):** | @ 70F: Not Available | @ 21 C: Not Available | |
| **VAPOR DENSITY (AIR = 1):** | @ 70F: Not Available | @ 21 C: Not Available | |
| **RELATIVE DENSITY (H2O = 1):** | Not Available | | |
| **SOLUBILITY IN WATER:** | Not Available | | |

**PARTITION COEFFICIENT:** Not Available

**AUTOIGNITION TEMPERATURE:** Not Available

**DECOMPOSITION TEMPERATURE:** Not Available

**VISCOSITY:** Not Available

## SECTION 10: STABILITY AND REACTIVITY

**REACTIVITY:** Material is not considered reactive under typical handling and storage conditions.

**STABILITY:** Product is stable.

**POSSIBILITY OF HAZARDOUS REACTIONS:** None known. Hazardous polymerization is not expected to occur.

**CONDITIONS TO AVOID:** Heat, fire, flame and other sources of ignition.

**INCOMPATIBILITY (MATERIAL TO AVOID):** Oxidizers, acids, and bases.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxides of carbon, ammonia, hydrocarbons, and/or derivatives.

## SECTION 11: TOXICOLOGICAL INFORMATION

**Where information is not listed specifically for constituents, published information was not available.**

**POTENTIAL HEALTH EFFECTS**

**ACUTE HEALTH EFFECTS:**
**SKIN CORROSION/IRRITATION:** Causes skin irritation
**SERIOUS EYE DAMAGE/IRRITATION:** Causes serious eye damage
**RESPIRATORY/SKIN SENSITIZATION:** None expected
**INGESTION:** Harmful if swallowed
**INHALATION:** None expected

**ROUTES OF EXPOSURE**: Inhalation, ingestion, eyes, skin

**SYMPTOMS**: Causes serious eye damage. Causes skin irritation.

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE**: None known.

**ACUTE TOXICOLOGY DATA FOR COMPONENTS**

| Material | Route | Species | Test Results |
|---|---|---|---|
| Ethyl Alcohol | Oral $LD_{50}$ | Rat | > 6,200 mg/kg bw |
| Ethyl Alcohol | Dermal $LD_{Lo}$ | Rabbit | > 20,000 mg/kg bw |
| Ethyl Alcohol | $LC_{50}$ (4 hr) | Rat | > 8,000 mg/L air |
| PEG-4 Rapeseedamide | Oral $LD_{50}$ | Rat (OECD 401) | > 2,000 mg/kg bw |
| PEG-4 Rapeseedamide | Dermal $LD_{50}$ | Rat (OECD 402) | > 2,000 mg/kg bw |
| PEG-4 Rapeseedamide | $LC_{50}$ (4 hr) | Rat (OECD 436) | 6 mg/L air |
| Glyceryl Lauryl Ether | Oral $LD_{50}$ | Rat (OECD 423) | > 2,000 mg/kg bw |
| Glyceryl Lauryl Ether | Dermal $LD_{50}$ | Rat (OECD 402) | > 2,000 mg/kg bw |
| Deceth-3 | Oral $LD_{50}$ | Rat | > 2,000 mg/kg bw |
| Deceth-3 | Dermal $LD_{50}$ | Rat (OECD 402) | > 2,000 mg/kg bw |

| Material | Route | Species | Test Results |
|---|---|---|---|
| Laureth-5 Carboxylic Acid | Oral $LD_{50}$ | Rat (OECD 401) | > 2,000 mg/kg bw |
| Ethanolamine | Oral $LD_{50}$ | Rat (OECD 401 eq.) | 1,510 mg/kg bw |
| Ethanolamine | Dermal $LD_{50}$ | Rat (OECD 402 eq.) | 2,504 mg/kg bw |
| Ethanolamine | $LC_{50}$ (6 hr) | Rat | > 1,300 mg/$m^3$ air |
| Ammonium Hydroxide | Oral $LD_{50}$ | Rat (OECD 401) | 350 mg/kg bw |
| Ammonium Hydroxide | $LC_{50}$ (1 hr) | Rat | 11,590 mg/L air |

**Skin Corrosion/Irritation:**

*Ethyl Alcohol:* Not Irritating (Rabbit, OECD 404)
*PEG-4 Rapeseedamide:* Severely Irritating (Rabbit, OECD 404)
*Glyceryl Lauryl Ether:* Corrosive (Rabbit, OECD 404)
*Deceth-3:* Slightly Irritating (Rabbit, OECD 404)
*Laureth-5 Carboxylic Acid:* Slightly Irritating (Rabbit, OECD 404)
*Ethanolamine:* Corrosive (Rabbit, OECD 404)
*Hexylene Glycol:* Slightly Irritating (Rabbit, OECD 404)
*Ammonium Hydroxide* Irritating (5 - 10%); Corrosive (>10%) (Rat, OECD 404)

**Serious Eye Damage/Irritation:**

*Ethyl Alcohol:* 25% - Not Irritating / 50% - Mildly Irritating / 100% - Irritating (Rabbit, OECD 405)
*PEG-4 Rapeseedamide:* Slightly Irritating (Rabbit, OECD 405)
*Glyceryl Lauryl Ether:* Corrosive
*Deceth-3:* Corrosive (Rabbit, OECD 405)
*Laureth-5 Carboxylic Acid:* Corrosive (Rabbit, OECD 405)
*Ethanolamine:* Corrosive (Rabbit, OECD 405)
*Hexylene Glycol:* Slightly Irritating (Rabbit, OECD 405); Irritating (Human, Vapors)
*Ammonium Hydroxide* Corrosive (Rabbit)

**Respiratory Irritation:**

*Hexylene Glycol:* May cause irritation (Human)
*Ammonium Hydroxide* Highly Irritating (>50 ppm) (Human)

**Skin Sensitization:**

*Ethyl Alcohol:* Not Sensitizing (Guinea Pig)
*PEG-4 Rapeseedamide:* Not Sensitizing (Guinea Pig, OECD 406)
*Glyceryl Lauryl Ether:* Not Sensitizing (Guinea Pig, OECD 406)
*Deceth-3:* Not Sensitizing (Guinea Pig)
*Laureth-5 Carboxylic Acid:* Not Sensitizing (Guinea Pig, OECD 406)
*Ethanolamine:* Not Sensitizing (Guinea Pig)
*Hexylene Glycol:* Not Sensitizing (Guinea Pig, OECD 406)
*Ammonium Hydroxide* Not Sensitizing (Guinea Pig)

**CHRONIC HEALTH HAZARDS:**

**REPEAT DOSE TOXICITY:**

NOAEL (Ethyl Alcohol, oral): >2% (2400 mg/kg) (Rat)
LOAEL (Ethyl Alcohol, oral): 3% (3600 mg/kg) (Rat)
NOAEL (PEG-4 Rapeseedamide, oral):15 mg/kg bw/d (28d) (Rat – M, OECD 407)
NOAEL (Glyceryl Lauryl Ether, oral):150 mg/kg bw/d (28d) (Rat, OECD 407)
NOAEL (Deceth-3, oral): 80-400 mg/kg bw/d (90d) (Rat, OECD 408)
NOAEL (Deceth-3, dermal): 80 mg/kg bw/d (90d) (Rat, OECD 411)
NOAEL (Ethanolamine, oral): 300 mg/kg bw/d (Rat, OECD 416)
NOEL (Hexylene Glycol, oral): 450 mg/kg bw/d (90d) (Rat, OECD 408)

**CARCINOGENICITY:**

| Component Name (CAS-No.) | OSHA | ACGIH | NTP | IARC |
|---|---|---|---|---|
| Ethyl Alcohol (64-17-5) | -- | TLV-A3 | -- | -- |

**Notes:** ACGIH *TLV-A3* – Confirmed Animal Carcinogen with Unknown Relevance to Humans

**MUTAGENICITY:**

*Ethyl Alcohol:* A variety of *in vitro* and *in vivo* tests have produced negative results.
*PEG-4 Rapeseedamide:* A variety of *in vitro* and *in vivo* tests have produced negative results.
*Glyceryl Lauryl Ether:* A variety of *in vitro* tests have produced negative results.
*Deceth-3:* A variety of *in vitro* tests have produced negative results.
*Laureth-5 Carboxylic Acid:* A variety of *in vitro* tests have produced negative results.
*Ethanolamine:* A variety of *in vitro* and *in vivo* tests have produced negative results.
*Hexylene Glycol:* A variety of *in vitro* tests have produced negative results
*Ammonium Hydroxide:* A variety of *in vitro* tests have produced negative results.

**REPRODUCTIVE TOXICITY:**

*Ethyl Alcohol:* NOAEL: 20.7 g/kg/day (15%) (Mouse, OECD 416 eq.) – No effects on fertility
*PEG-4 Rapeseedamide:* NOEL: 500 mg/kg bw/d (Rat, OECD 421) – No effects on fertility
*Glyceryl Lauryl Ether:* NOEL: 600 mg/kg bw/d (Rat, OECD 421)
*Deceth-3:* NOAEL: > 250 mg/kg bw/d (Rat, OECD 416)
*Ethanolamine:* NOAEL: 300 mg/kg bw/day (Rat, OECD 416)
*Hexylene Glycol:* NOAEL: 1,000 mg/kg bw/d (Rat, OECD 421)

**DEVELOPMENTAL TOXICITY/TERATOGENICITY:**

*Ethyl Alcohol*: NOAEL: ≥ 20,000 ppm (Rat, OECD 414 eq.) – Incident of malformations
*PEG-4 Rapeseedamide:* NOEL: 500 mg/kg bw/d (Rat, OECD 421) – No effects on development
*Glyceryl Lauryl Ether:* NOEL: 600 mg/kg bw/d (Rat, OECD 421)
*Deceth-3:* NOAEL: > 250 mg/kg bw/d (Rat, OECD 416)
*Ethanolamine:* NOAEL: 450 mg/kg bw/day (Rat, OECD 414)
*Hexylene Glycol:* NOAEL: 300 mg/kg bw/d (Rat, OECD 414)
*Ammonium Hydroxide:* NOAEL: 1,000 mg/kg bw/d (Mouse)

## SECTION 12: ECOLOGICAL INFORMATION

Contact with the environment should be avoided. Spills and leaks should be immediately cleaned up and removed. All precautions should be taken to prevent contact with the environment. Published information regarding ingredients listed on this document area found below; where data is not listed, documentation was unavailable.

**ACUTE AND PROLONGED TOXICITY TO FISH**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Ethyl Alcohol | $LC_{50}$ | 12. 9 - 15.3g/L | Pimephales promelas | 96 h |
| PEG-4 Rapeseedamide | $LC_{50}$ (OECD 203) | 2.9 mg/L | Oncorhynchus mykiss | 96 h |
| Glyceryl Lauryl Ether | $LC_{50}$ (OECD 203) | 1.61 mg/L | Danio rerio | 96 h |
| Deceth-5 | $LC_{50}$ | 11.5 mg/L | Oncorhynchus mykiss | 96 h |
| Laureth-5 Carboxylic Acid | $LC_{50}$ | 7.5 mg/L | Oncorhynchus mykiss | 96 h |
| Ethanolamine | $LC_{50}$ (D1345-70) | 170 mg/L | Carassius auratus | 96 h |
| Hexylene Glycol | $LC_{50}$ (OECD 203) | 10,700 mg/L | Pimephales promelas | 96 h |
| Ammonium Hydroxide | $LC_{50}$ | 1.73 mg/L | Lepomis cyanellus | 96 h |

**ACUTE TOXICITY TO AQUATIC INVERTEBRATES**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Ethyl Alcohol | $EC_{50}$ | 5,012 mg/L | Ceriodaphnia Dubia | 48 h |
| PEG-4 Rapeseedamide | $EC_{50}$ (OECD 202) | 3.8 mg/L | Daphnia magna | 48 h |
| Glyceryl Lauryl Ether | $EC_{50}$ (OECD 202) | 0.875 mg/L | Daphnia magna | 48 h |
| Deceth-5 | $EC_{50}$ | 5.1 mg/L | Daphnia magna | 48 h |
| Ethanolamine | $EC_{50}$ (EU C.2) | 65 mg/L | Daphnia magna | 48 h |
| Hexylene Glycol | $EC_{50}$ (OECD 202) | 5,410 mg/L | Daphnia magna | 48 h |
| Ammonium Hydroxide | $EC_{50}$ (E729-80) | 101 mg/L | Daphnia magna | 48 h |

**TOXICITY TO AQUATIC PLANTS**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Ethyl Alcohol | $EC_{50}$ | 675 mg/L | Chlorella Vulgaris | 96 h |
| PEG-4 Rapeseedamide | $EC_{50}$ (OECD 201) | 410 mg/L | Desmodesmus subspicatus | 72 h |
| Glyceryl Lauryl Ether | $EC_{50}$ (OECD 201) | 1.11 mg/L | Algae | 72 h |
| Ethanolamine | $EC_{50}$ (EU C.3) | 15 mg/L | Green algae | 72 h |
| Hexylene Glycol | $EC_{50}$ (OECD 201) | > 429 mg/L | Pseudokirchneriella subcapitata | 72 h |

**TOXICITY TO MICROORGANISMS**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Ethyl Alcohol | $EC_{50}$ | 32,100 mg/L | Photobacterium phosphoreum | 15 min |
| PEG-4 Rapeseedamide | $EC_{50}$ (OECD 209) | > 1,000 mg/L | Activated sludge | 3 h |
| Glyceryl Lauryl Ether | $EC_{50}$ (OECD 209) | 31.6 mg/L | Activated sludge | 3 h |
| Ethanolamine | $EC_{10}$ (OECD 209) | > 1,000 mg/L | Activated sludge | 30 min |
| Hexylene Glycol | NOEC | 200 mg/L | Pseudomonas aeruginosa | 10 d |

**PERSISTENCY AND DEGRADABILITY:**

*Ethyl Alcohol:* Readily Biodegradable – OECD 301 B – 97% (28d)
*PEG-4 Rapeseedamide:* Readily Biodegradable – OECD 301 B – 96% (28d)
*Glyceryl Lauryl Ether:* Readily Biodegradable – OECD 301 B – 88% (28d)
*Deceth-3:* Readily Biodegradable
*Laureth-5 Carboxylic Acid:* Readily Biodegradable – OECD 301 B – 78% (28d)
*Ethanolamine:* Readily Biodegradable – OECD 301 A – >90% (21d)
*Hexylene Glycol:* Readily Biodegradable – OECD 301 F – 81% (28d)
*Ammonium Hydroxide* Readily Biodegradable – Converts to nitrates

**BIOACCUMULATIVE POTENTIAL:**

*Ethyl Alcohol:* $logBCF_{(calculated)}$ = 0.5 (BCFWIN v2.15) – Not expected to bioaccumulate
*PEG-4 Rapeseedamide:* log Pow: 5 – Potential to bioaccumulate
*Glyceryl Lauryl Ether:* log Pow: 3.757; BCF: 311.5 (QSAR) – Not expected to bioaccumulate
*Deceth-3:* Not expected to bioaccumulate
*Ethanolamine:* log Pow: -1.91 -– Not expected to bioaccumulate
*Hexylene Glycol:* log Pow: <1; BCF: 3.16 – Not expected to bioaccumulate

## SECTION 13: DISPOSAL CONSIDERATIONS

**Those responsible for the performance of disposal, recycling or reclamation activities should refer to Section 8 of this document for advice on personal protective equipment and exposure controls.**

**WASTE DISPOSAL CONTAINERS:** Appropriate US DOT containers should be utilized which may include fiberboard boxes for products and metal or plastic drums for liquids. These containers should meet the packaging specifications required for DOT compliance.

**WASTE DISPOSAL METHOD:** This product is ignitable (D001) RCRA hazardous wastes when intended for disposal. Controlled incineration at a hazardous waste facility is the recommended technology for treatment and disposal. This material must not be disposed through sewage.

**RCRA HAZARD CLASS: D001**

Follow all local governmental requirements intended for disposal.

## SECTION 14: TRANSPORT INFORMATION

**North American Ground Transportation**
**In accordance with US Department of Transportation 49 CFR 173.120(a)(4), products associated with this document have been determined to have a flash point greater than 35°C and fire point greater than 100°C, therefore these materials are exempt from the US DOT Hazardous Materials Shipping Regulations.**

- **IN CONSUMER PACKAGING:** Exempt
- **OTHER THAN CONSUMER PACKAGING:** Exempt

**Transport Via Water**
**In accordance with International Maritime Dangerous Goods Code 2.3.1.3.2, products associated with this document have been determined to have a flash point greater than 35°C and fire point greater than 100°C, therefore these materials are exempt from the IMDG Code.**

- **IN CONSUMER PACKAGING:** Exempt
- **OTHER THAN CONSUMER PACKAGING:** Exempt

**Transport Via Air (Domestic/International)**
**In accordance with International Civil Aviation Organization Technical Instruction Part 2, 3.1.3 b), products associated with this document have been determined to have a flash point greater than 35°C and fire point greater than 100°C, therefore these materials are exempt from the ICAO TI.**

- **IN CONSUMER PACKAGING:** Exempt
- **OTHER THAN CONSUMER PACKAGING:** Exempt

**Please be aware of carrier transport variations before shipping hazardous materials.**

## SECTION 15: REGULATORY INFORMATION

**National Fire Protection Association Codes:** Health: 2 Fire: 2 Reactivity: 0 Other: None

**Workplace Hazardous Materials Identification System:** Class B Flammable Material; Class E; Corrosive Material (Eye)

This regulatory information represents the product, in its consumer packaging.

## SECTION 16: OTHER INFORMATION

**PREPARATION INFORMATION:** This is the first issuance of this document.

Author: Ronald Weslosky (Corporate Regulatory Services)

L'ORÉAL USA

# SAFETY DATA SHEET

**SDS # 00-23-001-0**

**ISSUANCE DATE: October 8, 2015**

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

L'Oreal USA Products, Inc.
111 Terminal Avenue
Clark, NJ 07066

L'Oreal Canada
4895 rue Hickmore
Ville St-Laurent, H4Y 1K5
Canada

**Emergency Telephone Number:**
1-800-535-5053 (International: 352-323-3500)
In Canada – 1-613-996-6666 (Canutec) (*666 cellular)

**For further information**:
1-732-499-2741

**Poison Control Number:** 412-390-3326

**Product Name: Redken Blonde Idol Freehand Lightener**

**Recommendations on use:** Personal care product to be mixed with companion product(s) in accordance with instructions and applied to hair for lightening effect.

**Restrictions on use:** For external use only. Use only as directed.

## SECTION 2: HAZARDS IDENTIFICATION

**Signal Word: DANGER**

| Symbol | Classification | Hazard Statement | Prevention Statements |
|---|---|---|---|
|  | Eye Irritation Category 2A | Causes serious eye irritation | • Wash hands and all skin surfaces contacted thoroughly after handling.<br>• Wear eye protection appropriate for the manufacturing operation being performed (goggles or face shield). |
|  | Sensitization Respiratory Category 1 | May cause allergy or asthma symptoms or breathing difficulties if inhaled | • Avoid breathing dust.<br>• In case of inadequate ventilation wear respiratory protection |
| No symbol Required | Sensitization Skin Category 1 | May cause an allergic skin reaction | • Contaminated work clothing must not be allowed out of the workplace |

| Symbol | Classification | Hazard Statement | Prevention Statements |
|---|---|---|---|
| No symbol Required | Skin Irritation Category 2 | Causes skin irritation | • Wear protective gloves. |
| No symbol Required | Specific Target Organ Toxicity (Single Exposure) Category 3 | May cause respiratory irritation | • Use only outdoors or in a well-ventilated area |

This material is considered hazardous by the US Occupational Safety and Health Administration Hazard Communication Standard (29 CFR 1910.1200)

General Precautionary Statements: Keep out of reach of children. Read label/directions before use. Keep from heat and moisture. Do not use metal utensils.

Hazards Not Otherwise Classified: None

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Only hazardous constituents associated with the product are listed below**

| INGREDIENT: | CAS NO. | % WT |
|---|---|---|
| Diammonium Phosphate | 7783-28-0 | ≤ 5.0% |
| Trisodium Phosphate | 7601-54-9 | ≤ 10.0% |
| Potassium Persulfate | 7727-21-1 | ≤ 25.0% |

## SECTION 4: FIRST AID MEASURES

### Response Statements:

**IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing until material is sufficiently removed from the eye. **If eye irritation persists:** Get medical advice/attention.

**IF ON SKIN**: Wash with plenty of water. **If skin irritation or rash occurs:** Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

**IF INHALED:** If breathing is difficult, remove person to fresh air and keep comfortable for breathing. **If experiencing respiratory symptoms:** Call a poison control center or get medical advice/attention.

**IF SWALLOWED:** Rinse mouth. Do not induce vomiting. Never give anything by mouth to an unconscious individual. Call a poison control center or get medical advice/attention if you fell unwell.

**SYMPTOMS/EFFECTS**: Causes serious eye irritation. May cause asthma symptoms or breathing difficulties. May cause an allergic skin reaction. Causes skin irritation. May cause respiratory irritation.

**NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:** Consult product labeling. No special advice.

## SECTION 5: FIRE-FIGHTING MEASURES

**Notes for Non-Emergency Personnel:**

**EXTINGUISHING MEDIA:** In case of fire: Use carbon dioxide, dry chemical and/or foam to extinguish. Water spray may be used to soak other materials surrounding the product, to prevent the spread of the fire. Selection of a fire extinguisher should also be appropriate to address the location of the fire and equipment involved. Review the tools available at your location to ensure proper availability of equipment.

**Notes for those trained to participate in an emergency:**

**SPECIAL FIRE FIGHTING PROCEDURES:** Follow National Fire Protection Association Guidelines or local guidelines appropriate for emergency response.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Persulfates may yield oxygen and may stimulate combustion of flammable and combustible materials.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxygen, ammonia, oxides of carbon, sulfur, hydrocarbons, and/or derivatives.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Notes for non-emergency personnel:**

Consult trained response personnel for clean-up of large spills or locations where providing preliminary control of the chemical release is hazardous. Hazardous locations include areas where ignition sources cannot be controlled and where mixture with organic material is possible. Isolate the area and deny entry to unnecessary and unprotected personnel. Sections 2, 5, 7 and 8 of this document should be consulted upon use of material, to become knowledgeable of the material's hazards and how to control associated risks.

If the location is not hazardous and only a small amount of material is released, the material can be swept up or wiped with damp towels/sponges while wearing the protective equipment as noted below. Clean the area with detergent and water. Prohibit discharge to drains, soil, surface and ground waters. Dispose in accordance with section 13 of this document.

**PERSONAL PROTECTIVE EQUIPMENT:** Nitrile or vinyl gloves, safety glasses/goggles and protective clothing (e.g. apron) may be required for clean-up of large releases. Respiratory protection is typically not necessary, but may be used depending upon the size of the spill and occupational exposure limits. Respiratory protection may include the use of particulate cartridges. See also section 8 of this document.

**Notes for those trained to participate in an emergency:**

**ACCIDENTAL RELEASE MEASURES:** Materials in powder form are not expected to migrate greatly during release. Released material should be swept up and accumulated in appropriate UN specification containers while minimizing dust generation. Wash area completely with water. Take care to avoid contact with wet surfaces or walkways that may become slick when residue is present. Rinse response equipment (e.g. towels, sponges, mops) thoroughly prior to disposal or storage. Prohibit discharge to drains, soil, surface and ground waters.

Recommendations for personal protective equipment selection are noted above. Dispose in accordance with section 13 of this document.

## SECTION 7: HANDLING AND STORAGE

**PRECAUTIONS FOR SAFE HANDLING:**
Do not eat, drink or smoke while working with hazardous chemicals. Employees should be advised to wear appropriate protective equipment in the manufacturing environment. See section 8 of this document for protective equipment selection. Use only with adequate ventilation and avoid inhalation. Avoid contact with eyes and skin. Do not use with metal utensils. All manufacturing should be performed indoors, in an enclosed environment.

Maintain a clean work environment which includes use of properly functioning containers, proper housekeeping practices.

**CONDITIONS FOR SAFE STORAGE:**

**Storage precautions for unpackaged product (manufacturing environment):** Keep in a cool and well-ventilated area. Keep containers closed when not in use. Store away from moisture. Do not store metal utensils with product. This material should be stored locked up in an area where production inventory may be controlled by authorized personnel. Store in a location where spill containment will be easily accessible and releases can be contained.

**Storage precautions for packaged product:** See consumer packaging.

Keep away from open drains and access to the environment.

**Incompatible materials**: Organic compounds and reducing agents. Store away from incompatible materials and moisture.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**CONTROL PARAMETERS:** These criteria have been published by the referenced authority to establish exposure limits in the work environment. Employee work areas should be monitored to ensure that permissible limits are not exceeded during the work day. These references do not coincide with product use. These references are meant to be in association with the manufacturing environment.

**OCCUPATIONAL EXPOSURE VALUES:**

| Component Name (CAS-No.) | Reference | TWA | | STEL/CEILING | |
|---|---|---|---|---|---|
| | | ppm | $mg/m^3$ | ppm | $mg/m^3$ |
| Potassium Persulfate (Persulfates) 7727-21-1 | OSHA PEL | -- | -- | -- | -- |
| | ACGIH TLV | -- | 0.1 | -- | -- |
| | NIOSH REL | -- | -- | -- | -- |

No occupational exposure values have been published for other constituents noted in Section 3.

**WORK HYGIENIC PRACTICES:** Ensure all work surfaces are maintained, to prevent contamination.

**ENGINEERING CONTROLS:** None required for product use. For handling large quantities of material, such as in the manufacturing of product, ventilation should be utilized. This ventilation should be compatible with the control of oxidizing materials. Exhaust ventilation should be utilized to maintain air concentrations of material below the occupational exposure guidelines noted above.

Local exhaust ventilation is not typically required for product use. For handling large quantities of material, such as in the manufacturing of product **--** Local Exhaust: Explosion proof. Mechanical (general): Explosion proof.

**PERSONAL PROTECTIVE EQUIPMENT:** Consistent with good hygiene practices, personal protective equipment (PPE) should be used in conjunction with other control measures including engineering controls, ventilation and isolation. See also Section 5 of this document for PPE advice, in the event of an emergency.

**Eye/Face Protection (Non-Emergency):** None required for product use. Contact with eyes should be avoided. For handling of large quantities of material, safety glasses with side shields/goggles are recommended.

**Skin Protection (Non-Emergency):** Gloves should be worn when mixing kit components and applying mixture. For handling large quantities of material, such as in product manufacturing, nitrile or vinyl gloves should be considered for use. Tyvek clothing may also be suitable for handling large quantities of material in the manufacturing environment.

**Respiratory Protection (Non-Emergency):** Respiratory protection is not required for product use. For manufacturing of product, respiratory protection such may be considered. Ensure that the respirator meets current local occupational health and safety standards.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **APPEARANCE**: | Finely divided, free-flowing powder |
| **ODOR:** | Characteristic |
| **ODOR THRESHOLD:** | Not Available |
| **pH:** | 10.9 – 11.5 (1% Aqueous Solution) |
| **MELTING/FREEZING POINT:** | **F:** Not Available **C:** Not Available |
| **BOILING POINT:** | **F:** Not Available **C:** Not Available |
| **FLASH POINT:** | **F:** > Not Applicable **C:** >Not Applicable **METHOD USED:** Not Applicable |
| **EVAPORATION RATE:** | Not Applicable |
| **FLAMMABILITY:** | Not Applicable |
| **VAPOR PRESSURE (mmHg):** | @ 70F: Not Available @ 21 C: Not Available |
| **VAPOR DENSITY (AIR = 1):** | @ 70F: Not Available @ 21 C: Not Available |
| **RELATIVE DENSITY (H2O = 1):** | Not Available |
| **SOLUBILITY IN WATER:** | Partially soluble |
| **PARTITION COEFFICIENT:** | Not Available |
| **AUTOIGNITION TEMPERATURE:** | Not Available |
| **DECOMPOSITION TEMPERATURE:** | Not Available |
| **VISCOSITY:** | Not Available |

## SECTION 10: STABILITY AND REACTIVITY

**REACTIVITY:** Material is not considered reactive under typical handling and storage conditions.

**STABILITY:** Product is stable.

**POSSIBILITY OF HAZARDOUS REACTIONS:** None known. Hazardous polymerization is not expected to occur.

**CONDITIONS TO AVOID:** Heat, moisture and contamination with organic materials and metal utensils.

**INCOMPATIBILITY (MATERIAL TO AVOID):** Organic compounds and reducing agents.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxygen, ammonia, oxides of carbon, sulfur, hydrocarbons, and/or derivatives.

## SECTION 11: TOXICOLOGICAL INFORMATION

**Where information is not listed specifically for constituents, published information was not available.**

**POTENTIAL HEALTH EFFECTS**

**ACUTE HEALTH EFFECTS:**
**SKIN CORROSION/IRRITATION**: Causes skin irritation
**SERIOUS EYE DAMAGE/IRRITATION**: Causes serious eye irritation
**RESPIRATORY/SKIN SENSITIZATION**: May cause allergic reaction/breathing difficulty; May cause allergic skin reaction
**INGESTION**: Harmful if swallowed.
**INHALATION**: May cause respiratory irritation

**ROUTES OF EXPOSURE**: Eyes, skin, ingestion, inhalation

**SYMPTOMS**: Causes serious eye irritation. May cause asthma symptoms or breathing difficulties. May cause an allergic skin reaction. Causes skin irritation. May cause respiratory irritation.

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE**: Existing dermatological conditions (such as eczema) and respiratory conditions (such as bronchial asthma and/or bronchitis) may be exacerbated.

**ACUTE TOXICOLOGY DATA FOR COMPONENTS**

| Material | Route | Species | Test Results |
|---|---|---|---|
| Diammonium Phosphate | Oral $LD_{50}$ | Rat | 6,500 mg/kg bw |
| Diammonium Phosphate | Dermal $LD_{50}$ | Rabbit | >7,950 mg/kg bw |
| Trisodium Phosphate | Oral $LD_{50}$ | Rat (OECD 420) | >2,000 mg/kg bw |
| Trisodium Phosphate | Dermal $LD_{50}$ | Rabbit (OECD 402) | >2,000 mg/kg bw |
| Trisodium Phosphate | $LC_{50}$ (4hr) | Rat (OECD 403) | 0.83 mg/l air |
| Potassium Persulfate | Oral $LD_{50}$ | Rat (OECD 401 eq.) | 1,130 mg/kg bw |
| Potassium Persulfate | Dermal $LD_{50}$ | Rabbit | >10,000 mg/kg bw |
| Potassium Persulfate | $LC_{50}$ (1 hr) | Rat | >42.9 mg/l air |

**Skin Corrosion/Irritation:**
*Diammonium Phosphate:* Irritating
*Trisodium Phosphate:* Irritating (Rabbit)
*Potassium Persulfate:* Irritating (Rabbit)

**Serious Eye Damage/Irritation:**
*Diammonium Phosphate:* Irritating
*Trisodium Phosphate:* Irritating (Rabbit)
*Potassium Persulfate:* Irritating (Rabbit)

**Respiratory Irritation:**
*Diammonium Phosphate:* Irritating
*Trisodium Phosphate:* Irritating
*Potassium Persulfate:* Irritating (Human)

**Skin Sensitization:**
*Trisodium Phosphate:* Not Sensitizing (Mouse, OECD 429)
*Potassium Persulfate:* Sensitizing (Mouse, OECD 429 eq.)

**CHRONIC HEALTH HAZARDS:**

**REPEAT DOSE TOXICITY:**
NOAEL (*Diammonium Phosphate*, oral): 250 mg/kg bw/d (Rat, OECD 422, 90d)
NOAEL (*Potassium Persulfate*, oral): 131.5 mg/kg bw/day (Rat, OECD 407 eq., 28d)

**CARCINOGENICITY:**

| Component Name (CAS-No.) | OSHA | ACGIH | NTP | IARC |
|---|---|---|---|---|
| None established | -- | -- | -- | -- |

**MUTAGENICITY:**
*Diammonium Phosphate:* A variety of *in vitro* tests have products negative results.
*Trisodium Phosphate*: A variety of *in vitro* tests have produced negative results.
*Potassium Persulfate:* A variety of *in vitro* tests have produced negative results.

**REPRODUCTIVE TOXICITY:**
*Diammonium Phosphate:* NOAEL: 1,5000 mg/kg bw/d (OECD 422) – No reproductive effects

**DEVELOPMENTAL TOXICITY/TERATOGENICITY:**
No Data

## SECTION 12: ECOLOGICAL INFORMATION

Contact with the environment should be avoided. Spills and leaks should be immediately cleaned up and removed. All precautions should be taken to prevent contact with the environment. Published information regarding ingredients listed on this document area found below; where data is not listed, documentation was unavailable.

**ACUTE AND PROLONGED TOXICITY TO FISH**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Diammonium Phosphate | $LC_{50}$ | 155 mg/L | Pimephales promelas | 96 h |
| Trisodium Phosphate | $LC_{50}$ | > 100 mg/L | Not specified | 96 h |
| Potassium Persulfate | $LC_{50}$ | 76 mg/L | Oncorhynchus mykiss | 96 h |

**ACUTE TOXICITY TO AQUATIC INVERTEBRATES**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Diammonium Phosphate | $EC_{50}$ | 40-52 mg/L | Daphnia Magna | 96 h |
| Trisodium Phosphate | $EC_{50}$ (OECD 202) | > 100 mg/L | Daphnia magna | 48 h |
| Potassium Persulfate | $EC_{50}$ | 120 mg/L | Daphnia Magna | 48 h |

**TOXICITY TO AQUATIC PLANTS**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Diammonium Phosphate | NOEC | 3.57 mg/L | Scenedesmus capricornutum | 72 h |
| Trisodium Phosphate | $EC_{50}$ (OECD 201) | > 100 mg/L | Desmodesmus subspicatus | 72 h |

**TOXICITY TO MICROORGANISMS**
No Data

**PERSISTENCY AND DEGRADABILITY:**
No Data

**BIOACCUMULATIVE POTENTIAL:**
*Potassium Persulfate:* Not expected to bioaccumulate

## SECTION 13: DISPOSAL CONSIDERATIONS

**Those responsible for the performance of disposal, recycling or reclamation activities should refer to Section 8 of this document for advice on personal protective equipment and exposure controls.**

**WASTE DISPOSAL CONTAINERS:** Appropriate containers should be utilized which may include cardboard boxes for products, plastic/lined drums for solids. Packaging containers must not include incompatible materials.

**WASTE DISPOSAL METHOD:** This product is not considered a federal RCRA hazardous waste when intended for disposal. Controlled incineration at a licensed waste facility is the recommended technology for treatment and disposal. This material must not be disposed through sewage.

**RCRA HAZARD CLASS:** Not Regulated

Follow all local governmental requirements intended for disposal.

## SECTION 14: TRANSPORT INFORMATION

**North American Ground Transportation**

- **IN CONSUMER PACKAGING:** Not Regulated
- **OTHER THAN CONSUMER PACKAGING:** Not Regulated

**Transport Via Water**

- **IN CONSUMER PACKAGING:** Not Regulated
- **OTHER THAN CONSUMER PACKAGING:** Not Regulated

**Transport Via Air (Domestic/International)**

- **IN CONSUMER PACKAGING:** Not Regulated
- **OTHER THAN CONSUMER PACKAGING:** Not Regulated

**Please be aware of carrier transport variations before shipping hazardous materials.**

## SECTION 15: REGULATORY INFORMATION

**National Fire Protection Association Codes:** Health: 2 Fire: 0 Reactivity: 0 Other: None

**Workplace Hazardous Materials Identification System:** Class D; Division 2, Subdivision B; Irritation/Sensitization

This regulatory information represents the product, in its consumer packaging.

## SECTION 16: OTHER INFORMATION

**PREPARATION INFORMATION:** This is the first issuance of this document.

Author: Ronald Weslosky (Corporate Regulatory Services)

L'ORÉAL USA

# SAFETY DATA SHEET

**SDS # Non-Haz**

**ISSUANCE DATE: April 30, 2015**

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

L'Oreal USA Products, Inc.
111 Terminal Avenue
Clark, NJ 07066

L'Oreal Canada
4895 rue Hickmore
Ville St-Laurent, H4Y 1K5
Canada

**Emergency Telephone Number:**
1-800-535-5053 (International: 352-323-3500)
In Canada – 1-613-996-6666 (Canutec) (*666 cellular)

**For further information**:
1-732-499-2741

**Poison Control Number:** 412-390-3326

**Product Name: Non-Hazardous Cosmetic/Personal Care Products**

**Recommendations on use:** Personal care product used for cosmetic enhancement.

**Restrictions on use:** For external use only. Use only as directed. Refer to consumer package labeling for any associated sun protection level.

## SECTION 2: HAZARDS IDENTIFICATION

### Signal Word: NONE

| Symbol | Classification | Hazard Statement | Prevention Statements |
|---|---|---|---|
| No Symbol Required | NON-HAZARDOUS | NONE | NONE |

This material is not considered hazardous by the U.S. Occupational Safety and Health Administration Hazard Communication Standard (29 CFR 1910.1200)

General Precautionary Statements: Keep out of reach of children. Read label before use. Direct eye contact may cause watering, stinging or itching eyes. Possible skin dryness/irritation if over-exposed.

Hazards Not Otherwise Classified: None

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

No hazardous constituents requiring notification

## SECTION 4: FIRST AID MEASURES

**Response Statements:**

**IF IN EYES:** If eye irritation occurs: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing until material is sufficiently removed from the eye. **If eye irritation persists:** Get medical advice/attention.

**IF ON SKIN**: If skin irritation occurs: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. **If skin irritation persists:** Get medical advice/attention.

**IF INHALED:** Remove person to fresh air and keep in a position comfortable for breathing. Call a Poison Control Center if you feel unwell.

**IF SWALLOWED:** Do not induce vomiting. Never give anything by mouth to an unconscious individual. Consult a physician or Poison Control Center immediately.

**SYMPTOMS/EFFECTS**: Direct eye contact may cause watering, stinging or itching eyes. Possible skin dryness/irritation if over-exposed.

**NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:** Consult product labeling. No special advice.

## SECTION 5: FIRE-FIGHTING MEASURES

**Notes for Non-Emergency Personnel:**

**EXTINGUISHING MEDIA:** In case of fire use carbon dioxide, dry chemical, foam and/or water spray for extinction. Selection of a fire extinguisher should also be appropriate to address the location of the fire and equipment involved. Please review the tools available at your location to ensure proper availability of equipment.

**Notes for those trained to participate in an emergency:**

**SPECIAL FIRE FIGHTING PROCEDURES:** Follow National Fire Protection Association Guidelines or local guidelines appropriate for emergency response.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** None required.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxides of carbon, silicone, hydrocarbons, and/or derivatives.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Notes for non-emergency personnel:**
Consult trained response personnel for clean-up of large spills or locations where providing preliminary control of the chemical release is hazardous. Hazardous locations include areas where ignition sources cannot be controlled. Isolate the area and deny entry to unnecessary and unprotected personnel. Sections 2, 5, 7 and 8 of this document should be consulted upon use of material, to become knowledgeable of the material's hazards and how to control associated risks.

If the location is not hazardous and only a small amount of material is released, control the spill using absorbent pads while wearing the protective equipment as noted below. Clean the area with detergent and water. Prohibit discharge to drains, soil, surface and ground waters. Dispose in accordance with Section 13 of this document.

**PERSONAL PROTECTIVE EQUIPMENT:** Nitrile or vinyl gloves, safety glasses/goggles, protective clothing (e.g. apron) may be required for clean-up of large spills. Respiratory protection is typically not necessary, but may used depending upon the size of the spill and occupational exposure limits. Respiratory protection may include the use of organic vapor cartridges. Refer to Section 8 for additional information.

**Notes for those trained to participate in an emergency:**

**ACCIDENTAL RELEASE MEASURES:** Dike and contain the free liquid and absorb on vermiculite or spill pillows/pads. Solidified materials should be placed in sturdy containers for disposal. Place spill residual in appropriate containers for disposal. Wash area completely with water. Avoid contact with wet surfaces or walkways that may become slick when residue is present. Prohibit discharge to drains, soil, surface and ground waters.

Recommendations for personal protective equipment selection are noted above. Dispose in accordance with section 13 of this document.

## SECTION 7: HANDLING AND STORAGE

**PRECAUTIONS FOR SAFE HANDLING:**
Do not eat, drink or smoke while working with chemical materials. Employees should be advised to wear appropriate protective equipment in the manufacturing environment. See section 8 of this document for protective equipment selection. All manufacturing should be performed indoors, in an enclosed environment.

Maintain a clean work environment which includes use of properly functioning containers, proper housekeeping practices.

**CONDITIONS FOR SAFE STORAGE:**

**Storage precautions for unpackaged product (manufacturing environment):** Store in a well-ventilated place and keep cool. Keep containers closed when not in use. Store where releases can easily be contained.

**Storage precautions for packaged product:** See consumer packaging.

Keep away from open drains and access to the environment.

**Incompatible materials**: None known.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**CONTROL PARAMETERS:** These criteria have been published by the referenced authority to establish exposure limits in the work environment. Employee work areas should be monitored to ensure that permissible limits are not exceeded during the work day. These references do not coincide with product use. These references are meant to be in association with the manufacturing environment.

**OCCUPATIONAL EXPOSURE VALUES:**

| Component Name (CAS-No.) | Reference | TWA | | STEL/CEILING | |
|---|---|---|---|---|---|
| | | ppm | $mg/m^3$ | ppm | $mg/m^3$ |
| No OEVs have been established for noted constituents. | OSHA PEL | -- | -- | -- | -- |
| | ACGIH TLV | -- | -- | -- | -- |
| | NIOSH REL | -- | -- | -- | -- |

No occupational exposure values have been published for other constituents noted in Section 3.

**WORK HYGIENIC PRACTICES:** Ensure all work surfaces are maintained, to prevent contamination.

**ENGINEERING CONTROLS:** None required for product use. For handling large quantities of material, such as in the manufacturing of product, ventilation should be utilized. Exhaust ventilation should be utilized to maintain air concentrations of material below the occupational exposure guidelines noted above.

Local exhaust ventilation is not typically required for product use. For handling large quantities of material, such as in the manufacturing of product **--** Local Exhaust: Explosion proof. Mechanical (general): Explosion proof.

**PERSONAL PROTECTIVE EQUIPMENT:** Consistent with good hygiene practices, personal protective equipment (PPE) should be used in conjunction with other control measures including engineering controls, ventilation and isolation. See also Section 5 of this document for PPE advice, in the event of an emergency.

**Eye/Face Protection (Non-Emergency):** None required for product use. For handling of large quantities of liquid material, safety glasses with side shields/goggles are recommended.

**Skin Protection (Non-Emergency):** None required for product use. For handling large quantities of material, such as in product manufacturing, nitrile or vinyl gloves should be considered for use. Tyvek clothing may also be suitable for handling large quantities of material in the manufacturing environment.

**Respiratory Protection (Non-Emergency):** Respiratory protection is not required for product use. For manufacturing of product, respiratory protection may be considered. Ensure that the respirator meets current local occupational health and safety standards.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **APPEARANCE**: | Liquid to cream |
| **ODOR:** | Not Available |
| **ODOR THRESHOLD:** | Not Available |
| **pH:** | Not Available |
| **MELTING/FREEZING POINT:** | **F:** ~ 0 **C:** ~ 32 |
| **BOILING POINT:** | **F:** ~ 212 **C:** ~ 100 |
| **FLASH POINT:** | **F:** > 212 **C:** > 100 **METHOD USED:** Closed cup |
| **EVAPORATION RATE:** | < 1 **(Butyl acetate = 1)** |
| **FLAMMABILITY:** | Not Applicable to Liquids |
| **FLAMMABLE LIMITS IN AIR:** | Not Applicable |
| **VAPOR PRESSURE (mmHg):** | @ F: Not Available @ C: Not Available |
| **VAPOR DENSITY (AIR = 1):** | @ F: Not Available @ C: Not Available |
| **RELATIVE DENSITY (H2O = 1):** | Not Available |
| **SOLUBILITY IN WATER:** | Not Available |
| **PARTITION COEFFICIENT:** | Not Available |
| **AUTOIGNITION TEMPERATURE:** | Not Available |
| **DECOMPOSITION TEMPERATURE:** | Not Available |
| **VISCOSITY:** | Not Available |

## SECTION 10: STABILITY AND REACTIVITY

**REACTIVITY:** Material is not considered reactive under typical handling and storage conditions.

**STABILITY:** Product is stable.

**POSSIBILITY OF HAZARDOUS REACTIONS:** None known. Hazardous polymerization is not expected to occur.

**CONDITIONS TO AVOID:** None known.

**INCOMPATIBILITY (MATERIAL TO AVOID):** None known.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxides of carbon, silicone, hydrocarbons, and/or derivatives.

## SECTION 11: TOXICOLOGICAL INFORMATION

**Where information is not listed specifically for constituents, published information was not available.**

**POTENTIAL HEALTH EFFECTS**

**ACUTE HEALTH EFFECTS:**
**SKIN CORROSION/IRRITATION**: Possible skin dryness/irritation if over-exposed.
**SERIOUS EYE DAMAGE/IRRITATION**: Direct eye contact may cause watering, stinging or itching eyes.
**RESPIRATORY/SKIN SENSITIZATION**: None expected
**INGESTION**: Harmful if swallowed
**INHALATION**: None expected

**ROUTES OF EXPOSURE**: Inhalation, eyes, skin, ingestion

**SYMPTOMS**: Direct eye contact may cause watering, stinging or itching eyes. Possible skin dryness/irritation if over-exposed.

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE**: None known.

**ACUTE TOXICOLOGY DATA FOR COMPONENTS**
No Data

**Skin Corrosion/Irritation:**
No Data

**Serious Eye Damage/Irritation:**
No Data

**Respiratory Irritation:**
No Data

**Skin Sensitization:**
No Data

**CHRONIC HEALTH HAZARDS:**

**REPEAT DOSE TOXICITY:**
No Data

**CARCINOGENICITY:**

| Component Name (CAS-No.) | OSHA | ACGIH | NTP | IARC |
|---|---|---|---|---|
| None established | -- | -- | -- | -- |

**MUTAGENICITY:**
No Data

**REPRODUCTIVE TOXICITY:**
No Data

**DEVELOPMENTAL TOXICITY/TERATOGENICITY:**
No Data

## SECTION 12: ECOLOGICAL INFORMATION

Contact with the environment should be avoided. Spills and leaks should be immediately cleaned up and removed. All precautions should be taken to prevent contact with the environment. Published information regarding ingredients listed on this document area found below; where data is not listed, documentation was unavailable.

**ACUTE AND PROLONGED TOXICITY TO FISH**
No Data

**ACUTE TOXICITY TO AQUATIC INVERTEBRATES**
No Data

**TOXICITY TO AQUATIC PLANTS**
No Data

**TOXICITY TO MICROORGANISMS**
No Data

**PERSISTENCY AND DEGRADABILITY:**
No Data

**BIOACCUMULATIVE POTENTIAL:**
No Data

## SECTION 13: DISPOSAL CONSIDERATIONS

**Those responsible for the performance of disposal, recycling or reclamation activities should refer to Section 8 of this document for advice on personal protective equipment and exposure controls.**

**WASTE DISPOSAL CONTAINERS:** Appropriate containers should be utilized which may include cardboard boxes for products, metal or plastic drums.

**WASTE DISPOSAL METHOD:** This product is not considered a federal RCRA hazardous wastes when intended for disposal. Controlled incineration at a licensed waste facility is the recommended technology for treatment and disposal. This material must not be disposed through sewage.

**RCRA HAZARD CLASS:** Not Regulated

Follow all local governmental requirements intended for disposal.

## SECTION 14: TRANSPORT INFORMATION

**North American Ground Transportation**

- **IN CONSUMER PACKAGING:** Not Regulated
- **OTHER THAN CONSUMER PACKAGING:** Not Regulated

**Transport Via Water**

- **IN CONSUMER PACKAGING:** Not Regulated
- **OTHER THAN CONSUMER PACKAGING:** Not Regulated

**Transport Via Air (Domestic/International)**

- **IN CONSUMER PACKAGING:** Not Regulated
- **OTHER THAN CONSUMER PACKAGING:** Not Regulated

**Please be aware of carrier transport variations before shipping hazardous materials.**

## SECTION 15: REGULATORY INFORMATION

**National Fire Protection Association Codes:** Health: 0 Fire: 1 Reactivity: 0 Other: None

**Workplace Hazardous Materials Identification System:** None

This regulatory information represents the product, in its consumer packaging.

## SECTION 16: OTHER INFORMATION

**PREPARATION INFORMATION:** This document replaces the version dated May 10, 2000 and all previous versions of safety data sheet related to this product.

Author: Ronald Weslosky (Corporate Regulatory Services)

L'ORÉAL USA

# SAFETY DATA SHEET

**SDS # Non-Haz**

**ISSUANCE DATE: April 30, 2015**

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

L'Oreal USA Products, Inc.
111 Terminal Avenue
Clark, NJ 07066

L'Oreal Canada
4895 rue Hickmore
Ville St-Laurent, H4Y 1K5
Canada

**Emergency Telephone Number:**
1-800-535-5053 (International: 352-323-3500)
In Canada – 1-613-996-6666 (Canutec) (*666 cellular)

**For further information**:
1-732-499-2741

**Poison Control Number:** 412-390-3326

**Product Name: Non-Hazardous Cosmetic/Personal Care Products**

**Recommendations on use:** Personal care product used for cosmetic enhancement.

**Restrictions on use:** For external use only. Use only as directed. Refer to consumer package labeling for any associated sun protection level.

## SECTION 2: HAZARDS IDENTIFICATION

### Signal Word: NONE

| Symbol | Classification | Hazard Statement | Prevention Statements |
|---|---|---|---|
| No Symbol Required | NON-HAZARDOUS | NONE | NONE |

This material is not considered hazardous by the U.S. Occupational Safety and Health Administration Hazard Communication Standard (29 CFR 1910.1200)

General Precautionary Statements: Keep out of reach of children. Read label before use. Direct eye contact may cause watering, stinging or itching eyes. Possible skin dryness/irritation if over-exposed.

Hazards Not Otherwise Classified: None

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

No hazardous constituents requiring notification

## SECTION 4: FIRST AID MEASURES

**Response Statements:**

**IF IN EYES:** If eye irritation occurs: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing until material is sufficiently removed from the eye. **If eye irritation persists:** Get medical advice/attention.

**IF ON SKIN**: If skin irritation occurs: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. **If skin irritation persists:** Get medical advice/attention.

**IF INHALED:** Remove person to fresh air and keep in a position comfortable for breathing. Call a Poison Control Center if you feel unwell.

**IF SWALLOWED:** Do not induce vomiting. Never give anything by mouth to an unconscious individual. Consult a physician or Poison Control Center immediately.

**SYMPTOMS/EFFECTS**: Direct eye contact may cause watering, stinging or itching eyes. Possible skin dryness/irritation if over-exposed.

**NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:** Consult product labeling. No special advice.

## SECTION 5: FIRE-FIGHTING MEASURES

**Notes for Non-Emergency Personnel:**

**EXTINGUISHING MEDIA:** In case of fire use carbon dioxide, dry chemical, foam and/or water spray for extinction. Selection of a fire extinguisher should also be appropriate to address the location of the fire and equipment involved. Please review the tools available at your location to ensure proper availability of equipment.

**Notes for those trained to participate in an emergency:**

**SPECIAL FIRE FIGHTING PROCEDURES:** Follow National Fire Protection Association Guidelines or local guidelines appropriate for emergency response.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** None required.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxides of carbon, silicone, hydrocarbons, and/or derivatives.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Notes for non-emergency personnel:**
Consult trained response personnel for clean-up of large spills or locations where providing preliminary control of the chemical release is hazardous. Hazardous locations include areas where ignition sources cannot be controlled. Isolate the area and deny entry to unnecessary and unprotected personnel. Sections 2, 5, 7 and 8 of this document should be consulted upon use of material, to become knowledgeable of the material's hazards and how to control associated risks.

If the location is not hazardous and only a small amount of material is released, control the spill using absorbent pads while wearing the protective equipment as noted below. Clean the area with detergent and water. Prohibit discharge to drains, soil, surface and ground waters. Dispose in accordance with Section 13 of this document.

**PERSONAL PROTECTIVE EQUIPMENT:** Nitrile or vinyl gloves, safety glasses/goggles, protective clothing (e.g. apron) may be required for clean-up of large spills. Respiratory protection is typically not necessary, but may used depending upon the size of the spill and occupational exposure limits. Respiratory protection may include the use of organic vapor cartridges. Refer to Section 8 for additional information.

**Notes for those trained to participate in an emergency:**

**ACCIDENTAL RELEASE MEASURES:** Dike and contain the free liquid and absorb on vermiculite or spill pillows/pads. Solidified materials should be placed in sturdy containers for disposal. Place spill residual in appropriate containers for disposal. Wash area completely with water. Avoid contact with wet surfaces or walkways that may become slick when residue is present. Prohibit discharge to drains, soil, surface and ground waters.

Recommendations for personal protective equipment selection are noted above. Dispose in accordance with section 13 of this document.

## SECTION 7: HANDLING AND STORAGE

**PRECAUTIONS FOR SAFE HANDLING:**
Do not eat, drink or smoke while working with chemical materials. Employees should be advised to wear appropriate protective equipment in the manufacturing environment. See section 8 of this document for protective equipment selection. All manufacturing should be performed indoors, in an enclosed environment.

Maintain a clean work environment which includes use of properly functioning containers, proper housekeeping practices.

**CONDITIONS FOR SAFE STORAGE:**

**Storage precautions for unpackaged product (manufacturing environment):** Store in a well-ventilated place and keep cool. Keep containers closed when not in use. Store where releases can easily be contained.

**Storage precautions for packaged product:** See consumer packaging.

Keep away from open drains and access to the environment.

**Incompatible materials**: None known.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**CONTROL PARAMETERS:** These criteria have been published by the referenced authority to establish exposure limits in the work environment. Employee work areas should be monitored to ensure that permissible limits are not exceeded during the work day. These references do not coincide with product use. These references are meant to be in association with the manufacturing environment.

**OCCUPATIONAL EXPOSURE VALUES:**

| Component Name (CAS-No.) | Reference | TWA | | STEL/CEILING | |
|---|---|---|---|---|---|
| | | ppm | $mg/m^3$ | ppm | $mg/m^3$ |
| No OEVs have been established for noted constituents. | OSHA PEL | -- | -- | -- | -- |
| | ACGIH TLV | -- | -- | -- | -- |
| | NIOSH REL | -- | -- | -- | -- |

No occupational exposure values have been published for other constituents noted in Section 3.

**WORK HYGIENIC PRACTICES:** Ensure all work surfaces are maintained, to prevent contamination.

**ENGINEERING CONTROLS:** None required for product use. For handling large quantities of material, such as in the manufacturing of product, ventilation should be utilized. Exhaust ventilation should be utilized to maintain air concentrations of material below the occupational exposure guidelines noted above.

Local exhaust ventilation is not typically required for product use. For handling large quantities of material, such as in the manufacturing of product **--** Local Exhaust: Explosion proof. Mechanical (general): Explosion proof.

**PERSONAL PROTECTIVE EQUIPMENT:** Consistent with good hygiene practices, personal protective equipment (PPE) should be used in conjunction with other control measures including engineering controls, ventilation and isolation. See also Section 5 of this document for PPE advice, in the event of an emergency.

**Eye/Face Protection (Non-Emergency):** None required for product use. For handling of large quantities of liquid material, safety glasses with side shields/goggles are recommended.

**Skin Protection (Non-Emergency):** None required for product use. For handling large quantities of material, such as in product manufacturing, nitrile or vinyl gloves should be considered for use. Tyvek clothing may also be suitable for handling large quantities of material in the manufacturing environment.

**Respiratory Protection (Non-Emergency):** Respiratory protection is not required for product use. For manufacturing of product, respiratory protection may be considered. Ensure that the respirator meets current local occupational health and safety standards.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **APPEARANCE**: | Liquid to cream |
| **ODOR:** | Not Available |
| **ODOR THRESHOLD:** | Not Available |
| **pH:** | Not Available |
| **MELTING/FREEZING POINT:** | **F:** ~ 0 **C:** ~ 32 |
| **BOILING POINT:** | **F:** ~ 212 **C:** ~ 100 |
| **FLASH POINT:** | **F:** > 212 **C:** > 100 **METHOD USED:** Closed cup |
| **EVAPORATION RATE:** | < 1 **(Butyl acetate = 1)** |
| **FLAMMABILITY:** | Not Applicable to Liquids |
| **FLAMMABLE LIMITS IN AIR:** | Not Applicable |
| **VAPOR PRESSURE (mmHg):** | @ F: Not Available @ C: Not Available |
| **VAPOR DENSITY (AIR = 1):** | @ F: Not Available @ C: Not Available |
| **RELATIVE DENSITY (H2O = 1):** | Not Available |
| **SOLUBILITY IN WATER:** | Not Available |
| **PARTITION COEFFICIENT:** | Not Available |
| **AUTOIGNITION TEMPERATURE:** | Not Available |
| **DECOMPOSITION TEMPERATURE:** | Not Available |
| **VISCOSITY:** | Not Available |

## SECTION 10: STABILITY AND REACTIVITY

**REACTIVITY:** Material is not considered reactive under typical handling and storage conditions.

**STABILITY:** Product is stable.

**POSSIBILITY OF HAZARDOUS REACTIONS:** None known. Hazardous polymerization is not expected to occur.

**CONDITIONS TO AVOID:** None known.

**INCOMPATIBILITY (MATERIAL TO AVOID):** None known.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxides of carbon, silicone, hydrocarbons, and/or derivatives.

## SECTION 11: TOXICOLOGICAL INFORMATION

**Where information is not listed specifically for constituents, published information was not available.**

**POTENTIAL HEALTH EFFECTS**

**ACUTE HEALTH EFFECTS:**
**SKIN CORROSION/IRRITATION**: Possible skin dryness/irritation if over-exposed.
**SERIOUS EYE DAMAGE/IRRITATION**: Direct eye contact may cause watering, stinging or itching eyes.
**RESPIRATORY/SKIN SENSITIZATION**: None expected
**INGESTION**: Harmful if swallowed
**INHALATION**: None expected

**ROUTES OF EXPOSURE**: Inhalation, eyes, skin, ingestion

**SYMPTOMS**: Direct eye contact may cause watering, stinging or itching eyes. Possible skin dryness/irritation if over-exposed.

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE**: None known.

**ACUTE TOXICOLOGY DATA FOR COMPONENTS**
No Data

**Skin Corrosion/Irritation:**
No Data

**Serious Eye Damage/Irritation:**
No Data

**Respiratory Irritation:**
No Data

**Skin Sensitization:**
No Data

**CHRONIC HEALTH HAZARDS:**

**REPEAT DOSE TOXICITY:**
No Data

**CARCINOGENICITY:**

| Component Name (CAS-No.) | OSHA | ACGIH | NTP | IARC |
|---|---|---|---|---|
| None established | -- | -- | -- | -- |

**MUTAGENICITY:**
No Data

**REPRODUCTIVE TOXICITY:**
No Data

**DEVELOPMENTAL TOXICITY/TERATOGENICITY:**
No Data

## SECTION 12: ECOLOGICAL INFORMATION

Contact with the environment should be avoided. Spills and leaks should be immediately cleaned up and removed. All precautions should be taken to prevent contact with the environment. Published information regarding ingredients listed on this document area found below; where data is not listed, documentation was unavailable.

**ACUTE AND PROLONGED TOXICITY TO FISH**
No Data

**ACUTE TOXICITY TO AQUATIC INVERTEBRATES**
No Data

**TOXICITY TO AQUATIC PLANTS**
No Data

**TOXICITY TO MICROORGANISMS**
No Data

**PERSISTENCY AND DEGRADABILITY:**
No Data

**BIOACCUMULATIVE POTENTIAL:**
No Data

## SECTION 13: DISPOSAL CONSIDERATIONS

**Those responsible for the performance of disposal, recycling or reclamation activities should refer to Section 8 of this document for advice on personal protective equipment and exposure controls.**

**WASTE DISPOSAL CONTAINERS:** Appropriate containers should be utilized which may include cardboard boxes for products, metal or plastic drums.

**WASTE DISPOSAL METHOD:** This product is not considered a federal RCRA hazardous wastes when intended for disposal. Controlled incineration at a licensed waste facility is the recommended technology for treatment and disposal. This material must not be disposed through sewage.

**RCRA HAZARD CLASS:** Not Regulated

Follow all local governmental requirements intended for disposal.

## SECTION 14: TRANSPORT INFORMATION

**North American Ground Transportation**

- **IN CONSUMER PACKAGING:** Not Regulated
- **OTHER THAN CONSUMER PACKAGING:** Not Regulated

**Transport Via Water**

- **IN CONSUMER PACKAGING:** Not Regulated
- **OTHER THAN CONSUMER PACKAGING:** Not Regulated

**Transport Via Air (Domestic/International)**

- **IN CONSUMER PACKAGING:** Not Regulated
- **OTHER THAN CONSUMER PACKAGING:** Not Regulated

**Please be aware of carrier transport variations before shipping hazardous materials.**

## SECTION 15: REGULATORY INFORMATION

**National Fire Protection Association Codes:** Health: 0 Fire: 1 Reactivity: 0 Other: None

**Workplace Hazardous Materials Identification System:** None

This regulatory information represents the product, in its consumer packaging.

## SECTION 16: OTHER INFORMATION

**PREPARATION INFORMATION:** This document replaces the version dated May 10, 2000 and all previous versions of safety data sheet related to this product.

Author: Ronald Weslosky (Corporate Regulatory Services)

L'ORÉAL USA

# SAFETY DATA SHEET

**SDS # 99-029**

**ISSUANCE DATE: May 27, 2015**

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

L'Oreal USA Products, Inc.
111 Terminal Avenue
Clark, NJ 07066

L'Oreal Canada
4895 rue Hickmore
Ville St-Laurent, H4Y 1K5
Canada

**Emergency Telephone Number**
1-800-535-5053 US (International: 352-323-3500)
In Canada – 1-613-996-6666 (Canutec) (*666 cellular)

**For further information**:
1-732-499-2741

**Poison Control Number:** 412-390-3326

**Product Name: High Volume (30 – 40 Vol.) Hair Developers**

**Recommendations on use:** Personal care product to be mixed with companion products in accordance with instructions and applied to hair.

**Restrictions on use:** Refer to product insert/container for use warnings. For external use only. Use only as directed.

## SECTION 2: HAZARDS IDENTIFICATION

### Signal Word: DANGER

| Symbol | Classification | Hazard Statement | Prevention Statements |
|---|---|---|---|
|  | Serious Eye Damage Category 1 | Causes serious eye damage | • Wash hands, face and all skin surfaces contacted thoroughly after handling.<br>• Wear eye protection appropriate for the manufacturing operation being performed (goggles or face shield). |
|  | Oxidizing Liquid Category 3 | May intensify fire, oxidizer | • Keep away from heat.<br>• Keep/Storage away from combustibles (e.g. paper), organics, and metals (e.g. iron).<br>• Take precaution to avoid mixing with combustible and organic materials.<br>• Wear nitrile or vinyl gloves. |

This material is considered hazardous by the US Occupational Safety and Health Administration Hazard Communication Standard (29 CFR 1910.1200)

General Precautionary Statements: Keep out of reach of children. Read insert/label before use. Over-exposure may cause skin dryness or slight irritation. Prolonged contact may lighten skin.

Hazards Not Otherwise Classified: None.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Only hazardous constituents associated with the product are listed below**

| INGREDIENT: | CAS NO. | % WT |
|---|---|---|
| Hydrogen Peroxide | 7722-84-1 | 9 – 12% |

## SECTION 4: FIRST AID MEASURES

### Response Statements:

**IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing until material is sufficiently removed from the eye. **If eye irritation persists:** Immediately call a poison control center or get medical advice/attention.

**IF ON SKIN:** If skin irritation occurs: Wash with plenty of water. Remove all contaminated clothing and launder before reuse. **If skin irritation persists:** Get medical attention. In cases where discomfort persists and/or medical attention is sought, do not use hair color products until the nature of the skin reaction and the causative agent has been identified.

**IF INHALED:** Remove person to fresh air and keep in a position comfortable for breathing. Call a poison control center if you feel unwell.

**IF SWALLOWED:** Do not induce vomiting. Never give anything by mouth to an unconscious individual. Consult a physician or poison control center immediately.

**SYMPTOMS/EFFECTS**: Causes serious eye damage. Over-exposure may cause skin dryness or slight irritation.

**NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:** Consult product labeling. No special advice.

## SECTION 5: FIRE-FIGHTING MEASURES

**Notes for Non-Emergency Personnel:**

**EXTINGUISHING MEDIA:** In case of fire: Use carbon dioxide, dry chemical, foam and/or water spray for extinction. Selection of a fire extinguisher should also be appropriate to address the location of the fire and equipment involved. Please review the tools available at your location to ensure proper availability of equipment.

**Notes for those trained to participate in an emergency:**

**SPECIAL FIRE FIGHTING PROCEDURES:** Follow National Fire Protection Association Guidelines or local guidelines appropriate for emergency response.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Decomposition may yield oxygen and increase the burning rate of flammable/combustible materials. Observe all appropriate precautions for handling hazardous materials.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxides of carbon, hydrocarbons, and/or derivatives. Decomposition may release oxygen which can intensify fires.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Notes for non-emergency personnel:**
Consult trained response personnel for clean-up of large spills or locations where providing preliminary control of the chemical release is hazardous. Hazardous locations include areas where ignition sources cannot be controlled. Isolate the area and deny entry to unnecessary and unprotected personnel. Sections 2, 5, 7 and 8 of this document should be consulted upon use of material, to become knowledgeable of the material's hazards and how to control associated risks.

If the location is not hazardous and only a small amount of material is released, dilute with water and absorb liquid with noncombustible material while wearing the protective equipment as noted below. Clean the area with detergent and water. If potentially combustible materials (e.g. paper towels, sponges, mops) are used, rinse thoroughly prior to disposal or storage. Prohibit discharge to drains, soil, surface and ground waters. Dispose in accordance with Section 13 of this document.

**PERSONAL PROTECTIVE EQUIPMENT:** Nitrile or vinyl gloves, safety glasses/goggles, protective clothing (e.g. apron) may be required for clean-up of large spills. Respiratory protection is typically not necessary, but may used depending upon the size of the spill and occupational exposure limits. Refer to Section 8 for additional information.

**Notes for those trained to participate in an emergency:**

**ACCIDENTAL RELEASE MEASURES:** Dike and contain the free liquid and absorb on vermiculite or spill pillows/pads. Residual product on towels, sponges, or mops may create a combustion hazard. Thoroughly rinse potentially combustible materials prior to disposal or storage. Place spent absorbents in UN specification drums for disposal. Wash area completely with water. Take care to avoid contact with wet surfaces or walkways that may become slick when residue is present. Prohibit discharge to drains, soil, surface and ground waters.

Recommendations for personal protective equipment selection are noted above. Dispose in accordance with section 13 of this document.

## SECTION 7: HANDLING AND STORAGE

**PRECAUTIONS FOR SAFE HANDLING:**
Do not eat, drink or smoke while working with hazardous materials. Avoid contact with skin, eyes, and clothing. Employees should be advised to wear appropriate protective equipment in the manufacturing environment. See section 8 of this document for protective equipment selection. Avoid contamination with combustible organic materials (e.g. oil, sawdust, damp paper towels, etc…), metal, powder or reducing agents. All manufacturing should be performed indoors, in an enclosed environment.

Maintain a clean work environment which includes use of properly functioning containers, proper housekeeping practices.

**CONDITIONS FOR SAFE STORAGE:**

**Storage precautions for unpackaged product (manufacturing environment):** Store in original container in a well-ventilated place and keep cool. Keep containers closed when not in use. Do not store any tint, lightener lotion or bleach powder after it has been mixed with developer. Store separately from combustible materials. Minimize inventory. Appropriate fire suppression and detection equipment should be utilized. Store on spill pallets or other locations where spill containment will be easily accessible.

**Storage precautions for packaged product:** See consumer packaging.

Keep away from open drains and access to the environment.

**Incompatible materials**: Combustibles (e.g. wood, paper, oil), organics (e.g. alcohols, glycerols, etc…), metals (e.g. iron, copper, metal alloys) and reducing agents. Store away from incompatible materials.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**CONTROL PARAMETERS:** These criteria have been published by the referenced authority to establish exposure limits in the work environment. Employee work areas should be monitored to ensure that permissible limits are not exceeded during the work day. These references do not coincide with product use. These references are meant to be in association with the manufacturing environment.

**OCCUPATIONAL EXPOSURE VALUES:**

| Component Name (CAS-No.) | Reference | TWA | | STEL/CEILING | |
|---|---|---|---|---|---|
| | | ppm | mg/m$^3$ | ppm | mg/m$^3$ |
| Hydrogen Peroxide (7722-84-1) | OSHA PEL | 1 | 1.4 | -- | -- |
| | ACGIH TLV | 1 | 1.4 | -- | -- |
| | NIOSH REL | 1 | 1.4 | -- | -- |

**WORK HYGIENIC PRACTICES:** Ensure all work surfaces are maintained, to prevent contamination.

**ENGINEERING CONTROLS:** None required for product use. For handling large quantities of material, such as in the manufacturing of product, ventilation should be utilized. This ventilation should be compatible with the control of oxidizing materials. Exhaust ventilation should be utilized to maintain air concentrations of material below the occupational exposure guidelines noted above.

Local exhaust ventilation is not typically required for product use. For handling large quantities of material, such as in the manufacturing of product **--** Local Exhaust: Explosion proof. Mechanical (general): Explosion proof.

**PERSONAL PROTECTIVE EQUIPMENT:** Consistent with good hygiene practices, personal protective equipment (PPE) should be used in conjunction with other control measures including engineering controls, ventilation and isolation. See also Section 5 of this document for PPE advice, in the event of an emergency.

**Eye/Face Protection (Non-Emergency):** None required for product use. For handling of large quantities of liquid material, safety glasses with side shields/goggles are recommended.

**Skin Protection (Non-Emergency):** Gloves should be worn when mixing hair color components and applying mixture. For handling large quantities of material, such as in product manufacturing, nitrile or vinyl gloves should be considered for use. Tyvek clothing may also be suitable for handling large quantities of material in the manufacturing environment.

**Respiratory Protection (Non-Emergency):** Respiratory protection is not required for product use. For manufacturing of product, respiratory protection may be considered. Ensure that the respirator meets current local occupational health and safety standards

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

**APPEARANCE**: White liquid/cream

**ODOR:** No fragrance

**ODOR THRESHOLD:** Not Available

**pH:** 2.0 – 4.3

**MELTING/FREEZING POINT:** **F:** ~32 **C:** ~0

**BOILING POINT:** **F:** ~212 **C:** ~100

**FLASH POINT:** **F:** Not Applicable **C:** Not Applicable **METHOD USED:**

**EVAPORATION RATE:** < 1 **(Butyl acetate = 1)**

**FLAMMABILITY:** Not Applicable

**FLAMMABLE LIMITS IN AIR:** Not Applicable

**VAPOR PRESSURE (mmHg):** Not Available

**VAPOR DENSITY (AIR = 1):** @ 70F: N/A @ 21 C: N/A

**RELATIVE DENSITY (H2O = 1):** Not Available

**SOLUBILITY IN WATER:** Not Available

**PARTITION COEFFICIENT:** Not Available

**AUTOIGNITION TEMPERATURE:** Not Available

**DECOMPOSITION TEMPERATURE:** Not Available

**VISCOSITY:** Not Available

## SECTION 10: STABILITY AND REACTIVITY

**REACTIVITY:** Contained material may show increases in pressure upon exposure to radiant heat (sunlight) or sources of ignition.

**STABILITY:** Product is stable.

**POSSIBILITY OF HAZARDOUS REACTIONS:** Contact with combustible materials may lead to combustion hazard. Hazardous polymerization is not expected to occur.

**CONDITIONS TO AVOID:** Heat and sunlight. Contamination with incompatibles.

**INCOMPATIBILITY (MATERIAL TO AVOID):** Combustibles (e.g. wood, paper, oil), organics (e.g. alcohols, glycerols, etc…), metals (e.g. iron, copper, metal alloys) and reducing agents.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxides of carbon, hydrocarbons, and/or derivatives. Decomposition may release oxygen which can intensify fires.

## SECTION 11: TOXICOLOGICAL INFORMATION

**Where information is not listed specifically for constituents, published information was not available.**

**POTENTIAL HEALTH EFFECTS**

**ACUTE HEALTH EFFECTS:**
**SKIN CORROSION/IRRITATION**: Over-exposure may cause skin dryness or slight irritation
**SERIOUS EYE DAMAGE/IRRITATION**: Causes serious eye damage
**RESPIRATORY/SKIN SENSITIZATION**: None expected
**INGESTION**: Harmful if swallowed
**INHALATION**: None expected

**ROUTES OF EXPOSURE**: Inhalation, eyes, skin, ingestion

**SYMPTOMS**: Causes serious eye damage. Over-exposure may cause skin dryness or slight irritation. Prolonged contact may lighten skin.

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE**: Pre-existing dermatitis made be made worse by exposure.

**ACUTE TOXICOLOGY DATA FOR COMPONENTS**

| Material | Route | Species | Test Results |
|---|---|---|---|
| Hydrogen Peroxide (10%) | Oral $LD_{50}$ | Rat | >5,000 mg/kg |
| Hydrogen Peroxide (70%) | Dermal $LD_{50}$ | Rabbit | 9,200 mg/kg |
| Hydrogen Peroxide (35%) | Dermal $LD_{50}$ | Rabbit | >2,000 mg/kg |
| Hydrogen Peroxide (50%) | $LC_{50}$ (4 hr, vapor) | Rat | 170 $mg/m^3$ |

**Skin Corrosion/Irritation:**
*Hydrogen Peroxide*: Not Irritating (<35%); Irritating (35-50%); Corrosive (>50%) (Rat, OECD 405)

**Serious Eye Damage/Irritation:**
*Hydrogen Peroxide*: Irritating (≤ 8%); Corrosive (>8%) (Rat, OECD 404)

**Respiratory Irritation:**
No Data

**Skin Sensitization:**
*Hydrogen Peroxide:* Not Sensitizing (Guinea Pig, OECD 406)

**CHRONIC HEALTH HAZARDS:**

**REPEAT DOSE TOXICITY:**
NOAEL (Hydrogen Peroxide, oral): 26 mg/kg/bw/day (100 ppm) (Mouse, 90d, OECD 408)
NOAEL (Hydrogen Peroxide, inh.): 2.9 mg/$m^3$ air (Rat, 28d, OECD 412)

**CARCINOGENICITY:**

| Component Name (CAS-No.) | OSHA | ACGIH | NTP | IARC |
|---|---|---|---|---|
| Hydrogen Peroxide (7722-84-1) | -- | TLV-A3 | -- | IARC-3 |

*ACGIH TLV-A3* - This reference indicates that the material is "Confirmed Animal Carcinogen with Unknown Relevance to Humans".
*IARC-3* - This reference indicates that the material is "Unclassifiable as to Carcinogenicity to Humans".

**MUTAGENICITY:**
*Hydrogen Peroxide:* A variety of *in vivo* tests have produced negative results. High percentages have produced positive responses under *in vitro* test systems.

**REPRODUCTIVE TOXICITY:**
No Data

**DEVELOPMENTAL TOXICITY/TERATOGENICITY:**
No Data

## SECTION 12: ECOLOGICAL INFORMATION

Contact with the environment should be avoided. Spills and leaks should be immediately cleaned up and removed. All precautions should be taken to prevent contact with the environment. Published information regarding ingredients listed on this document area found below; where data is not listed, documentation was unavailable.

**ACUTE AND PROLONGED TOXICITY TO FISH**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Hydrogen Peroxide | $LC_{50}$ (US EPA Method) | 16.4 mg/L | Pimephales promelas | 96 h |

**ACUTE TOXICITY TO AQUATIC INVERTEBRATES**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Hydrogen Peroxide | $EC_{50}$ (US EPA Method) | 2.4 mg/L | Daphnia pulex | 48 h |

**TOXICITY TO AQUATIC PLANTS**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Hydrogen Peroxide | $EC_{50}$ (OECD 201) | 2.5 mg/L | Chlorella vulgaris | 72 h |

**TOXICITY TO MICROORGANISMS**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Hydrogen Peroxide | $EC_{50}$ (OECD 209) | 466 mg/L | Activated Sludge | 30 min |

**PERSISTENCY AND DEGRADABILITY:**
*Hydrogen Peroxide:* Readily Biodegradable – OECD 209 – >99% (30 min)

**BIOACCUMULATIVE POTENTIAL:**
*Hydrogen Peroxide:* log Kow: -1.57 (Est.) – No bioaccumulation expected

## SECTION 13: DISPOSAL CONSIDERATIONS

**Those responsible for the performance of disposal, recycling or reclamation activities should refer to Section 8 of this document for advice on personal protective equipment and exposure controls.**

**WASTE DISPOSAL CONTAINERS:** Containers should be completely closed and meet applicable USDOT packaging specifications. Appropriate containers should be utilized which may include fiberboard boxes for products and plastic/lined drums for bulk liquids.

**WASTE DISPOSAL METHOD:** This product is ignitable (D001) RCRA hazardous wastes when intended for disposal. Physical and/or chemical deactivation at a hazardous waste facility is the recommended technology for treatment and disposal. This material must not be disposed through sewage.

**RCRA HAZARD CLASS: D001**

Follow all local governmental requirements intended for disposal.

## SECTION 14: TRANSPORT INFORMATION

**North American Ground Transportation**

- **IN CONSUMER PACKAGING:** Limited Quantity/Consumer Commodity (≤ 5 L)
  **UN ID Number:** UN 2984
  **Proper Shipping Name:** Hydrogen peroxide, aqueous solutions
  **Hazard Class:** 5.1
  **Packing Group:** III
  **Label Statements:** Exempt – Limited Quantity Marking Only

- **OTHER THAN CONSUMER PACKAGING:**
  **UN ID Number:** UN 2984
  **Proper Shipping Name:** Hydrogen peroxide, aqueous solutions
  **Hazard Class:** 5.1
  **Packing Group:** III
  **Label Statements:** Oxidizer (Division 5.1)

**Transport Via Water**

- **IN CONSUMER PACKAGING:** Limited Quantity (≤ 5 L)
  **UN ID Number:** UN 2984
  **Proper Shipping Name:** Hydrogen peroxide, aqueous solutions
  **Hazard Class:** 5.1
  **Packing Group:** III
  **Label Statements:** Exempt – Limited Quantity Marking Only

- **OTHER THAN CONSUMER PACKAGING:**
  **UN ID Number:** UN 2984
  **Proper Shipping Name:** Hydrogen peroxide, aqueous solutions
  **Hazard Class:** 5.1
  **Packing Group:** III
  **Label Statements:** Oxidizer (Division 5.1)

**Transport Via Air (Domestic/International)**

- **IN CONSUMER PACKAGING:** Limited Quantity (≤ 0.5 L) (*Not eligible for ID 8000, Consumer Commodity*)
  **UN ID Number:** UN 2984
  **Proper Shipping Name:** Hydrogen peroxide, aqueous solutions
  **Hazard Class:** 5.1
  **Packing Group:** III
  **Label Statements:** Limited Quantity Marking & Oxidizer (Division 5.1)

- **OTHER THAN CONSUMER PACKAGING:**
  **UN ID Number:** UN 2984
  **Proper Shipping Name:** Hydrogen peroxide, aqueous solutions
  **Hazard Class:** 5.1
  **Packing Group:** III
  **Label Statements:** Oxidizer (Division 5.1)

**Please be aware of carrier transport variations before shipping hazardous materials.**

## SECTION 15: REGULATORY INFORMATION

**National Fire Protection Association Codes:** Health: 2 Fire: 0 Reactivity: 1 Other: OX

**Workplace Hazardous Materials Identification System:** Class C; Oxidizing Material ; Class E; Corrosive Material

This regulatory information represents the product, in its consumer packaging.

## SECTION 16: OTHER INFORMATION

**PREPARATION INFORMATION:** This document replaces the version dated July 17, 2012 and all previous versions of safety data sheets related to this product.

Author: Ronald Weslosky (Corporate Regulatory Services)

L'ORÉAL USA

# SAFETY DATA SHEET

**SDS # 99-028**

**ISSUANCE DATE: May 18, 2015**

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

L'Oreal USA Products, Inc.
111 Terminal Avenue
Clark, NJ 07066

L'Oreal Canada
4895 rue Hickmore
Ville St-Laurent, H4Y 1K5
Canada

**Emergency Telephone Number**
1-800-535-5053 US (International: 352-323-3500)
In Canada – 1-613-996-6666 (Canutec) (*666 cellular)

**For further information**:
1-732-499-2741

**Poison Control Number:** 412-390-3326

**Product Name: Low Volume (≤ 25 Vol.) Hair Developers**

**Recommendations on use:** Personal care product to be mixed with companion products in accordance with instructions and applied to hair.

**Restrictions on use:** Refer to product insert/container for use warnings. For external use only. Use only as directed.

## SECTION 2: HAZARDS IDENTIFICATION

### Signal Word: WARNING

| Symbol | Classification | Hazard Statement | Prevention Statements |
|---|---|---|---|
|  | Eye Irritation Category 2A | Causes serious eye irritation | • Wash hands and all skin surfaces contacted thoroughly after handling<br>• Wear eye protection appropriate for the manufacturing operation being performed (goggles or face shield). |

This material is considered hazardous by the US Occupational Safety and Health Administration Hazard Communication Standard (29 CFR 1910.1200)

General Precautionary Statements: Keep out of reach of children. Read insert/label before use. Over-exposure may cause skin dryness or slight irritation. Prolonged contact may lighten skin.

Hazards Not Otherwise Classified: None.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Only hazardous constituents associated with the product are listed below**

| INGREDIENT: | CAS NO. | % WT |
|---|---|---|
| Hydrogen Peroxide | 7722-84-1 | ≤ 7.5% |

## SECTION 4: FIRST AID MEASURES

**Response Statements:**

**IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing until material is sufficiently removed from the eye. **If eye irritation persists:** Get medical advice/attention.

**IF ON SKIN:** If skin irritation occurs: Wash with plenty of water. Remove all contaminated clothing and launder before reuse. **If skin irritation persists:** Get medical attention. In cases where discomfort persists and/or medical attention is sought, do not use hair color products until the nature of the skin reaction and the causative agent has been identified.

**IF INHALED:** Remove person to fresh air and keep in a position comfortable for breathing. Call a Poison Control Center if you feel unwell.

**IF SWALLOWED:** Do not induce vomiting. Never give anything by mouth to an unconscious individual. Consult a physician or Poison Control Center immediately.

**SYMPTOMS/EFFECTS**: Causes serious eye irritation. Over-exposure may cause skin dryness or slight irritation.

**NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:** Consult product labeling. No special advice.

## SECTION 5: FIRE-FIGHTING MEASURES

**Notes for Non-Emergency Personnel:**

**EXTINGUISHING MEDIA:** In case of fire: Use carbon dioxide, dry chemical, foam and/or water spray for extinction. Selection of a fire extinguisher should also be appropriate to address the location of the fire and equipment involved. Please review the tools available at your location to ensure proper availability of equipment.

**Notes for those trained to participate in an emergency:**

**SPECIAL FIRE FIGHTING PROCEDURES:** Follow National Fire Protection Association Guidelines or local guidelines appropriate for emergency response.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Decomposition may yield oxygen and increase the burning rate of flammable/combustible materials. Observe all appropriate precautions for handling hazardous materials.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxides of carbon, hydrocarbons, and/or derivatives. Decomposition may release oxygen which can intensify fires.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Notes for non-emergency personnel:**
Consult trained response personnel for clean-up of large spills or locations where providing preliminary control of the chemical release is hazardous. Hazardous locations include areas where ignition sources cannot be controlled. Isolate the area and deny entry to unnecessary and unprotected personnel. Sections 2, 5, 7 and 8 of this document should be consulted upon use of material, to become knowledgeable of the material's hazards and how to control associated risks.

If the location is not hazardous and only a small amount of material is released, dilute with water and absorb liquid with noncombustible material while wearing the protective equipment as noted below. Clean the area with detergent and water. If potentially combustible materials (e.g. paper towels, sponges, mops) are used, rinse thoroughly prior to disposal or storage. Prohibit discharge to drains, soil, surface and ground waters. Dispose in accordance with Section 13 of this document.

**PERSONAL PROTECTIVE EQUIPMENT:** Nitrile or vinyl gloves, safety glasses/goggles, protective clothing (e.g. apron) may be required for clean-up of large spills. Respiratory protection is typically not necessary, but may used depending upon the size of the spill and occupational exposure limits. Refer to Section 8 for additional information.

**Notes for those trained to participate in an emergency:**

**ACCIDENTAL RELEASE MEASURES:** Dike and contain the free liquid and absorb on vermiculite or spill pillows/pads. Residual product on towels, sponges, or mops may create a combustion hazard. Thoroughly rinse potentially combustible materials prior to disposal or storage. Place spent absorbents in UN specification drums for disposal. Wash area completely with water. Take care to avoid contact with wet surfaces or walkways that may become slick when residue is present. Prohibit discharge to drains, soil, surface and ground waters.

Recommendations for personal protective equipment selection are noted above. Dispose in accordance with section 13 of this document.

## SECTION 7: HANDLING AND STORAGE

**PRECAUTIONS FOR SAFE HANDLING:**
Do not eat, drink or smoke while working with hazardous materials. Avoid contact with skin, eyes, and clothing. Employees should be advised to wear appropriate protective equipment in the manufacturing environment. See section 8 of this document for protective equipment selection. Avoid contamination with combustible organic materials (e.g. oil, sawdust, damp paper towels, etc…), metal, powder or reducing agents. All manufacturing should be performed indoors, in an enclosed environment.

Maintain a clean work environment which includes use of properly functioning containers, proper housekeeping practices.

**CONDITIONS FOR SAFE STORAGE:**

**Storage precautions for unpackaged product (manufacturing environment):** Store in original container in a well-ventilated place and keep cool. Keep containers closed when not in use. Do not store any tint, lightener lotion or bleach powder after it has been mixed with developer. Store separately from combustible materials. Minimize inventory. Appropriate fire suppression and detection equipment should be utilized. Store on spill pallets or other locations where spill containment will be easily accessible.

**Storage precautions for packaged product:** See consumer packaging.

Keep away from open drains and access to the environment.

**Incompatible materials**: Combustibles (e.g. wood, paper, oil), organics (e.g. alcohols, glycerols, etc…), metals (e.g. iron, copper, metal alloys) and reducing agents. Store away from incompatible materials.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**CONTROL PARAMETERS:** These criteria have been published by the referenced authority to establish exposure limits in the work environment. Employee work areas should be monitored to ensure that permissible limits are not exceeded during the work day. These references do not coincide with product use. These references are meant to be in association with the manufacturing environment.

**OCCUPATIONAL EXPOSURE VALUES:**

| Component Name (CAS-No.) | Reference | TWA | | STEL/CEILING | |
|---|---|---|---|---|---|
| | | ppm | $mg/m^3$ | ppm | $mg/m^3$ |
| Hydrogen Peroxide (7722-84-1) | OSHA PEL | 1 | 1.4 | -- | -- |
| | ACGIH TLV | 1 | 1.4 | -- | -- |
| | NIOSH REL | 1 | 1.4 | -- | -- |

**WORK HYGIENIC PRACTICES:** Ensure all work surfaces are maintained, to prevent contamination.

**ENGINEERING CONTROLS:** None required for product use. For handling large quantities of material, such as in the manufacturing of product, ventilation should be utilized. This ventilation should be compatible with the control of oxidizing materials. Exhaust ventilation should be utilized to maintain air concentrations of material below the occupational exposure guidelines noted above.

Local exhaust ventilation is not typically required for product use. For handling large quantities of material, such as in the manufacturing of product **--** Local Exhaust: Explosion proof. Mechanical (general): Explosion proof.

**PERSONAL PROTECTIVE EQUIPMENT:** Consistent with good hygiene practices, personal protective equipment (PPE) should be used in conjunction with other control measures including engineering controls, ventilation and isolation. See also Section 5 of this document for PPE advice, in the event of an emergency.

**Eye/Face Protection (Non-Emergency):** None required for product use. For handling of large quantities of liquid material, safety glasses with side shields/goggles are recommended.

**Skin Protection (Non-Emergency):** Gloves should be worn when mixing hair color components and applying mixture. For handling large quantities of material, such as in product manufacturing, nitrile or vinyl gloves should be considered for use. Tyvek clothing may also be suitable for handling large quantities of material in the manufacturing environment.

**Respiratory Protection (Non-Emergency):** Respiratory protection is not required for product use. For manufacturing of product, respiratory protection may be considered. Ensure that the respirator meets current local occupational health and safety standards

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **APPEARANCE**: | White liquid/cream |
| **ODOR:** | No fragrance |
| **ODOR THRESHOLD:** | Not Available |
| **pH:** | 2.0 – 4.3 |
| **MELTING/FREEZING POINT:** | **F:** ~32 **C:** ~0 |
| **BOILING POINT:** | **F:** ~212 **C:** ~100 |
| **FLASH POINT:** | **F:** Not Applicable **C:** Not Applicable **METHOD USED:** |
| **EVAPORATION RATE:** | < 1 **(Butyl acetate = 1)** |
| **FLAMMABILITY:** | Not Applicable |
| **FLAMMABLE LIMITS IN AIR:** | Not Applicable |
| **VAPOR PRESSURE (mmHg):** | Not Available |
| **VAPOR DENSITY (AIR = 1):** | @ 70F: N/A @ 21 C: N/A |
| **RELATIVE DENSITY (H2O = 1):** | Not Available |
| **SOLUBILITY IN WATER:** | Not Available |
| **PARTITION COEFFICIENT:** | Not Available |
| **AUTOIGNITION TEMPERATURE:** | Not Available |
| **DECOMPOSITION TEMPERATURE:** | Not Available |

**VISCOSITY:** Not Available

## SECTION 10: STABILITY AND REACTIVITY

**REACTIVITY:** Contained material may show increases in pressure upon exposure to radiant heat (sunlight) or sources of ignition.

**STABILITY:** Product is stable.

**POSSIBILITY OF HAZARDOUS REACTIONS:** Contact with combustible materials may lead to combustion hazard. Hazardous polymerization is not expected to occur.

**CONDITIONS TO AVOID:** Heat and sunlight. Contamination with incompatibles.

**INCOMPATIBILITY (MATERIAL TO AVOID):** Combustibles (e.g. wood, paper, oil), organics (e.g. alcohols, glycerols, etc…), metals (e.g. iron, copper, metal alloys) and reducing agents.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxides of carbon, hydrocarbons, and/or derivatives. Decomposition may release oxygen which can intensify fires.

## SECTION 11: TOXICOLOGICAL INFORMATION

**Where information is not listed specifically for constituents, published information was not available.**

**POTENTIAL HEALTH EFFECTS**

**ACUTE HEALTH EFFECTS:**
**SKIN CORROSION/IRRITATION**: Over-exposure may cause skin dryness or slight irritation
**SERIOUS EYE DAMAGE/IRRITATION**: Causes serious eye irritation
**RESPIRATORY/SKIN SENSITIZATION**: None expected
**INGESTION**: Harmful if swallowed
**INHALATION**: None expected

**ROUTES OF EXPOSURE**: Inhalation, eyes, skin, ingestion

**SYMPTOMS**: Causes serious eye irritation. Over-exposure may cause skin dryness or slight irritation. Prolonged contact may lighten skin.

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE**: Pre-existing dermatitis made be made worse by exposure.

**ACUTE TOXICOLOGY DATA FOR COMPONENTS**

| Material | Route | Species | Test Results |
|---|---|---|---|
| Hydrogen Peroxide (10%) | Oral $LD_{50}$ | Rat | >5,000 mg/kg |
| Hydrogen Peroxide (70%) | Dermal $LD_{50}$ | Rabbit | 9,200 mg/kg |
| Hydrogen Peroxide (35%) | Dermal $LD_{50}$ | Rabbit | >2,000 mg/kg |
| Hydrogen Peroxide (50%) | $LC_{50}$ (4 hr, vapor) | Rat | 170 mg/m$^3$ |

**Skin Corrosion/Irritation:**
*Hydrogen Peroxide*: Not Irritating (<35%); Irritating (35-50%); Corrosive (>50%) (Rat, OECD 405)

**Serious Eye Damage/Irritation:**
*Hydrogen Peroxide*: Irritating (≤ 8%); Corrosive (>8%) (Rat, OECD 404)

**Respiratory Irritation:**
No Data

**Skin Sensitization:**
*Hydrogen Peroxide:* Not Sensitizing (Guinea Pig, OECD 406)

**CHRONIC HEALTH HAZARDS:**

**REPEAT DOSE TOXICITY:**
NOAEL (Hydrogen Peroxide, oral): 26 mg/kg/bw/day (100 ppm) (Mouse, 90d, OECD 408)
NOAEL (Hydrogen Peroxide, inh.): 2.9 mg/$m^3$ air (Rat, 28d, OECD 412)

**CARCINOGENICITY:**

| Component Name (CAS-No.) | OSHA | ACGIH | NTP | IARC |
|---|---|---|---|---|
| Hydrogen Peroxide (7722-84-1) | -- | TLV-A3 | -- | IARC-3 |

*ACGIH TLV-A3* - This reference indicates that the material is "Confirmed Animal Carcinogen with Unknown Relevance to Humans".
*IARC-3* - This reference indicates that the material is "Unclassifiable as to Carcinogenicity to Humans".

**MUTAGENICITY:**
*Hydrogen Peroxide:* A variety of *in vivo* tests have produced negative results. High percentages have produced positive responses under *in vitro* test systems.

**REPRODUCTIVE TOXICITY:**
No Data

**DEVELOPMENTAL TOXICITY/TERATOGENICITY:**
No Data

## SECTION 12: ECOLOGICAL INFORMATION

Contact with the environment should be avoided. Spills and leaks should be immediately cleaned up and removed. All precautions should be taken to prevent contact with the environment. Published information regarding ingredients listed on this document area found below; where data is not listed, documentation was unavailable.

**ACUTE AND PROLONGED TOXICITY TO FISH**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Hydrogen Peroxide | $LC_{50}$ (US EPA Method) | 16.4 mg/L | Pimephales promelas | 96 h |

**ACUTE TOXICITY TO AQUATIC INVERTEBRATES**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Hydrogen Peroxide | $EC_{50}$ (US EPA Method) | 2.4 mg/L | Daphnia pulex | 48 h |

**TOXICITY TO AQUATIC PLANTS**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Hydrogen Peroxide | $EC_{50}$ (OECD 201) | 2.5 mg/L | Chlorella vulgaris | 72 h |

**TOXICITY TO MICROORGANISMS**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Hydrogen Peroxide | $EC_{50}$ (OECD 209) | 466 mg/L | Activated Sludge | 30 min |

**PERSISTENCY AND DEGRADABILITY:**
*Hydrogen Peroxide:* Readily Biodegradable – OECD 209 – >99% (30 min)

**BIOACCUMULATIVE POTENTIAL:**
*Hydrogen Peroxide:* log Kow: -1.57 (Est.) – No bioaccumulation expected

## SECTION 13: DISPOSAL CONSIDERATIONS

**Those responsible for the performance of disposal, recycling or reclamation activities should refer to Section 8 of this document for advice on personal protective equipment and exposure controls.**

**WASTE DISPOSAL CONTAINERS:** Appropriate containers should be utilized which may include fiberboard boxes for products and plastic/lined drums for bulk liquids.

**WASTE DISPOSAL METHOD:** As manufactured, this product does not exhibit any RCRA characteristics of hazardous waste. Physical and/or chemical deactivation at a licensed waste facility is the recommended technology for treatment and disposal. This material must not be disposed through sewage.

**RCRA HAZARD CLASS: NOT APPLICABLE**

Follow all local governmental requirements intended for disposal.

## SECTION 14: TRANSPORT INFORMATION

**North American Ground Transportation**
- **IN CONSUMER PACKAGING:** Not Regulated
- **OTHER THAN CONSUMER PACKAGING:** Not Regulated

**Transport Via Water**
- **IN CONSUMER PACKAGING:** Not Regulated
- **OTHER THAN CONSUMER PACKAGING:** Not Regulated

**Transport Via Air (Domestic/International)**
- **IN CONSUMER PACKAGING:** Not Regulated
- **OTHER THAN CONSUMER PACKAGING:** Not Regulated

**Please be aware of carrier transport variations before shipping hazardous materials.**

## SECTION 15: REGULATORY INFORMATION

**National Fire Protection Association Codes:** Health: 2 Fire: 0 Reactivity: 1 Other: None

**Workplace Hazardous Materials Identification System:** Class D; Division 2, Subdivision B; Eye Irritation

This regulatory information represents the product, in its consumer packaging.

## SECTION 16: OTHER INFORMATION

**PREPARATION INFORMATION:** This document replaces the version dated July 17, 2012 and all previous versions of safety data sheets related to this product.

Author: Ronald Weslosky (Corporate Regulatory Services)

L'ORÉAL USA

# SAFETY DATA SHEET

**SDS # 99-021**

**ISSUANCE DATE: April 1, 2014**

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

L'Oreal USA Products, Inc.
111 Terminal Avenue
Clark, NJ 07066

**24 Hour Emergency Telephone Number:**
1-800-535-5053 (US) (International: 352-323-3500)

**For further information**:
1-732-499-2741

**Poison Control Number:** 412-390-3326

**Product Name: Atomized Alcohol-Based Cosmetic Products (non-aerosol)**
**DOT Packing Group II**

**Recommendations on use:** To be applied as a fixative/styling agent to hair or applied to body for cosmetic enhancement as indicated with product instructions.

**Restrictions on use:** Avoid fire, flame, heat and other sources of ignition. Avoid spraying into eyes. Use only as directed. Liquid is considered flammable until dry.

## SECTION 2: HAZARDS IDENTIFICATION

### Signal Word: DANGER

| Symbol | Classification | Hazard Statement | Prevention Statements |
|---|---|---|---|
|  | Flammable Liquids Category 2 | Highly flammable liquid and vapor | • Keep away from heat, sparks, open flames and hot surfaces. Do not use while smoking.<br>• Keep container tightly closed.<br>• Ground/bond container and receiving equipment.<br>• Use explosion-proof electrical, ventilating, lighting, manufacturing and packaging equipment.<br>• Use only non-sparking tools.<br>• Take precautionary measures against static discharge.<br>• Wear plastic or rubber gloves. Eye protection appropriate for the manufacturing operation being performed should be used (goggles or face shield). |
| No Symbol Required | Eye Irritation Category 2B | Causes eye irritation | • Wash hands and face thoroughly after handling. |

| | | | |
|---|---|---|---|
|  | Specific Target Organ Toxicity (Single Exposure) Category 3 | May cause drowsiness or dizziness | • Avoid breathing mist/vapors.<br>• Use only in a well-ventilated area. |

This material is considered hazardous by the US Occupational Safety and Health Administration Hazard Communication Standard (29 CFR 1910.1200)

General Precautionary Statements: Keep out of reach of children. Read label before use.

Hazards Not Otherwise Classified: Over-exposure may cause skin dryness or slight irritation.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Only hazardous constituents associated with the product are listed below**

| INGREDIENT: | CAS NO. | % WT |
|---|---|---|
| Ethyl Alcohol | 64-17-5 | 45 -- 92 |

## SECTION 4: FIRST AID MEASURES

**IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing for at least 20 minutes or until material is sufficiently removed from the eye. **If eye irritation persists:** Get medical advice/attention.

**IF ON SKIN**: Wash with plenty of water. **If skin irritation occurs:** Get medical attention. Remove all contaminated clothing and launder before reuse.

**IF INHALED:** Remove individual to fresh air and keep in a rest position comfortable for breathing. Call a poison control center if you feel unwell.

**IF SWALLOWED:** Immediately call a poison control center or consult a physician. Do not induce vomiting. Never give anything by mouth to an unconscious individual.

**SYMPTOMS/EFFECTS**: Eye irritation upon contact. Possible skin dryness/irritation if over-exposed. Drowsiness or dizziness if over-exposed by inhalation.

**NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:** Consult product labeling. No special advice.

## SECTION 5: FIRE-FIGHTING MEASURES

**Notes for Non-Emergency Personnel:**

**SUITABLE EXTINGUISHING MEDIA:** Use chemical foam, dry chemical, or carbon dioxide ($CO_2$) for extinction. Water spray may be used to soak other materials surrounding the product, to prevent the spread of the fire. Selection of a fire extinguisher should also be appropriate to address the location of the fire and equipment involved. Review the tools present at your location to ensure proper availability of equipment.

**Notes for those trained to participate in an emergency:**

**SPECIFIC FIRE AND EXPLOSION HAZARDS:** Treat as a flammable liquid. Follow National Fire Protection Association Guidelines or local guidelines for emergency response. Minimize all sources of static electricity.

**PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS:** Firefighters should wear self-contained breathing apparatus and full protective gear. Observe all appropriate precautions for handling flammable materials.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxides of carbon, hydrocarbons, and/or derivatives.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Non-Emergency Personnel Precautions:** Consult trained response personnel for clean-up of large spills or locations where providing control of the release is hazardous. Isolate the area and deny entry to unnecessary and unprotected personnel. Hazardous locations include areas where ignition sources can not be controlled. Sections 2, 5, 7 and 8 of this document should be consulted upon use of material, to become knowledgeable of the material's hazards and how to control risks associated with handling flammable liquids.

If the location is not hazardous and only a small amount of material is released: Control the spill using absorbent pads while wearing the protective equipment as noted below. Prohibit discharge to drains, soil, surface and ground waters. Dispose in accordance with Section 13 of this document.

**PERSONAL PROTECTIVE EQUIPMENT:** Plastic or rubber gloves, safety glasses/goggles, protective clothing (e.g. apron) may be required for clean-up of large spills. Respiratory protection is typically not necessary, but may used depending upon the size of the spill and occupational exposure limits. Respiratory protection may include the use of organic vapor cartridges. Refer to Section 8 for additional information.

**Trained Emergency Personnel Precautions:** Eliminate all sources of ignition. Dike and contain any free liquid then absorb on vermiculite or spill pillows/pads. Place spent absorbents in UN specification drums for disposal. All precautions associated with controlling a flammable liquid should be employed during clean-up. Prohibit discharge to drains, soil, surface and ground waters. Non-sparking tools should be utilized in all clean-ups associated with flammable liquids. Dispose in accordance with Section 13 of this document.

## SECTION 7: HANDLING AND STORAGE

**Precautions for safe handling:**
Do not eat, drink or smoke while working with flammable materials. Avoid contact with skin, eyes, and clothing. Employees should be advised to wear appropriate protective equipment in the manufacturing environment. Refer to Section 8 for protective equipment selection. Do not expose to heat or flame. All manufacturing should be performed indoors, in an enclosed environment free from uncontrolled ignition sources. Employees should be advised not to handle flammable products in close proximity to incompatible materials. Use only non-sparking tools. Use explosion-proof electrical/ventilating/lighting equipment. Take precautionary measures against static discharge.

Maintain a safe work environment, including proper housekeeping practices and structurally sound/compatible containers.

**Incompatible materials**: Oxidizers, acids, and bases. Store away from incompatible materials.

**Conditions for safe storage of unpackaged product (manufacturing environment):** Store in a well-ventilated place. Keep cool. Minimize inventory. Keep container tightly closed. It is suggested that this material be "locked up" or stored in an area where production inventory may be controlled by authorized personnel. Use only non-sparking tools. Take precautionary measures against static discharge. Appropriate fire suppression and detection equipment should be utilized. Store on spill pallets or other locations where spill containment will be easily accessible.

Keep away from open drains and access to the environment.

**Storage precautions for packaged product** – see consumer packaging.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**CONTROL PARAMETERS:** These criteria have been published by the referenced authority to establish exposure limits in the work environment. Employee work areas should be monitored to ensure that permissible limits are not exceeded during the work day. These references do not coincide with product use. These references are meant to be in association with the manufacturing environment.

**OCCUPATIONAL EXPOSURE VALUES:**

| Component Name (CAS-No.) | Reference | TWA | | STEL/CEILING | |
|---|---|---|---|---|---|
| | | ppm | $mg/m^3$ | ppm | $mg/m^3$ |
| Ethyl Alcohol (64-17-5) | OSHA PEL | 1000 | 1900 | -- | -- |
| | ACGIH TLV | -- | -- | 1000 | 1880 |
| | NIOSH REL | 1000 | 1900 | -- | -- |

**WORK HYGIENIC PRACTICES:** Ensure all work surfaces are maintained, to prevent contamination.

**ENGINEERING CONTROLS:** None required for product use. For handling large quantities of material, such as in the manufacturing of product, ventilation should be utilized. This ventilation should be compatible with the control of flammable materials. Exhaust ventilation should be utilized to maintain air concentrations of material below the occupational exposure guidelines noted above.

Local exhaust ventilation is not typically required for product use. For handling large quantities of material, such as in the manufacturing of product **--** Local Exhaust: Explosion proof. Mechanical (general): Explosion proof.

**PERSONAL PROTECTIVE EQUIPMENT:** Consistent with good hygiene practices, personal protective equipment (PPE) should be used in conjunction with other control measures including engineering controls, ventilation and isolation. See also Section 5 for PPE advice, in the event of an emergency.

**Eye/Face Protection (Non-Emergency):** None required for product use. For handling of large quantities of material, safety glasses with side shields/goggles are recommended.

**Skin Protection (Non-Emergency):** None required for product use. For handling large quantities of material, such as in product manufacturing, plastic or rubber gloves should be considered for use. Tyvek clothing may also be suitable for handling large quantities of material in the manufacturing environment.

**Respiratory Protection (Non-Emergency):** Respiratory protection is not required for product use. For manufacturing of product, respiratory protection may be considered. Ensure that the respirator meets current local occupational health and safety standards. Organic vapor cartridges should be utilized with filtering respiratory protection.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

**APPEARANCE**: Shaded, clear or white liquid. May be dispensed via pump.

**ODOR:** Pleasant, diffuse fragrance.

**ODOR THRESHOLD:** Not Applicable

**pH:** Not Applicable (non-aqueous product)

**MELTING/FREEZING POINT:** **F:** N/A **C:** N/A

**BOILING POINT:** **F:** 173 (as ethanol) **C:** 78.3 (as ethanol)

**FLASH POINT:** **F:** 50-73.4 **C:** 10-23 **METHOD USED:** Closed cup

| | |
|---|---|
| **EVAPORATION RATE:** | > 1 **(Butyl acetate = 1)** |
| **FLAMMABILITY:** | Not Applicable to Liquids |
| **FLAMMABLE LIMITS IN AIR:** | ETHYL ALCOHOL: 19% UEL; 3.3% LEL |
| **VAPOR PRESSURE (mmHg):** | @ 70F: 44 (as ethanol) @ 21 C: 44 (as ethanol) |
| **VAPOR DENSITY (AIR = 1):** | @ 70F: >1 @ 21 C: > 1 |
| **RELATIVE DENSITY (H2O = 1):** | 0.93 |
| **SOLUBILITY IN WATER:** | Soluble in cold water |
| **PARTITION COEFFICIENT:** | Not Available |
| **AUTOIGNITION TEMPERATURE:** | Not Available |
| **DECOMPOSITION TEMPERATURE:** | Not Available |
| **VISCOSITY:** | Free-flowing liquid |

## SECTION 10: STABILITY AND REACTIVITY

**REACTIVITY:** Material is not considered reactive under typical handling and storage conditions.

**STABILITY:** Product is stable.

**POSSIBILITY OF HAZARDOUS REACTIONS:** None known. Hazardous polymerization is not expected to occur.

**CONDITIONS TO AVOID:** Heat, fire, flame and other sources of ignition.

**INCOMPATIBILITY (MATERIAL TO AVOID):** Oxidizers, acids, and bases.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Oxides of carbon, hydrocarbons, and/or derivatives.

## SECTION 11: TOXICOLOGICAL INFORMATION

**Where information is not listed specifically for constituents, published information was not available.**

**POTENTIAL HEALTH EFFECTS**

**ACUTE HEALTH EFFECTS:**
**SKIN CORROSION/IRRITATION**: Overexposure may cause skin irritation or dryness
**SERIOUS EYE DAMAGE/IRRITATION**: Causes eye irritation
**RESPIRATORY/SKIN SENSITIZATION**: None expected
**INGESTION**: May cause drowsiness or dizziness
**INHALATION**: May cause drowsiness/dizziness

**ROUTES OF EXPOSURE**: Inhalation, eyes, skin, ingestion
**SYMPTOMS**: Symptoms may include unsteady gait, nausea, and dizziness. Skin redness, dryness or itchiness may occur with overexposure to the product. Watering, stinging or itching eyes may occur with direct contact.

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE**: None known.

**ACUTE TOXICOLOGY DATA FOR COMPONENTS**

| Material | Route | Species | Test Results |
|---|---|---|---|
| Ethyl Alcohol | Oral $LD_{50}$ | Rat | > 6,200 mg/kg |
| Ethyl Alcohol | Dermal $LD_{Lo}$ | Rabbit | > 20,000 mg/kg |
| Ethyl Alcohol | $LC_{50}$ (4 hr) | Rat | > 8,000 mg/L |

**Skin Corrosion/Irritation:**
*Ethyl Alcohol:* Irritating to skin (Rabbit)

**Serious Eye Damage/Irritation:**
*Ethyl Alcohol:* Highly Irritating (Draize test; Rabbit)

**Respiratory Irritation:**
*Ethyl Alcohol:* 27,314 ppm (Mouse) Highly Irritating

**Skin Sensitization:**
*Ethyl Alcohol:* Not sensitizing (Guinea Pig)

**CHRONIC HEALTH HAZARDS**:

**REPEAT DOSE TOXICITY:**
NOAEL (Ethanol, oral): >2% (2400 mg/kg); Rat
LOAEL (Ethanol, oral): 3% (3600 mg/kg); Rat

**CARCINOGENICITY:**

| Component Name (CAS-No.) | OSHA | ACGIH | NTP | IARC |
|---|---|---|---|---|
| Ethyl Alcohol (64-17-5) | -- | TLV-A3 | -- | -- |

**Notes:**
*ACGIH TLV-A3* - *Ethyl alcohol has been denoted to have a carcinogenicity category of TLV-A3. This reference indicates that the material is "Confirmed Animal Carcinogen with Unknown Relevance to Humans: The agent is carcinogenic in experimental animals at a relatively high dose, by route(s) of administration, at site(s), of histologic type(s), or by mechanism(s) that may not be relevant to worker exposure. Available epidemiologic studies do not confirm an increased risk of cancer in exposed humans. Available evidence does not suggest that the agent is likely to cause cancer in humans except under uncommon or unlikely routes or levels of exposure."

**MUTAGENICITY:**
*Ethanol:* Ethanol has been classified as mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast. May affect genetic material (mutagenic).

**REPRODUCTIVE TOXICITY:**
*Ethanol:* Effects on the female reproductive system can include menstrual problems, altered sexual behavior, infertility, altered puberty onset, altered length of pregnancy, lactation problems, altered menopause onset and pregnancy outcome. Effects on the male reproductive system can include altered sexual behavior, altered fertility and problems with sperm shape or count.

**DEVELOPMENTAL TOXICITY/TERATOGENICITY:**
Ethanol: Ethanol has been connected to adverse reproductive effects and birth defects (teratogenic), based on moderate to heavy consumption. Human: passes through the placenta, excreted in maternal milk. Repeated ingestion of ethanol by pregnant mothers has been shown to adversely affect the central nervous system of the fetus, producing a collection of effects which together constitute fetal alcohol syndrome. These include mental and physical retardation, disturbances of learning, motor and language deficiencies, behavioral disorders and small size head.

## SECTION 12: ECOLOGICAL INFORMATION

Contact with the environment should be avoided. Spills and leaks should be immediately cleaned up and removed. All precautions should be taken to prevent contact with the environment. Published information regarding ingredients listed on this document area found below; where data is not listed, documentation was unavailable.

**ACUTE AND PROLONGED TOXICITY TO FISH**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Ethanol | $LC_{50}$ | 12. 9 - 15.3g/L | Pimephales promelas | 96 h |

**ACUTE TOXICITY TO AQUATIC INVERTEBRATES**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Ethanol | $EC_{50}$ | 5,012 mg/L | Ceriodaphnia Dubia | 48 h |

**TOXICITY TO AQUATIC PLANTS**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Ethanol | $EC_{50}$ | 675 mg/L | Chlorella Vulgaris | 4 days |

**TOXICITY TO MICROORGANISMS**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Ethanol | $EC_{50}$ | 32.1 g/L | Photobacterium Phoshoreum | 15 min |

**PERSISTENCY AND DEGRADABILITY:**

*Ethyl Alcohol:* Degradation of ethanol in water exceeded 60% within 10 days and thus is classified as readily biodegradable

**BIOACCUMULATIVE POTENTIAL:**

*Ethanol:* Ethanol is not likely to bioaccumulate in aquatic organisms. Ethanol released into the environment is primarily distributed into air and water.

## SECTION 13: DISPOSAL CONSIDERATIONS

**Those responsible for the performance of disposal, recycling or reclamation activities should refer to Section 8 of this document for advice on personal protective equipment and exposure controls.**

**WASTE DISPOSAL CONTAINERS:** Containers should be completely closed and meet applicable USDOT packaging specifications. Fiberboard boxes for packaged products and metal drums for liquid material may be used. Packaging materials should not include incompatible materials.

**WASTE DISPOSAL METHOD:** This product exhibits the RCRA characteristic of ignitability (D001) when intended for disposal. Controlled incineration at a hazardous waste facility is the recommended technology for treatment and disposal. Material must not be disposed of through sewage.

**RCRA HAZARD CLASS:** D001

Follow all local governmental requirements intended for disposal.

## SECTION 14: TRANSPORT INFORMATION

**Materials related with this document may be associated with US Department of Transportation regulations found at 49 CFR 173.150(g), *Exceptions for Class 3 (flammable and combustible liquids), effective April 17, 2014.***

This reference authorizes the transportation in commerce of certain limited quantities of liquids and solids containing ethyl alcohol and exempts these shipments from many of the provisions of 49 CFR (containers must adhere size and composition requirements based upon the content of alcohol). This exception may be utilized only for domestic transport of materials.

### North American Ground Transportation

**Per 49 CFR 173.150(g) exemptions:**

| | >70% Ethyl Alcohol (v/v) (w/w) | | | |
|---|---|---|---|---|
| | **Inner Packaging** | **Net Contents** | **Gross Weight** | **Marking** |
| **Liquids** | 8 fl. oz. | 192 fl. oz. | 65 lbs. | None |
| **Solids** | ½ lb. | 32 lbs. | 65 lbs. | None |
| | **≤70% Ethyl Alcohol (v/v) (w/w)** | | | |
| **Liquids (glass)** | 8 fl. oz. | 192 fl. oz. | 65 lbs. | None |
| | 16 fl. oz. | 192 fl. oz. | 65 lbs. | Contains Ethyl Alcohol |
| **Liquids (non-glass)** | 16 fl. oz. | 192 fl. oz. | 65 lbs. | None |
| | 1 gallon | 192 fl. oz. | 65 lbs. | Contains Ethyl Alcohol |
| **Solids (glass)** | ½ lb. | 32 lbs. | 65 lbs. | None |
| | 1 lb. | 32 lbs. | 65 lbs. | Contains Ethyl Alcohol |
| **Solids (non-glass)** | 1 lb. | 32 lbs. | 65 lbs. | None |
| | 8 lbs. | 32 lbs. | 65 lbs. | Contains Ethyl Alcohol |
| | **General Conditions** | | | |
| | Inner packagings must be secured and cushioned within the outer package to prevent breakage, leakage and movement. | | | |

**Shipping via US Ground without using the 49 CFR 173.150(g) exemption:**

- **IN CONSUMER PACKAGING:** Limited Quantity/Consumer Commodity (≤ 1L)
- **OTHER THAN CONSUMER PACKAGING:**
  **UN ID Number:** UN 1266
  **Proper Shipping Name:** Perfumery Products
  **Hazard Class:** 3
  **Packing Group:** II
  **Label Statements:** Flammable Liquid (Class 3)

## Transport Via Water

- **IN CONSUMER PACKAGING:** Limited Quantity (≤ 5L)
  **UN ID Number:** UN 1266
  **Proper Shipping Name:** Perfumery Products
  **Hazard Class:** 3
  **Packing Group:** II
  **Label Statements:** Flammable Liquid (Class 3)
- **OTHER THAN CONSUMER PACKAGING:**
  **UN ID Number:** UN 1266
  **Proper Shipping Name:** Perfumery Products
  **Hazard Class:** 3
  **Packing Group:** II
  **Label Statements:** Flammable Liquid (Class 3)

## Transport Via Air (Domestic/International)

- **IN CONSUMER PACKAGING:** Limited Quantity (≤ 0.5L)/Consumer Commodity ID 8000
  **UN ID Number:** UN 1266
  **Proper Shipping Name:** Perfumery Products
  **Hazard Class:** 3
  **Packing Group:** II
  **Label Statements:** Flammable Liquid (Class 3)
- **OTHER THAN CONSUMER PACKAGING:**
  **UN ID Number:** UN 1266
  **Proper Shipping Name:** Perfumery Products
  **Hazard Class:** 3
  **Packing Group:** II
  **Label Statements:** Flammable Liquid (Class 3)

**Please be aware of carrier transport variations before shipping hazardous materials.**

## SECTION 15: REGULATORY INFORMATION

**National Fire Protection Association Codes:** Health: 2 Fire: 3 Reactivity: 0 Other: None

**Workplace Hazardous Materials Identification System:** Class B; Division 2 – Flammable Liquid; Class D; Division 2, Subdivision B; Eye Irritation

This regulatory information represents the product, in its consumer packaging.

## SECTION 16: OTHER INFORMATION

**PREPARATION INFORMATION:** This document replaces a previous reference dated December 18, 2003

Author: Chandra L. Jennings

L'ORÉAL USA

# SAFETY DATA SHEET

**SDS # 99-011**

**ISSUANCE DATE: August 15, 2013**

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

L'Oreal USA Products, Inc.
111 Terminal Avenue
Clark, NJ 07066

**Emergency Telephone Number:**
1-800-535-5053 US (International: 352-323-3500)

**For further information:**
1-732-499-2741

**Poison Control Number:** 1-412-390-3326

**Product Name: Water Based Aerosols Hair Mousses – NFPA Level 1 Aerosol**

**Recommendations on use**: Personal care aerosol-packaged product used on hair for styling purposes.

**Restrictions on use**: For external use only. Use only as directed.

**This document is written for the packaged product (aerosol can containing propellants) with references to the dispensed or unpackaged product (liquid/gel or foam) to identify hazards as necessary.**

## SECTION 2: HAZARDS IDENTIFICATION

### Signal word: DANGER

| Symbol | Classification | Hazard Statement | Prevention Statements |
|---|---|---|---|
|  | Aerosols Category 1 | Extremely flammable aerosol.<br><br>Pressurized container: May burst if heated. | • Keep away from heat/sparks/open flames/hot surfaces. No smoking.<br>• Do not spray on an open flame or other ignition source.<br>• Do not pierce or burn, even after use. |

This material is considered hazardous by the US Occupational Safety and Health Administration Hazard Communication Standard (29 CFR 1910.1200)

General Precautionary Statements: Keep out of reach of children. Read label before use.

Hazards Not Otherwise Classified: Over-exposure may cause irritation to eyes.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Only hazardous constituents associated with this product are listed below**

| INGREDIENT: | CAS NO | % WT |
|---|---|---|
| Difluoroethane | 75-37-6 | <13% |
| Isobutane | 75-28-5 | <10% |
| Dimethyl Ether | 115-10-6 | <5% |
| Isopentane | 78-78-4 | <3% |
| Propane | 74-98-6 | <3% |
| Butane | 106-97-8 | <3% |
| **Ingredients listed below may be contained in those products having an SPF** | | |
| Homosalate | 118-56-9 | ≤ 15.0% |
| Octocrylene | 6197-30-4 | ≤ 10.0% |
| Octinoxate | 5466-77-3 | ≤ 7.5% |
| Oxybenzone | 131-57-7 | ≤ 6.0% |
| Octisalate | 118-60-5 | ≤ 5.0% |
| Avobenzone | 70356-09-1 | ≤ 3.0% |

## SECTION 4: FIRST AID MEASURES

**Response Statements:**

**IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing for at least 20 minutes or until material is sufficiently removed from the eye. **If eye irritation persists**: Get medical advice/attention if irritation or other symptoms occurs.

**IF ON SKIN**: **If skin irritation occurs:** Get medical attention. Remove all contaminated clothing and launder before reuse.

**IF INHALED:** Remove victim to fresh air and keep in a rest position comfortable for breathing. Call a Poison Control Center if you feel unwell.

**IF SWALLOWED:** Do not induce vomiting. Never give anything by mouth to an unconscious individual. Consult a physician or Poison Control Center immediately.

**SYMTOMS/EFFECTS:** Overexposure may cause irritation to eyes.

**NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:** Consult product labeling. No special advice.

## SECTION 5: FIRE-FIGHTING MEASURES

**Notes for Non-Emergency Personnel:**

**EXTINGUISHING MEDIA:** In case of fire use carbon dioxide, dry chemical, foam and/or water spray for extinction. Selection of a fire extinguisher should also be appropriate to address the location of the fire and equipment involved. Please review the tools available at your location to ensure proper availability of equipment.

**Notes for those trained to participate in an emergency:**

**SPECIAL FIRE AND EXPLOSION HAZARDS:** Treat as an NFPA Level 1 aerosol. Contents are under pressure. Follow National Fire Protection Association Guidelines or local guidelines appropriate for emergency response.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** The final product is offered under pressure. Observe all appropriate precautions for handling aerosol containers. The propellants are flammable liquefied gases. The dispensed liquid product is not flammable.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxides of carbon and/or derivatives.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Notes for non-emergency personnel:**

Consult trained response personnel for clean-up of large spills or locations where providing preliminary control of the chemical release is hazardous. Hazardous locations include areas where ignition sources can not be controlled. Isolate the area and deny entry to unnecessary and unprotected personnel. It is vital that Sections 2, 5, 7 and 8 of this document should be consulted before an accident occurs, to control any risks in handling aerosols and industrial liquids.

If the location is not hazardous and only a small amount of material is spilled, control the spill using absorbent pads and protective equipment as noted below. Prohibit discharge to drains, soil, surface and ground waters. Dispose in accordance with section 13 of this document.

**PERSONAL PROTECTIVE EQUIPMENT:** Plastic or rubber gloves, apron may be required for clean-up of large spills. Respiratory protection may need to be utilized, depending upon the size of the spill. Respiratory protection may include the use of organic vapor cartridges. Protective goggles or face shield is recommended for the control of liquid. See also section 8 of this document.

**Notes for those trained to participate in an emergency:**

**ACCIDENTAL RELEASE MEASURES:** Since this product is a sealed aerosol, accidental discharge of contents is unlikely unless the can is punctured. Should can puncture occur, dike and contain the free liquid and absorb on vermiculite or spill pillows/pads. Place spent absorbents in appropriate sturdy containers for disposal. Prohibit discharge to drains, soil, surface and ground waters.

Recommendations for personal protective equipment selection are noted above. Dispose in accordance with section 13 of this document.

## SECTION 7: HANDLING AND STORAGE

**PRECAUTIONS FOR SAFE HANDLING:**
Aerosols should be handled in a manner that minimizes the risk of puncture – caps should be replaced after use. Containers should be held in an upright position during use. Employees should not eat, drink or smoke while working with this material. Employees should be advised to wear appropriate protective equipment in the manufacturing environment. See section 8 of this document for protective equipment selection. All manufacturing should be performed indoors, in an enclosed environment.

Maintain a clean work environment which includes use of properly functioning containers, proper housekeeping practices.

**CONDITIONS FOR SAFE STORAGE:**
**Storage precautions for unpackaged product (manufacturing environment):** Store in a well-ventilated place. Keep cool. Keep containers tightly closed. Store on spill pallets or other locations where spill containment will be easily accessible.

**Storage precautions for aerosol packaged product:** Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. Use of an enclosed storage area with easy access is recommended for aerosol containers. Fire suppression and detection equipment compliant with NFPA 30B should be utilized. All aerosols should be stored in an upright position. Refer to consumer packaging for additional storage conditions.

Keep away from open drains and access to the environment.

**Incompatible materials**: Oxidizers, acids, bases. Store away from incompatible materials.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control Parameters** – These criteria have been published by the referenced authority to establish exposure limits in the work environment. Employee work areas should be monitored to ensure that permissible limits are not exceeded during the work day. These references do not coincide with product use. These references are meant to be in association with the manufacturing environment.

**OCCUPATIONAL EXPOSURE VALUES:**

| Component Name (CAS-No.) | Reference | TWA | | STEL/CEILING | |
|---|---|---|---|---|---|
| | | ppm | mg/m$^3$ | ppm | mg/m$^3$ |
| Isobutane (75-28-5) | OSHA PEL | -- | -- | -- | -- |
| | ACGIH TLV | -- | -- | 1000 | 2370 |
| | NIOSH REL | -- | -- | -- | -- |
| Isopentane (78-78-4) | OSHA PEL | 1000 | 2950 | -- | -- |
| | ACGIH TLV | 600 | 1770 | -- | -- |
| | NIOSH REL | -- | -- | -- | -- |
| Propane (74-98-6) | OSHA PEL | 1000 | 1800 | -- | -- |
| | ACGIH TLV | -- | -- | -- | -- |
| | NIOSH REL | 1000 | 1800 | -- | -- |
| Butane (106-97-8) | OSHA PEL | -- | -- | -- | -- |
| | ACGIH TLV | -- | -- | 1000 | 2370 |
| | NIOSH REL | 800 | 1900 | -- | -- |

No occupational exposure values have been published for other constituents noted in Section 3.

**WORK HYGIENIC PRACTICES:** Ensure all work surfaces are maintained, to prevent contamination.

**ENGINEERING CONTROLS:** None required for product use. For handling large quantities of material, such as in the manufacturing of product, ventilation should be utilized. This ventilation should be compatible with the control of flammable materials. Exhaust ventilation should be utilized to maintain air concentrations of material below the occupational exposure guidelines noted above. Testing of aerosol cans should only be performed when appropriate equipment is available.

Local exhaust ventilation is not typically required for product use. For handling large quantities of material, such as in the manufacturing of product **--** Local Exhaust: Explosion proof. Mechanical (general): Explosion proof.

**PERSONAL PROTECTIVE EQUIPMENT:** Consistent with good hygiene practices, personal protective equipment (PPE) should be used in conjunction with other control measures including engineering controls, ventilation and isolation. See also Section 5 of this document or PPE advice, in the event of an emergency.

**Eye/Face Protection (Non-Emergency)** None required for product use. For handling of large quantities of liquid material, safety glasses with side shields/goggles are recommended. For testing of pressurized cans, face shields or other equipment that protects the eyes/face should be considered for use.

**Skin Protection (Non-Emergency):** None required for product use. For handling large quantities of material, such as in product manufacturing, plastic or rubber gloves should be considered for use. Tyvek clothing may also be suitable for handling large quantities of material in the manufacturing environment.

**Respiratory Protection (Non-Emergency):** Respiratory protection is not required for product use. For manufacturing of product, respiratory protection may be considered. Ensure that the respirator meets current local occupational health and safety standards. Organic vapor cartridges should be utilized with filtering respiratory protection.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **APPEARANCE**: | Aerosol can dispensing foam. |
| **ODOR:** | Mild |
| **ODOR THRESHOLD:** | Not Available |
| **pH:** | Not Available |
| **MELTING/FREEZING POINT:** | **F:** N/A **C:** N/A |
| **BOILING POINT:** | **F:** N/A **C:** N/A |
| **FLASH POINT:** | **F:**<0F (propellants); **F:**>200 (dispensed product) **METHOD USED:** Closed Cup |
| **EVAPORATION RATE:** | <1 for dispensed product **(Butyl acetate = 1)** |
| **FLAMMABLE LIMITS IN AIR:** | Butane & Isobutane, Upper: 8.4% Lower:1.6% Propane, Upper: 9.5% Lower: 2.1% |
| **VAPOR PRESSURE (mmHg):** | **@ 70 F:** 2500 – 5500; **@ 21 C:** 2500 -- 5500 |
| **VAPOR DENSITY (AIR = 1):** | **@ 70 F** F: >1; **@ 21 C:** >1 |
| **RELATIVE DENSITY (H2O = 1):** | compressed liquid ~ 1; foam <1 |
| **SOLUBILITY IN WATER:** | Soluble |
| **PARTITIION COEFFICIENT:** | Not Available |
| **AUTOIGNITION TEMPERATURE** | Not Available |
| **DECOMPOSITION TEMPERATURE:** | Not Available |
| **VISCOSITY:** | Not Available |

## SECTION 10: STABILITY AND REACTIVITY

**REACTIVITY: M**aterial is not considered reactive under typical handling and storage conditions.

**STABILITY:** Product is stable.

**POSSIBILITY OF HAZARDOUS REACTIONS:** None known. Hazardous polymerization is not expected to occur.

**CONDITIONS TO AVOID:** Direct sunlight, temperatures exceeding 50°C/122°F, fire, flame and other sources of heat.

**INCOMPATIBILITY (MATERIALS TO AVOID):** Oxidizers, acids, bases.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxides of carbon and/or derivatives.

## SECTION 11: TOXICOLOGICAL INFORMATION

**Where information is not listed specifically for constituents, published information was not available.**

**POTENTIAL HEALTH EFFECTS**

**ACUTE HEALTH EFFECTS:**
**SKIN CORROSION/IRRITATION**: None expected
**SERIOUS EYE DAMAGE/IRRITATION**: Overexposure may cause eye irritation
**RESPIRATORY/SKIN SENSITIZATION**: None expected
**INGESTION**: Harmful if swallowed
**INHALATION**: May be irritating if overexposure occurs.

**ROUTES OF EXPOSURE:** Inhalation, eyes, skin

**SYMPTOMS:** Watering, stinging or itching of eyes may occur with over-exposure to the product.

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:** None known.

**ACUTE TOXICOLOGY DATA FOR COMPONENTS:**

| MATERIAL | ROUTE | SPECIES | TEST RESULTS |
|---|---|---|---|
| Difluoroethane | $LC_{50}$ (4 hr) | Rat | 383,000 ppm |
| Isobutane | $LC_{50}$ (2 hr) | Mouse | 1,237 mg/L |
| Dimethyl Ether | $LC_{50}$ (4 hr) | Rat | 164,000 ppm |
| Isopentane | $LC_{50}$ (4 hr, vapor) | Rat | 280,000 $mg/m^3$ |
| Propane | $LC_{50}$ (15 min) | Rat | > 1,443 mg/L |
| Butane | $LC_{50}$ (4 hr) | Rat | 658 ppm |
| Homosalate | Oral LD50 | Rat | > 8,000 mg/kg |
| Homosalate | Dermal LD50 | Rabbit | > 5,000 mg/kg |
| Octocrylene | Oral LD50 | Rat | > 5,000 mg/kg |
| Octocrylene | Dermal LD50 | Rat | > 2,000 mg/kg |
| Octinoxate | Oral LD50 | Rat | > 5,000 mg/kg |
| Octinoxate | Dermal LD50 | Rat | > 5,000 mg/kg |
| Octinoxate | LC50 (4 hr) | Rat | > 0.511 mg/L |
| Oxybenzone | LD50 (Oral) | Rat | >5,000 mg/kg |
| Oxybenzone | LD50 (Dermal) | Rat | >16,000 mg/kg |
| Octisalate | LD50 (Oral) | Rat | >5,000 mg/kg |
| Octisalate | LD50 (Dermal) | Rabbit | >5,000 mg/kg |
| Avobenzone | LD50 (Oral) | Rat | >16,000 mg/kg |
| Avobenzone | LD50 (Dermal) | Rat | > 1,000 mg/kg |

**Skin Corrosion/Irritation:**

| | |
|---|---|
| *Isobutane:* | Liquefied Gas can Cause Frostbite |
| *Isopentane:* | Slightly Irritating (In liquid form) |
| *Propane:* | Liquefied Gas can Cause Frostbite |
| *Butane:* | Liquefied Gas can Cause Frostbite |
| *Homosalate:* | Not Irritating (Guinea Pig) |
| *Octocrylene:* | Not Irritating (Rabbit) |
| *Octinoxate:* | Not Irritating (Rabbit) |
| *Oxybenzone:* | Not Irritating (Rabbit) |
| *Octisalate:* | Slight Irritant (Rabbit) |
| *Avobenzone:* | Not Irritating (Human Patch Test) |

**Serious Eye Damage/Irritation:**

| | |
|---|---|
| *Isobutane:* | Liquefied Gas can Cause Frostbite |
| *Isopentane:* | Slightly Irritating (In liquid form) |
| *Propane:* | Liquefied Gas can Cause Frostbite |
| *Butane:* | Liquefied Gas can Cause Frostbite |
| *Homosalate:* | Slight Irritant (Rabbit) |
| *Octocrylene:* | Not Irritating (Rabbit) |
| *Octinoxate:* | Slight Irritant (Rabbit) |
| *Oxybenzone:* | Not Irritating (Rabbit) |
| *Octisalate:* | Slight Irritant (Rabbit) |
| *Avobenzone:* | Not Irritating (Rabbit) |

**Respiratory Irritation:**

| | |
|---|---|
| *Isopentane:* | Irritating |

**Skin Sensitization:**

| | |
|---|---|
| *Isopentane:* | Not sensitizing (Guinea Pig) |
| *Homosalate:* | Not sensitizing |
| *Octocrylene:* | Not sensitizing (Magnusson & Kligman) |
| *Octinoxate:* | Not sensitizing |
| *Oxybenzone:* | Not sensitizing |
| *Octisalate:* | Not sensitizing |
| *Avobenzone:* | Not sensitizing |

**CHRONIC HEALTH HAZARDS:**

**REPEAT DOSE TOXICITY**

NOAEL (Difluoroethane, inhalation, rat): 2.5% (OECD Guideline 453)
NOAEC (Isobutane, inh, rat): 21,394 mg/$m^3$ air
NOAEL (Dimethyl Ether, oral, rat): 47106 mg/$m^3$
NOAEL (Isopentane, oral, rat): 2.0 g/kg/day
NOAEC (Propane, inh, rat):7,214 mg/$m^3$ air
NOAEC (Butane, inh, rat): 21,394 mg/$m^3$ air
NOAEL (Homosalate, oral, rat): 100 mg/kg bw

NOAEL (Octinoxate, oral, rat); 450 mg/kg day
NOEL (Octisalate, oral, rat); 250 mg/kg/day;
NOAEL (Avobenzone, oral, rat): 450 mg/kg bw/d
NOAEL (Avobenzone, dermal, rat): 230 mg/kg bw/d

**CARCINOGENICITY**

| Component Name (CAS-No.) | OSHA | ACGIH | NTP | IARC |
|---|---|---|---|---|
| No carcinogenic constituents | -- | -- | -- | -- |

**MUTAGENICITY:**

*Difluoroethane:* A variety of *in vivo* tests have produced negative results.
*Isobutane:* A variety of *in vitro* tests have produced negative results.
*Dimethyl Ether:* A variety of *in vitro* tests have produced negative results.
*Isopentane:* Standard Ames Assays study produced negative results.
*Butane:* A variety of *in vitro* and *in vivo* tests have produced negative results
*Propane:* A variety of *in vitro* tests have produced negative results.
*Homosalate*: A variety of *in vitro* tests have produced negative results.
*Octocrylene*: A variety of *in vitro* and *in vivo* tests have produced negative results.
*Octinoxate*: A variety of *in vitro* and *in vivo* tests have produced negative results.
*Avobenzone*: A variety of *in vitro* and *in vivo* tests have produced negative results.

**REPRODUCTIVE TOXICITY:**

*Difluoroethane:* No observable effects on mating were seen.
*Isobutane:* NOAEC: 7,131 mg/m$^3$ air (OECD 422) – No indications of reproductive toxicity in studies
*Dimethyl Ether:* No observable effects on mating were seen at concentrations 2.5% (highest concentration tested)
*Butane* NOAEC: 21,394 mg/m$^3$ air (OECD 422) – No indications of reproductive toxicity in studies
*Propane* NOAEC: 21,641 mg/m$^3$ air (OECD 422) – No indications of reproductive toxicity in studies

**DEVELOPMENTAL TOXICITY/TERATOGENICITY:**

*Difluoroethane:* No observable effects on were seen. NOAEL: 50,000ppm
*Isobutane:* NOAEC: 7,131 mg/m$^3$ air (OECD 422) – No indications of developmental toxicity in studies
*Dimethyl Ether:* No observable effects on were seen. NOAEL: 40,000 ppm
*Propane* NOAEC: 21,641 mg/m$^3$ air (OECD 422) – No indications of developmental toxicity in studies
*Butane* NOAEC: 21,394 mg/m$^3$ air (OECD 422) – No indications of developmental toxicity in studies
*Octocrylene*: No indications of developmental toxicity or teratogenic effect in studies.
*Octinoxate*: Not teratogenic
*Avobenzone*: Not teratogenic

## SECTION 12: ECOLOGICAL INFORMATION

Contact with the environment should be avoided. Spills and leaks should be immediately cleaned up and removed. All precautions should be taken to prevent contact with the environment. Published information regarding ingredients listed on this document area found below; where data is not listed, documentation was unavailable.

### ACUTE AND PROLONGED TOXICITY TO FISH

| INGREDIENT NAME | TEST | RESULT | SPEICIES | EXPOSURE |
|---|---|---|---|---|
| Difluoroethane | $LC_{50}$ | 295.8 mg/L | Fish | 96 h |
| Isobutane | $LC_{50}$ (QSAR Calculation) | 27.98 mg/L | Not Specified | 96 h |
| Dimethyl Ether | $LC_{50}$ | >4.1 g/L | Fish | 96 h |
| Isopentane | $LC_{50}$ (QSAR Calculation) | 12.8 mg/L | Not Specified | 96 h |
| Propane | $LC_{50}$ (QSAR Calculation) | 49.9 mg/L | Not Specified | 96 h |
| Butane | $LC_{50}$ (QSAR Calculation) | 24.11 mg/L | Not Specified | 96 h |
| Octocrylene | $LC_{50}$ (DIN 38412, Pt 15) | > 10,000 mg/L | Leuciscus idus | 96 h |
| Octinoxate | $LC_{50}$ (OECD 203) | > 100 mg/L | Cyprinus carpio | 96 h |
| Oxybenzone | $LC_{50}$ (DIN 38412, Pt 15) | 100 - 220 mg/L | Leuciscus idus | 96 h |
| Avobenzone | $LC_{50}$ (OECD 203) | > 100 mg/L | Cyprinus carpio | 96 h |

### ACUTE TOXICITY TO AQUATIC INVERTEBRATES

| INGREDIENT NAME | TEST | RESULT | SPEICIES | EXPOSURE |
|---|---|---|---|---|
| Difluoroethane | $EC_{50}$ | 146.695 mg/L | Daphnia Magna | 48 h |
| Isobutane | $EC_{50}$ (QSAR Calculation) | 16.33 mg/L | Daphnid | 48 h |
| Dimethyl Ether | $EC_{50}$ | >4.4 g/L | Daphnia Magna | 48 h |
| Isopentane | $EC_{50}$ (OECD 202) | 2.3 mg/L | Daphnia magna | 48 h |
| Propane | $EC_{50}$ (QSAR Calculation) | 27.14 mg/L | Daphnid | 48 h |
| Butane | $EC_{50}$ (QSAR Calculation) | 14.22 mg/L | Daphnid | 48 h |
| Octocrylene | $EC_{50}$ (OECD 202) | ≥ 100 mg/L | Daphnia Magna | 48 h |
| Octinoxate | $EC_{50}$ (OECD 202) | > 0.027 mg/L | Daphnia Magna | 48 h |
| Oxybenzone | $EC_{50}$ (OECD 202) | 1.9 mg/L | Daphnia Magna | 48 h |
| Avobenzone | $EC_{50}$ (OECD 202) | > 100 mg/L | Daphnia Magna | 48 h |

### TOXICITY TO AQUATIC PLANTS

| INGREDIENT NAME | TEST | RESULT | SPEICIES | EXPOSURE |
|---|---|---|---|---|
| Difluoroethane | $EC_{50}$ | 47.76 mg/L | Green Algae | 96 h |
| Isobutane | $EC_{50}$ (QSAR Calculation) | 8.57 mg/L | Green Algae | 96 h |
| Dimethyl Ether | $EC_{50}$ | 154.9 mg/L | Green Algae | 96 h |
| Isopentane | $EL_{50}$ (QSAR Calculation) | 25.12 mg/L | Selenastrum capricornutum | 72 h |
| Propane | $EC_{50}$ (QSAR Calculation) | 11.89 mg/L | Green Algae | 96 h |
| Butane | $EC_{50}$ (QSAR Calculation) | 7.71 mg/L | Green Algae | 96 h |
| Octocrylene | $EC_{50}$ (OECD 201) | > 220 mg/L | Desmodesmus subspicatus | 72 h |
| Octinoxate | $EC_{50}$ (OECD 201) | > 100 mg/L | Scenedesmus capricornutum | 96 h |

| | | | | |
|---|---|---|---|---|
| Oxybenzone | $EC_{50}$ | 0.67 mg/L | Pseudokirchnerella Subcapita | 72 h |
| Avobenzone | $EC_{50}$ (OECD 201) | > 100 mg/L | Scenedesmus capricornutum | 72 h |

**TOXICITY TO MICROORGANISMS**

| INGREDIENT NAME | TEST | RESULT | SPEICIES | EXPOSURE |
|---|---|---|---|---|
| Dimethyl Ether | $EC_{10}$ | 1600 mg/L | Pseudomonas Putida | -- |
| Isopentane | $EL_{50}$ (QSAR Calculation) | 130.9 mg/L | Tetrahymena pyriformis | 48 h |
| Octocrylene | $EC_{50}$ (OECD 209) | > 10,000 mg/L | Activated Sludge | 30 min |
| Octinoxate | $EC_{50}$ (OECD 301F) | 100 mg/L | Activated Sludge | 30 min |
| Oxybenzone | $EC_{50}$ (DIN 38412 Pt. 27) | > 10,000 mg/L | Activated Sludge | 30 min |
| Avobenzone | NOEC (OECF 301F) | 100 mg/L | Activated Sludge | 28 days |

**PERSISTENCY AND DEGRADABILITY:**

*Isobutane:* Readily Biodegradable – 50.0% (3.1d) (Calculated)
*Isopentane:* Readily Biodegradable – OECD 301 F – 71% @ 28d
*Propane:* Readily Biodegradable – 50.0% (3.0d) (Calculated)
*Butane:* Readily Biodegradable – 65.7% (35d)
*Octocrylene:* Not Readily Biodegradable – OECD 301 F – 0-10% (28d)
*Octinoxate:* Readily Biodegradable – OECD 301F – 78% (28 d); 69% (10d)
*Oxybenzone:* Not Readily Biodegradable – OECD 301F – 60-70% (28 d)

**BIOACCUMULATIVE POTENTIAL:**

*Isobutane:* Not likely to bioaccumulate (1.97)
*Isopentane:* Log Kow: 136-171 – Slightly bioaccumulable
*Butane:* Log Kow: 2.89 – Not likely to bioaccumulate
Octocrylene: BCFss = 915 (OECD 305, Danio Rerio) – Potential to biaccumulate
*Octinoxate:* BCFss = 433 (Conc: 0.084 mg/L): BCF 175 (Conc: 0.731 mg/L)(OECD 305 – Oncorhynchus mykiss)
*Oxybenzone:* BCF: 39-160 (OECD 305, Cyprinus Carpio) – Potential to bioaccumulate

The product ingredients are expected to be safe for the environment at the concentrations predicted under normal use and accidental spill scenarios.

## SECTION 13: DISPOSAL CONSIDERATIONS

**Those responsible for the performance of disposal, recycling or reclamation activities should refer to Section 8 of this document for advice on personal protective equipment and exposure controls.**

**WASTE DISPOSAL CONTAINERS:** Cans should have caps in place during waste consolidation or dispenser buttons/actuators removed. Appropriate U.S. DOT containers should be utilized which may include cardboard boxes for products, metal or plastic drums for liquids. These containers should meet the packaging specifications required for DOT compliance.

**WASTE DISPOSAL METHOD:** This product exhibits the RCRA characteristic of ignitability (D001) when intended for disposal. Controlled incineration at a hazardous waste facility is the recommended technology for treatment and disposal. Material must not be disposed of through sewage.

**RCRA HAZARD CLASS: D001**

Follow all local governmental requirements intended for disposal.

## SECTION 14: TRANSPORT INFORMATION

**North American Ground Transportation**

- **IN CONSUMER PACKAGING:** Limited Quantity/Consumer Commodity
  **UN ID Number:** UN 1950
  **Proper Shipping Name:** Aerosols
  **Hazard Class:** 2.1
  **Packing Group:** N/A
  **Label Statements:** Flammable Gas (Division 2.1)
- **LIQUID WITHOUT PROPELLANT:** Non-hazardous/Not Regulated

**Transport Via Water**

- **IN CONSUMER PACKAGING:** Limited Quantity
  **UN ID Number:** UN 1950
  **Proper Shipping Name:** Aerosols
  **Hazard Class:** 2.1
  **Packing Group:** N/A
  **Label Statements:** Flammable Gas (Division 2.1)
- **LIQUID WITHOUT PROPELLANT:** Non-Hazardous/Not Regulated

**Transport Via Air (Domestic/International)**

- **IN CONSUMER PACKAGING:** Limited Quantity – ID 8000, Consumer Commodity
  **UN ID Number:** UN 1950
  **Proper Shipping Name:** Aerosols
  **Hazard Class:** 2.1
  **Packing Group:** N/A
  **Label Statements:** Flammable Gas (Division 2.1)
- **LIQUID WITHOUT PROPELLANT:** Non-Hazardous/Not Regulated

**Please be aware of carrier transport variations before shipping hazardous materials.**

## SECTION 15: REGULATORY INFORMATION

**National Fire Protection Association Codes:** Health: 1 Fire: 4 Reactivity: 0 Other: None

**Workplace Hazardous Materials Identification System:** Class B Division 5 Flammable Aerosol

This regulatory information represents the product, in its consumer packaging.

## SECTION 16: OTHER INFORMATION

**PREPARATION INFORMATION:** This document replaces the version dated September 10, 2007 and all previous versions of material safety data sheets related to this products.

Author: Chandra L. Jennings/Lalita Vedantam

L'ORÉAL USA

# SAFETY DATA SHEET

**SDS # 99-009**

**ISSUANCE DATE: July 24, 2014**

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

L'Oreal USA Products, Inc.
111 Terminal Avenue
Clark, NJ 07066

**Emergency Telephone Number**
1-800-535-5053 (International: 352-323-3500)

**For further information**: 1-732-499-2741

**Poison Control Number:** 1-412-390-3326

**Product Name: Water-Based Shampoos and Body Cleansers**

**Recommendations on use:** For cleansing of hair and/or body.

**Restrictions on use:** For external use only. Use only as directed. Products which are labeled "For Adult Use Only" should not be used by children. Bath products intended for children should not be used for prolonged periods due to possible skin and/or urinary tract irritation with immersion.

## SECTION 2: HAZARDS IDENTIFICATION

### Signal Word: WARNING

| | | | |
|---|---|---|---|
|  | Eye Irritation Category 2A | Causes serious eye irritation | • Wash hands and face thoroughly after handling.<br>• Wear eye protection/face protection; eye protection appropriate for the manufacturing operation being performed should be used (goggles or face shield). |

This material is considered hazardous by the US Occupational Safety and Health Administration Hazard Communication Standard (29 CFR 1910.1200)

General Precautionary Statements: Keep out of reach of children. Read label before use. Discontinue use if rash, redness, or itching occurs.

Additional Precautionary Statements for Immersion Products: Excessive use or prolonged exposure may cause irritation to urinary tract. Avoid contact with eyes.

Hazards Not Otherwise Classified: Prolonged contact may cause irritation of skin and mucous membranes. May cause gastrointestinal disturbance and diarrhea if ingested.

## SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

**Only hazardous constituents associated with the product are listed below**

| INGREDIENT: | CAS NO. | % WT |
|---|---|---|
| Sodium Lauryl Sulfate | 85586-07-8 | ≤ 40% |
| Sodium Laureth Sulfate | 3088-31-1 | ≤ 30% |

| | | |
|---|---|---|
| Coco-Betaine | 68424-94-2 | ≤ 16% |
| Cocamidopropyl Betaine | 61789-40-0 | ≤ 16% |
| Disodium Cocoamphodipropionate | 68604-71-7 | ≤ 16% |
| Ammonium Lauryl Sulfate | 2235-54-3 | ≤ 12% |
| Disodium Laureth Sulfosuccinate | 39354-45-5 | ≤ 13% |
| Sodium Lauryl Sulfoacetate | 1847-58-1 | ≤ 13% |
| Sodium Lauroyl Sarcosinate | 137-16-6 | ≤ 9% |
| Disodium Cocoamphodiacetate | 68650-39-5 | ≤ 8% |
| Sodium Cocoyl Isethionate | 61789-32-0 | ≤ 8% |
| Cocamide MEA | 68140-00-1 | ≤ 5% |

## SECTION 4: FIRST AID MEASURES

**IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing for at least 20 minutes or until material is sufficiently removed from the eye. **If eye irritation persists:** Get medical advice/attention.

**IF ON SKIN:** Wash with plenty of water. **If skin irritation occurs:** Get medical attention. Remove all contaminated clothing and launder before reuse. If irritation of the urinary tract should occur following use of a bath product, consult a physician.

**IF INHALED:** Remove individual to fresh air and keep in a rest position comfortable for breathing. Call a poison control center if you feel unwell.

**IF SWALLOWED:** Immediately call a poison control center or consult a physician. Do not induce vomiting. Never give anything by mouth to an unconscious individual.

**NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:** Most common symptoms include irritating properties to eyes, skin, and/or exposed mucous membranes.

## SECTION 5: FIRE-FIGHTING MEASURES

**Notes for Non-Emergency Personnel:**

**EXTINGUISHING MEDIA:** Product is not flammable. Selection of a fire extinguisher should be appropriate to address the location of the fire and other materials involved.

**Notes for those trained to participate in an emergency:**

**SPECIAL FIRE FIGHTING PROCEDURES:** Firefighters should wear self-contained breathing apparatus and full protective gear.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Not known

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxides of carbon and sulfur.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Notes for non-emergency personnel:**

Consult trained response personnel for clean-up of large spills or locations where providing control of the release is hazardous. Isolate the area and deny entry to unnecessary and unprotected personnel. Sections 2, 5, 7 and 8 of this document should be consulted upon use of material, to become knowledgeable of the material's hazards and how to control associated risks.

If the location is not hazardous and only a small amount of material is released: Control the spill using absorbent pads, paper towels or sponges while wearing the protective equipment as noted below. Wash area completely with water. Prohibit discharge to drains, soil, surface and ground waters. Dispose in accordance with Section 13 of this document.

**PERSONAL PROTECTIVE EQUIPMENT:** Plastic or rubber gloves, safety glasses/goggles, protective clothing (e.g. apron) may be required for clean-up of large spills. Respiratory protection is typically not necessary, but may used depending upon the size of the spill and occupational exposure limits. Refer to Section 8 for additional information.

**Notes for those trained in an emergency:**

**ACCIDENTAL RELEASE MEASURES:** Dike and contain any free liquid then absorb on vermiculite or spill pillows/pads. Solidified materials should be placed in sturdy containers for disposal. Wash area completely with water. Take care to avoid contact with wet surfaces or walkways that may become slick when product is present. Prohibit discharge to drains, soil, surface and ground waters. Dispose in accordance with Section 13 of this document.

## SECTION 7: HANDLING AND STORAGE

**Precautions for safe handling:**
Do not eat, drink, or smoke while working with hazardous materials. Avoid contact with eyes, clothing, and prolonged contact with skin (other than areas of application). Employees should be advised to wear appropriate protective equipment in the manufacturing environment. Refer to Section 8 for personal protective equipment selection. All manufacturing should be performed indoors, in an enclosed environment.

Maintain a safe work environment, including proper housekeeping practices and structurally sound/compatible containers.

**Incompatible Materials:** None known.

**Conditions for safe storage of unpackaged product (manufacturing environment):** Store in the original tightly capped containers away from sunlight and other heat sources. Keep in a cool and well-ventilated area. Keep container closed when not in use. Store on spill pallets or in other locations where spill containment will be easily accessible.

Keep away from open drains and protect from releases to the environment.

**Storage precautions for packaged product** – see consumer packaging. No special precautions.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**CONTROL PARAMETERS:** These criteria have been published by the referenced authority to establish exposure limits in the work environment. Employee work areas should be monitored to ensure that permissible limits are not exceeded during the work day. These references do not coincide with product use. These references are meant to be in association with the manufacturing environment.

**OCCUPATIONAL EXPOSURE VALUES:**

| Component Name (CAS-No.) | Reference | TWA | | STEL/CEILING | |
|---|---|---|---|---|---|
| | | ppm | $mg/m^3$ | ppm | $mg/m^3$ |
| No OEVs have been established for noted constituents. | OSHA PEL | -- | -- | -- | -- |
| | ACGIH TLV | -- | -- | -- | -- |
| | NIOSH REL | -- | -- | -- | -- |

**WORK HYGIENIC PRACTICES:** Ensure all work surfaces are maintained, to prevent contamination.

**ENGINEERING CONTROLS:** None required for product use. For handling large quantities of material, such as in the manufacturing of product, ventilation should be considered to control nuisance odors associated with product fragrance.

Local exhaust ventilation is not typically required for product use. For handling large quantities of material, such as in the manufacturing of product **--** Local Exhaust: consistent with nuisance odor removal. Mechanical (general): consistent with nuisance odor removal.

**PERSONAL PROTECTIVE EQUIPMENT:** Consistent with good hygiene practices, personal protective equipment (PPE) should be used in conjunction with other control measures including engineering controls, ventilation and isolation. See also Section 5 for PPE advice, in the event of an emergency.

**Eye/Face Protection (Non-Emergency):** None required for product use. For handling of large quantities of material, safety glasses with side shields/goggles are recommended. Face shields may be required where possibility of a large splash to the face could occur.

**Skin Protection (Non-Emergency):** None required for product use. For handling large quantities of material, such as in product manufacturing, plastic or rubber gloves should be considered for use. Tyvek clothing may also be suitable for handling large quantities of material in the manufacturing environment.

**Respiratory Protection (Non-Emergency):** Respiratory protection is not required for product use. For manufacturing of product, respiratory protection may be considered to control nuisance odors. Ensure that the respirator meets current local occupational health and safety standards.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **APPEARANCE:** | Colored, transparent or opaque, semi-viscous liquid |
| **ODOR:** | Pleasant odor |
| **ODOR THRESHOLD:** | Not Available |
| **pH:** | 3.5 – 9.0 |
| **MELTING/FREEZING POINT:** | **F:** ~32 **C:** ~0 |
| **BOILING POINT:** | **F:** ~212 **C:** ~100 |
| **FLASH POINT:** | **F:** >200 **C:** >93.4 **METHOD USED:** Closed cup |
| **EVAPORATION RATE:** | <1 **(Butyl acetate = 1)** |
| **FLAMMABILITY:** | Not Applicable to Liquids |
| **FLAMMABLE LIMITS IN AIR:** | Not Available |
| **VAPOR PRESSURE (mmHg):** | @ **F:** N/A **C:** N/A |
| **VAPOR DENSITY (AIR = 1):** | @ **F:** N/A **C:** N/A |
| **RELATIVE DENSITY (H2O = 1):** | ~1 |
| **SOLUBILITY IN WATER:** | Freely soluble |
| **PARTITION COEFFICIENT:** | Not Available |
| **AUTOIGNITION TEMPERATURE:** | Not Available |
| **DECOMPOSITION TEMPERATURE:** | Not Available |
| **VISCOSITY:** | Viscous flowing liquid |

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## SECTION 10: STABILITY AND REACTIVITY

**REACTIVITY:** Material is not considered reactive under typical handling and storage conditions.

**STABILITY:** Product is stable.

**POSSIBILITY OF HAZARDOUS REACTIONS:** None known. Hazardous polymerization is not expected to occur.

**CONDITIONS TO AVOID:** None known.

**INCOMPATIBILITY (MATERIAL TO AVOID):** None known.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Oxides of carbon and sulfur, hydrocarbons, and/or derivatives.

## SECTION 11: TOXICOLOGICAL INFORMATION

**POTENTIAL HEALTH EFFECTS**

**ACUTE HEALTH EFFECTS:**
**SKIN CORROSION/IRRITATION**: Overexposure may cause skin irritation or dryness
**SERIOUS EYE DAMAGE/IRRITATION**: Causes serious eye irritation
**RESPIRATORY/SKIN SENSITIZATION**: None expected
**INGESTION**: May cause gastrointestinal disturbance or diarrhea
**INHALATION**: None expected

**ROUTES OF EXPOSURE**: Eyes and skin

**SYMPTOMS**: Symptoms may include watering, stinging or itching eyes with direct contact. Prolonged contact my cause irritation of skin and mucous membranes. May cause gastrointestinal disturbance and diarrhea if ingested.

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE**: Existing dermatological conditions (such as eczema) may be exacerbated.

**ACUTE TOXICOLOGY DATA FOR COMPONENTS**

Where information is not listed specifically for constituents, published information was not available.

| Material | Route | Species | Test Results |
|---|---|---|---|
| Sodium Lauryl Sulfate (28.2%) | Oral $LD_{50}$ | Rat | 6,000 mg/kg |
| Sodium Lauryl Sulfate | Dermal $LD_{50}$ | Rabbit | ca.600 mg/kg |
| Sodium Lauryl Sulfate | $LC_{50}$ (4 hr) | Rat | 8.67 mg/L |
| Sodium Laureth Sulfate | Oral $LD_{50}$ | Rat | 4,100 mg/kg bw |
| Sodium Laureth Sulfate | Dermal $LD_{50}$ | Rabbit | > 2,000 mg/kg bw |
| Coco-Betaine | Oral $LD_{50}$ | Rat | 6,900 mg/kg |
| Coco-Betaine | Dermal $LD_{50}$ | Rat | > 2.0 g/kg |
| Cocamidopropyl Betaine (30.6% Active sol.) | Oral $LD_{50}$ | Rat | 4900 mg/kg bw |
| Cocamidopropyl Betaine (31% Active sol.) | Dermal $LD_{50}$ | Rat | > 2000 mg/kg |
| Disodium Cocoamphodipropionate | Oral $LD_{50}$ | Rat | > 5.0 ml/kg |
| Disodium Cocoamphodipropionate | Dermal $LD_{50}$ | Rat (OECD 402) | > 2,000 mg/kg bw |
| Ammonium Lauryl Sulfate | Oral $LD_{50}$ | Rat | > 135 mg/kg bw |
| Disodium Cocoamphodiacetate | Oral $LD_{50}$ | Rats/Mice | > 5.0 to 16.60 g/kg |
| Disodium Cocoamphodiacetate | Dermal $LD_{50}$ | Rats/Mice | > 10.0 ml/kg |
| Sodium Lauroyl Sarcosinate | Oral $LD_{50}$ | Rat | 4.2 - 5 mg/kg |
| Sodium Lauryl Sulfoacetate | Oral $LD_{50}$ | Rat | 5,750 mg/kg |

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| Material | Route | Species | Test Results |
|---|---|---|---|
| Disodium Laureth Sulfosuccinate (40%) | Oral $LD_{50}$ | Rat | > 2,000 mg/kg |
| Disodium Laureth Sulfosuccinate (30-40%) | Dermal $LD_{50}$ | Rabbit | > 2,000 mg/kg |
| Sodium Cocoyl Isethionate | Oral $LD_{50}$ | Rat (OECD 401) | > 2,000 mg/kg bw |
| Cocamide MEA | Oral $LD_{50}$ | Mice | >10 g/kg |
| Cocamide MEA | Dermal $LD_{50}$ | Rabbits | >2 g/kg |

**Skin Corrosion/Irritation:**

*Sodium Lauryl Sulfate:* Slightly – Moderately Irritating: 0.5% - 10%; Skin Corrosion/Severe Irritation: 10% - 30% (Rat)
*Sodium Laureth Sulfate:* Not Irritating: 5% - 5.6%; Minimally Irritating: 6 - 10%; Severely Irritating: > 25% (Rat)
*Coco-Betaine:* Not Irritating: 7.5%; Slightly Irritating: 15%; Mildly Irritating: 30% (Rat); Not Irritating: 6.0% (Human)
*Cocamidopropyl Betaine:* Slightly irritating: 10% (Human)
*Disodium Cocoamphodipropionate:* Not Irritating (Rabbit)
*Ammonium Lauryl Sulfate:* Slightly Irritating: 25%
*Disodium Laureth Sulfosuccinate:* Not irritating: 3%
*Sodium Lauryl Sulfoacetate*: Moderate Irritant – 100%
*Sodium Lauroyl Sarcosinate:* Not Irritating: 30% (Rat)
*Disodium Cocoamphodiacetate:* Irritating: 4.0% (Rat)
*Sodium Cocoyl Isethionate:* Slightly Irritating (Rabbit) OECD 404
*Cocamide MEA:* Slightly Irritating: 50% (Rabbit); Not Irritating: 50% (Human)

**Serious Eye Damage/Irritation:**

*Sodium Lauryl Sulfate:* Mildly Irritating: 5.1%; Moderately Irritating: 10%; Severely Irritating: 21% (Rat)
*Sodium Laureth Sulfate:* Mildly Irritating: 1.3 – 7.5%; Moderately Irritating: 10 – 17.5%; Severely Irritating: >20% (Rat)
*Coco-Betaine:* Not Irritating: 4.5% (Rat); Moderately Irritating: 10%, (Rabbit);
*Cocamidopropyl Betaine:* Slightly Irritating: 10% (Human)
*Disodium Cocoamphodipropionate:* Not Irritating: 7.5%; Risk of Serious Eye Damage: 40%
*Ammonium Lauryl Sulfate*: Irritating: 20% (Rabbit)
*Disodium Laureth Sulfosuccinate*: Irritating: 10%; Eye Damage: 25% (Rabbit)
*Sodium Lauryl Sulfoacetate*: Possibly Irritating
*Sodium Lauroyl Sarcosinate:* Not Irritating: 5%; Slightly Irritating: 10% (Rabbit)
*Disodium Cocoamphodiacetate:* Moderately - Severely Irritating: 10-12%
*Sodium Cocoyl Isethionate:* Irritating (Rabbit) OECD 405
*Cocamide MEA:* Irritating after prolonged contact

**Respiratory Irritation:**

*Sodium Lauryl Sulfate:* 15% - 25% - Inhibition of Respiration (Mice and Rabbits)
*Sodium Laureth Sulfate:* Causes Respiratory Irritation.
*Coco-Betaine:* Possibly Irritating
*Cocamidopropyl Betaine:* Not Irritating
*Sodium Lauroyl Sarcosinate:* Possibly Irritating
*Cocamide MEA:* Possibly Irritating

**Skin Sensitization:**

*Sodium Lauryl Sulfate:* Possibly sensitizing with repeated contact.
*Sodium Laureth Sulfate:* Not Sensitizing: 0.1% (Topical Application); Slightly Sensitizing: 0.1% (Intradermal) (Guinea Pig)
*Coco-Betaine:* Not Sensitizing: 0.75% (Guinea Pig); Slightly Sensitizing: 0.15% (Intradermal) (Guinea Pig)
*Cocamidopropyl Betaine:* Possibly sensitizing with repeated contact.
*Disodium Cocoamphodipropionate:* Not Sensitizing (Human)
*Ammonium Lauryl Sulfate:* Not sensitizing: 25% (Repeat Insult Patch Test)
*Sodium Lauryl Sulfoacetate:* Not Sensitizing: 2% (Guinea pig)
*Sodium Lauroyl Sarcosinate* Not Sensitizing: 5%
*Sodium Cocoyl Isethionate:* Not Sensitizing: (Guinea pig) OECD 406
*Disodium Cocoamphodiacetate:* Not Sensitizing: 28.1%

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**CHRONIC HEALTH HAZARDS**:

**REPEAT DOSE TOXICITY:**

| | |
|---|---|
| NOAEL (*Sodium Lauryl Sulfate*, oral): | 100 mg/kg/day; Rat |
| NOAEL (*Sodium Laureth Sulfate*, oral): | >225 mg/kg bw/day; Rat |
| NOAEL (*Cocamidopropyl Betaine*): | 500 mg/kg; Rat |
| LOAEL (*Cocamidopropyl Betaine*): | 1,000 mg/kg; Rat |
| NOAEL (*Disodium Cocoamphodipropionate, oral*): | 1,000 mg/kg bw/day; Rat (OECD 422) |
| NOAEL (*Disodium Laureth Sulfosuccinate*): | 300 mg/kg; Rat |
| NOAEL (*Sodium Lauryl Sulfoacetate, oral*): | 75 mg/kg/day; Rat |
| NOAEL (*Sodium Lauroyl Sarcosinate*): | 1,000 mg/kg/day; Rat |
| NOAEL (*Disodium Cocoamphodiacetate, oral*): | 16.60g/kg; Rat |
| NOAEL (*Sodium Cocoyl Isethionate, oral):* | ≥ 1,000 mg/kg bw/day; Rat (OECD 407) |
| NOAEL (*Sodium Cocoyl Isethionate, dermal):* | ≥ 2,070 mg/kg bw/day; Rat (OECD 410) |
| NOAEL (*Cocamide MEA, oral*): | > 750 mg/kg bw/day in olive oil; Rat |

**MUTAGENICITY:**

| | |
|---|---|
| *Sodium Lauryl Sulfate:* | A variety of *in vitro* and i*n vivo* tests have products negative results. |
| *Sodium Laureth Sulfate:* | A variety of *in vitro* and i*n vivo* tests have products negative results. |
| *Coco-Betaine:* | A variety of *in vitro* tests have produced negative results. |
| *Cocamidopropyl Betaine:* | A variety of *in vitro* tests have produced negative results. |
| *Disodium Cocoamphodipropionate:* | A variety of *in vitro* tests have produced negative results. |
| *Disodium Laureth Sulfosuccinate:* | A variety of *in vitro* and *in vivo* tests have products negative results. |
| *Sodium Lauryl Sulfoacetate*: | A variety of *in vitro* tests have produced negative results. |
| *Sodium Lauroyl Sarcosinate:* | A variety of *in vitro* and i*n vivo* tests have products negative results. |
| *Disodium Cocoamphodiacetate:* | A variety of *in vitro* tests have produced negative results. |
| *Sodium Cocoyl Isethionate:* | A variety of *in vitro* tests have produced negative results. |
| *Cocamide MEA:* | A variety of *in vitro* tests have produced negative results. |

**REPRODUCTIVE TOXICITY**

| | |
|---|---|
| *Sodium Lauryl Sulfate:* | No adverse effect was seen on fertility. |
| *Sodium Laureth Sulfate:* | NOAEL > 3%; 300 mg/kg/day. No adverse effects after 0.1% solutions. |
| *Coco-Betaine:* | No adverse effect was seen on fertility. |
| *Cocamidopropyl Betaine:* | No adverse effect was seen on fertility. |
| *Disodium Cocoamphodipropionate:* | NOAEL: 1,000 mg/kg (Rat) (OECD 422) |
| *Disodium Laureth Sulfosuccinate:* | No adverse effect was seen on fertility. |
| *Sodium Lauryl Sulfoacetate:* | NOAEL: 1000 mg/kg bw (OECD 421) |
| *Sodium Lauroyl Sarcosinate:* | No adverse effect was seen on fertility. |
| *Cocamide MEA*: | No adverse effect was seen on fertility. |

**DEVELOPMENTAL TOXICITY/TERATOGENICITY**

| | |
|---|---|
| *Sodium Lauryl Sulfate*: | NOAEL: 300 mg/kg/day; LOAEL: 600 mg/kg/day (Mice/Rat) |
| *Sodium Laureth Sulfate:* | NOEAL: 1,000 mg/kg bw/day (OECD 414 – Rat) |
| *Coco-Betaine:* | No indication for genotoxic or teratogenic effects |
| *Disodium Cocoamphodipropionate:* | No teratogenic effects (Rat) (OECD 422) |
| *Disodium Laureth Sulfosuccinate:* | NOAEL: > 50 mg/kg bw/day |
| *Sodium Lauryl Sulfoacetate:* | NOAEL*:* 1000 mg/kg bw (OECD 421) |
| *Sodium Lauroyl Sarcosinate:* | NOEAL: > 1,000 mg/kg/day (Rat) |
| *Disodium Laureth Sulfosuccinate:* | NOAEL: > 50 mg/kg bw/day |
| *Cocamide MEA:* | No indication for genotoxic or teratogenic effects |

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## SECTION 12: ECOLOGICAL INFORMATION

The product ingredients are expected to be safe for the environment at concentrations predicted under normal use and accidental spill scenarios. Packaging components are compatible with the conventional solid waste management practices. Additional information is available from the supplier on request.

Contact with the environment should be avoided. Spills and leaks should be immediately cleaned up and removed. All precautions should be taken to prevent contact with the environment. Published information regarding ingredients listed on this document area found below; where data is not listed, documentation was unavailable.

**ACUTE AND PROLONGED TOXICITY TO FISH**

| *INGREDIENT NAME* | *TEST* | *RESULT* | *SPECIES* | *EXPOSURE* |
|---|---|---|---|---|
| Sodium Laureth Sulfate | $LC_{50}$ | 7.1 mg/L | Danio Rerio | 96 h |
| Sodium Laureth Sulfate | $LC_{50}$ | 7.1 mg/L | Danio Rerio | 96 h |
| Coco-Betaine | $LC_{50}$ | 2 mg/L | Golden Orfe | 96 h |
| Cocamidopropyl Betaine | $LC_{50}$ | 1.0-10.0 mg/L | Golden Orfe | 96 h |
| Ammonium Lauryl Sulfate | $LC_{50}$ | 1.5 mg/L | Fathead Minnow | 48 h |
| Sodium Lauryl Sulfoacetate | $LC_{50}$ | 4.2 mg/L (OECD 203) | Not Reported | 96 h |
| Sodium Lauroyl Sarcosinate | $LC_{50}$ | 107 mg/L | Danio Rerio | 96 h |
| Disodium Cocoamphodiacetate | $LC_{50}$ | > 1 – 10 mg/L | Not Reported | 96 h |
| Sodium Cocoyl Isethionate | $LC_{50}$ | 31.6 mg/L (OECD 203) | Danio Rerio | 96 h |
| Cocamide MEA | $LC_{50}$ | 23 - >100 mg/L | Danio Rerio | 96 h |

**ACUTE TOXICITY TO AQUATIC INVERTEBRATES**

| *INGREDIENT NAME* | *TEST* | *RESULT* | *SPECIES* | *EXPOSURE* |
|---|---|---|---|---|
| Sodium Lauryl Sulfate | $EC_{50}$ | 5.55 mg/L | Ceriodaphnia Dubia | 48 h |
| Sodium Laureth Sulfate | $EC_{50}$ | 7.4 mg/L | Daphnia Magna | 48 h |
| Coco-Betaine | $EC_{50}$ | 6.5mg/L | Brachydanio Rerio | 48 h |
| Cocamidopropyl Betaine | $EC_{50}$ | 2 mg/L | Brachydanio Rerio | 96 h |
| Ammonium Lauryl Sulfate | $EC_{50}$ | 5-37 mg/L | Daphnia Magna | 24 h |
| Sodium Lauryl Sulfoacetate | $EC_{50}$ | 5.9 mg/L (OECD 201) | Daphnia Magna | 48 h |
| Sodium Lauroyl Sarcosinate | $EC_{50}$ | 29.7 mg/L | Daphnia Magna | 48 h |
| Disodium Cocoamphodiacetate | $EC_{50}$ | 25 mg/L | Daphnia Magna | 48 h |
| Sodium Cocoyl Isethionate | $EC_{50}$ | > 32 mg/L (OECD 202) | Daphnia Magna | 48 h |

**TOXICITY TO AQUATIC PLANTS**

| *INGREDIENT NAME* | *TEST* | *RESULT* | *SPECIES* | *EXPOSURE* |
|---|---|---|---|---|
| Sodium Lauryl Sulfate | $EC_{50}$ | > 120mg/L | Green Algae | 72 h |
| Sodium Laureth Sulfate | $EC_{50}$ | 27 mg/L | Desmodesmus Subspicatus | 72 h |
| Coco-Betaine | $EC_{50}$ | 6mg/L | Not Reported | 72h |
| Cocamidopropyl Betaine | $EC_{50}$ | 1.0 – 10 mg/L | Desmodesmus Subspicatus | 72 h |
| Sodium Lauryl Sulfoacetate | $EC_{50}$ | 1.9 mg/L | EC Biomass | 96 h |
| Sodium Lauroyl Sarcosinate | $EC_{50}$ | 86 mg/L | Desmodesmus Subspicatus | 72 h |
| Disodium Cocoamphodiacetate | $EC_{50}$ | >100 mg/L | Not Reported | 72 h |
| Sodium Cocoyl Isethionate | $EC_{10}$ | 0.3 mg/L (OECD 201) | Pseudokirchneriella subcapitata | 72 h |
| Cocamide MEA | $EC_{50}$ | 26 mg/L | Not Reported | 96 h |

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**TOXICITY TO MICROORGANISMS**

| *INGREDIENT NAME* | *TEST* | *RESULT* | *SPECIES* | *EXPOSURE* |
|---|---|---|---|---|
| Sodium Lauryl Sulfate | $EC_{50}$ | 0.38 mg/l | Photobacterium Phoshoreum | 15 mins |
| Sodium Laureth Sulfate | $EC_{50}$ | >10g/L | Pseudomonas Putida | 16 h |
| Coco-Betaine | $EC_{50}$ | >85 m/L | Not Reported | 72 h |
| Cocamidopropyl Betaine | $EC_{50}$ | >100 mg/L | Pseudomonas Putida | 72 h |
| Disodium Cocoamphodipropionate | $EC_{50}$ | 1,000 mg/L (OECD 209) | Activated Sludge | 3 h |
| Sodium Lauroyl Sarcosinate | $EC_{50}$ | > 10mg/L (CESIO 1994) | Not Reported | 72 h |
| Disodium Cocoamphodiacetate | $EC_{50}$ | >100 mg/L | Not Reported | 72 h |
| Sodium Cocoyl Isethionate | $EC_{50}$ | >1,000 mg/L(OECD 209) | Activated Sludge | 3 h |

**PERSISTENCY AND DEGRADABILITY:**

*Sodium Lauryl Sulfate:* Readily biodegradable (95% in 28 days) – OECD 301
*Sodium Laureth Sulfate:* Readily biodegradable; Half Life: 30 days (soil)
*Coco-Betaine:* Readily biodegradable (84%)
*Cocamidopropyl Betaine:* Readily and rapidly degradable. (> 60% BOD/COD, > 70% DOC) (OECD 301)
*Disodium Cocoamphodipropionate:* Not readily biodegradable
*Ammonium Lauryl Sulfate* Readily biodegradable (100% in 28 to 55 days)
*Sodium Lauroyl Sarcosinate:* Readily biodegradable (90.9%/ in 20 days).
*Disodium Cocoamphodiacetate:* Readily biodegradable (83% in 28 days) – OECD 302 B
*Sodium Cocoyl Isethionate:* Readily biodegradable (78% in 28 days) – OECD 301 D
*Cocamide MEA*: Fully degradable (28-day)

**BIOACCUMULATIVE POTENTIAL:**

*Sodium Laureth Sulfate:* Not considered to be bioaccumulative.
*Sodium Lauryl Sulfate:* Low bioaccumulation potential.
*Coco-Betaine:* Not suspected to be bioaccumulative.
*Sodium Lauroyl Sarcosinate:* Bioaccumulation and bioconcentration is expected because of the relatively high water solubility.
*Sodium Cocoyl Isethionate:* Not expected to bioaccumulate (log Pow: -0.41)
*Cocamide MEA*: Potentially bioaccumulative (log P >4)

## SECTION 13: DISPOSAL CONSIDERATIONS

**Those responsible for the performance of disposal, recycling or reclamation activities should refer to Section 8 of this document for advice on personal protective equipment and exposure controls.**

**WASTE DISPOSAL CONTAINERS:** Containers should be completely closed and meet applicable carrier transport requirements. No governmental agency specification packaging is required for this product. Fiberboard boxes for packaged products and metal/poly drums for liquid material may be used. Packaging materials should not include incompatible materials.

**WASTE DISPOSAL METHOD:** As manufactured, this product does not exhibit any RCRA characteristics of hazardous waste. Controlled incineration at a licensed waste facility is the recommended technology for treatment and disposal. Material must not be disposed of through sewage.

**RCRA HAZARD CLASS:** Not regulated.

Follow all local governmental requirements intended for disposal.

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## SECTION 14: TRANSPORT INFORMATION

**North American Ground Transportation**

- **IN CONSUMER PACKAGING:** Not regulated
- **OTHER THAN CONSUMER PACKAGING:** Not regulated

**Transport Via Water**

- **IN CONSUMER PACKAGING:** Not regulated
- **OTHER THAN CONSUMER PACKAGING:** Not regulated

**Transport Via Air**

- **IN CONSUMER PACKAGING:** Not regulated
- **OTHER THAN CONSUMER PACKAGING:** Not regulated

## SECTION 15: REGULATORY INFORMATION

**National Fire Protection Association Codes:** Health: 2 Fire: 0 Reactivity: 0 Other: None

**Workplace Hazardous Materials Identification System (WHIMS):** Division 2, Subdivision B; Eye Irritation

This regulatory information represents the product in its consumer packaging.

## SECTION 16: OTHER INFORMATION

**PREPARATION INFORMATION:** This document replaces the version dated June 21, 2013 and all previous versions of material safety data sheets related to this product.

Preparer: Ronald Weslosky/Chandra L. Jennings

L'ORÉAL USA

# SAFETY DATA SHEET

**SDS # 21-91-003-0**

**ISSUANCE DATE: November 9, 2015**

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

L'Oreal USA Products, Inc.
111 Terminal Avenue
Clark, NJ 07066

L'Oreal Canada
4895 rue Hickmore
Ville St-Laurent, H4Y 1K5
Canada

**Emergency Telephone Number:**
1-800-535-5053 (International: 352-323-3500)
In Canada – 1-613-996-6666 (Canutec) (*666 cellular)

**For further information**:
1-732-499-2741

**Poison Control Number:** 412-390-3326

**Product Name: Matrix Total Results Complete Curl Foam Mousse**
**NFPA Level 1 Aerosols**

**Recommendations on use:** Personal care aerosol-packaged product used on hair for styling purposes.

**Restrictions on use:** Avoid fire, flame, heat and other sources of ignition. For external use only. Use only as directed.

**This document is written for the packaged product (aerosol can containing propellants) with references to the dispensed or unpackaged product (liquid) to identify hazards as necessary.**

## SECTION 2: HAZARDS IDENTIFICATION

### Signal Word: DANGER

| Symbol | Classification | Hazard Statement | Prevention Statements |
|---|---|---|---|
|  | Flammable Aerosols Category 1 | Extremely flammable aerosol | • Keep away from heat/sparks/open flames/hot surfaces. No smoking.<br>• Do not spray on an open flame or other ignition source.<br>• Pressurized container: Do not pierce or burn, even after use. |
|  | Gases Under Pressure Liquefied Gas | Contains gas under pressure; may explode if heated | • No Prevention Statements |

This material is considered hazardous by the U.S. Occupational Safety and Health Administration Hazard Communication Standard (29 CFR 1910.1200)

General Precautionary Statements: Keep out of reach of children. Read label before use. Direct eye contact may cause watering, stinging or itching eyes.

Hazards Not Otherwise Classified: None

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Only hazardous constituents associated with the product are listed below**

| INGREDIENT: | CAS NO. | % WT |
|---|---|---|
| Isobutane | 75-28-5 | ≤ 6.0% |

## SECTION 4: FIRST AID MEASURES

### Response Statements:

**IF IN EYES:** If eye irritation occurs: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing until material is sufficiently removed from the eye. **If eye irritation persists:** Get medical advice/attention.

**IF ON SKIN**: If skin irritation occurs: Wash with plenty of water. **If skin irritation persists:** Get medical attention. Take off contaminated clothing and wash it before reuse.

**IF INHALED:** Remove victim to fresh air and keep comfortable for breathing. Call a Poison Control Center if you feel unwell.

**IF SWALLOWED:** Do not induce vomiting. Never give anything by mouth to an unconscious individual. Consult a physician or Poison Control Center immediately.

**SYMPTOMS/EFFECTS**: Direct eye contact may cause watering, stinging or itching eyes.

**NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:** Consult product labeling. No special advice.

## SECTION 5: FIRE-FIGHTING MEASURES

**Notes for Non-Emergency Personnel:**

**EXTINGUISHING MEDIA:** In case of fire: Use carbon dioxide, dry chemical and/or foam to extinguish. Water spray may be used to soak other materials surrounding the product, to prevent the spread of the fire. Selection of a fire extinguisher should also be appropriate to address the location of the fire and equipment involved. Please review the tools available at your location to ensure proper availability of equipment.

**Notes for those trained to participate in an emergency:**

**SPECIAL FIRE FIGHTING PROCEDURES:** Treat as an NFPA Level 1 Aerosol. Contents are under pressure. Follow National Fire Protection Association Guidelines or local guidelines appropriate for emergency response.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** The final product is offered under pressure. Observe all appropriate precautions for handling aerosol containers. The propellants are flammable liquefied gases. The dispensed liquid product is not flammable.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxides of carbon, hydrocarbons, and/or derivatives.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Notes for non-emergency personnel:**

Consult trained response personnel for clean-up of large spills or locations where providing preliminary control of the chemical release is hazardous. Hazardous locations include areas where ignition sources cannot be controlled. Isolate the area and deny entry to unnecessary and unprotected personnel. Sections 2, 5, 7 and 8 of this document should be consulted upon use of material, to become knowledgeable of the material's hazards and how to control risks associated with handling aerosols and flammable liquids.

If the location is not hazardous and only a small amount of material is released, control the spill using absorbent pads while wearing the protective equipment as noted below. Clean the area with detergent and water. Prohibit discharge to drains, soil, surface and ground waters. Dispose in accordance with Section 13 of this document.

**PERSONAL PROTECTIVE EQUIPMENT:** Nitrile or vinyl gloves, safety glasses/goggles, protective clothing (e.g. apron) may be required for clean-up of large spills. Respiratory protection is typically not necessary, but may be used depending upon the size of the spill and occupational exposure limits. Respiratory protection may include the use of organic vapor cartridges. Refer to Section 8 for additional information.

**Notes for those trained to participate in an emergency:**

**ACCIDENTAL RELEASE MEASURES:** Since this product is a sealed aerosol, accidental discharge of contents is unlikely unless the can is punctured. Should can puncture occur, eliminate all sources of ignition, then dike and contain the free liquid and absorb on vermiculite or spill pillows/pads. Place spent absorbents in UN specification containers for disposal. All precautions associated with controlling a flammable liquid should be employed during clean-up. Prohibit discharge to drains, soil, surface and ground waters.

Recommendations for personal protective equipment selection are noted above. Non-sparking tools should be utilized in all clean-up associated with flammable liquids. Dispose in accordance with section 13 of this document.

## SECTION 7: HANDLING AND STORAGE

**PRECAUTIONS FOR SAFE HANDLING:**
Aerosols should be handled in a manner that minimizes the risk of puncture – caps should be replaced after use. Containers should be held in an upright position during use. Do not eat, drink or smoke while working with hazardous materials. Employees should be advised to wear appropriate protective equipment in the manufacturing environment. See section 8 of this document for protective equipment selection. Do not expose to heat or flame. All manufacturing should be performed indoors, in an enclosed environment free from uncontrolled ignition sources. Employees should be advised not to handle flammable products in close proximity to incompatible materials. Use only non-sparking tools when handling non-packaged product. Use explosion-proof electrical/ventilating/lighting equipment. Take precautionary measures against static discharge.

Maintain a clean work environment which includes use of properly functioning containers, proper housekeeping practices.

**CONDITIONS FOR SAFE STORAGE:**

**Storage precautions for unpackaged product (manufacturing environment):** Store in a well-ventilated place and keep cool. Keep containers closed when not in use. Minimize inventory. Use only non-sparking tools. Use explosion-proof electrical/ventilating/lighting equipment. Take precautionary measures against static discharge. Appropriate fire suppression and detection equipment should be utilized. Store on spill pallets or other locations where spill containment will be easily accessible.

**Storage precautions for aerosol packaged product:** Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. Store in a well-ventilated place. Use of a contained storage area with easy access is recommended for aerosol containers. Fire suppression and detection equipment compliant with NFPA 30B should be utilized. All aerosols should be stored in an upright position. Refer to consumer packaging for additional storage conditions.

Keep away from open drains and access to the environment.

**Incompatible materials**: Oxidizers, acids, bases. Store away from incompatible materials.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**CONTROL PARAMETERS:** These criteria have been published by the referenced authority to establish exposure limits in the work environment. Employee work areas should be monitored to ensure that permissible limits are not exceeded during the work day. These references do not coincide with product use. These references are meant to be in association with the manufacturing environment.

**OCCUPATIONAL EXPOSURE VALUES:**

| Component Name (CAS-No.) | Reference | TWA | | STEL/CEILING | |
|---|---|---|---|---|---|
| | | Ppm | $mg/m^3$ | ppm | $mg/m^3$ |
| Isobutane (106-97-8) | OSHA PEL | -- | -- | -- | -- |
| | ACGIH TLV | -- | -- | 1,000 | 2,370 |
| | NIOSH REL | -- | -- | -- | -- |

No occupational exposure values have been published for other constituents noted in Section 3.

**WORK HYGIENIC PRACTICES:** Ensure all work surfaces are maintained, to prevent contamination.

**ENGINEERING CONTROLS:** None required for product use. For handling large quantities of material, such as in the manufacturing of product, ventilation should be utilized. This ventilation should be compatible with the control of flammable materials. Exhaust ventilation should be utilized to maintain air concentrations of material below the occupational exposure guidelines noted above. Testing of aerosol cans should only be performed when appropriate equipment is available.

Local exhaust ventilation is not typically required for product use. For handling large quantities of material, such as in the manufacturing of product **--** Local Exhaust: Explosion proof. Mechanical (general): Explosion proof.

**PERSONAL PROTECTIVE EQUIPMENT:** Consistent with good hygiene practices, personal protective equipment (PPE) should be used in conjunction with other control measures including engineering controls, ventilation and isolation. See also Section 5 of this document for PPE advice, in the event of an emergency.

**Eye/Face Protection (Non-Emergency):** None required for product use. For handling of large quantities of liquid material, safety glasses with side shields/goggles are recommended. For testing of pressurized cans, face shields or other equipment that protects the eyes/face should be considered for use.

**Skin Protection (Non-Emergency):** None required for product use. For handling large quantities of material, such as in product manufacturing, nitrile or vinyl gloves should be considered for use. Tyvek clothing may also be suitable for handling large quantities of material in the manufacturing environment.

**Respiratory Protection (Non-Emergency):** Respiratory protection is not required for product use. For manufacturing of product, respiratory protection may be considered. Ensure that the respirator meets current local occupational health and safety standards. Organic vapor cartridges should be utilized with filtering respiratory protection.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **APPEARANCE**: | Aerosol can dispensing foam |
| **ODOR:** | Characteristic |
| **ODOR THRESHOLD:** | Not Available |
| **pH:** | Not Available |
| **MELTING/FREEZING POINT:** | **F:** Not Available **C:** Not Available |
| **BOILING POINT:** | **F:** Not Available **C:** Not Available |
| **FLASH POINT:** | **F:** < 0 (Propellant); >200 (Contained Bulk) **METHOD USED:** Closed cup |
| **EVAPORATION RATE:** | Not Available **(Butyl acetate = 1)** |
| **FLAMMABILITY:** | Propellant: Flammable |
| **FLAMMABLE LIMITS IN AIR:** | Isobutane – Upper: 8.4%; Lower: 1.6%<br>Propane – Upper: 9.5%; Lower: 2.1% |
| **VAPOR PRESSURE (mmHg):** | @ 70F: 2500 – 5500 @ 21 C: 2500 – 5500 |
| **VAPOR DENSITY (AIR = 1):** | @ 70F: >1 @ 21 C: >1 |
| **RELATIVE DENSITY (H2O = 1):** | Not Available |
| **SOLUBILITY IN WATER:** | Not Available |
| **PARTITION COEFFICIENT:** | Not Available |
| **AUTOIGNITION TEMPERATURE:** | Not Available |
| **DECOMPOSITION TEMPERATURE:** | Not Available |
| **VISCOSITY:** | Not Available |

## SECTION 10: STABILITY AND REACTIVITY

**REACTIVITY:** Material is not considered reactive under typical handling and storage conditions.

**STABILITY:** Product is stable.

**POSSIBILITY OF HAZARDOUS REACTIONS:** None known. Hazardous polymerization is not expected to occur.

**CONDITIONS TO AVOID:** Direct sunlight, temperatures exceeding 50°C/122°F, fire, flame and other sources of heat.

**INCOMPATIBILITY (MATERIAL TO AVOID):** Oxidizers, acids, bases.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxides of carbon, hydrocarbons, and/or derivatives.

## SECTION 11: TOXICOLOGICAL INFORMATION

**Where information is not listed specifically for constituents, published information was not available.**

**POTENTIAL HEALTH EFFECTS**

**ACUTE HEALTH EFFECTS:**
**SKIN CORROSION/IRRITATION**: None expected
**SERIOUS EYE DAMAGE/IRRITATION**: Direct eye contact may cause watering, stinging or itching eyes
**RESPIRATORY/SKIN SENSITIZATION**: None expected
**INGESTION**: Harmful if swallowed
**INHALATION**: Deliberately concentrating and inhaling the contents can be harmful or fatal.

**ROUTES OF EXPOSURE**: Inhalation, eyes, skin

**SYMPTOMS**: Direct eye contact may cause watering, stinging or itching eyes

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE**: None known.

**ACUTE TOXICOLOGY DATA FOR COMPONENTS**

| Material | Route | Species | Test Results |
|---|---|---|---|
| Isobutane | $LC_{50}$ (2 hr) | Mouse | 1,237 mg/L |

**Skin Corrosion/Irritation:**
*Isobutane:* Liquefied Gas can Cause Frostbite

**Serious Eye Damage/Irritation:**
*Isobutane:* Liquefied Gas can Cause Frostbite

**Respiratory Irritation:**
No Data

**Skin Sensitization:**
No Data

**CHRONIC HEALTH HAZARDS:**

**REPEAT DOSE TOXICITY:**
NOAEC (Isobutane, inh.): 21,394 mg/$m^3$ air (Rat)

**CARCINOGENICITY:**

| Component Name (CAS-No.) | OSHA | ACGIH | NTP | IARC |
|---|---|---|---|---|
| None established | -- | -- | -- | -- |

**MUTAGENICITY:**
*Isobutane:* A variety of *in vitro* tests have produced negative results.

**REPRODUCTIVE TOXICITY:**
*Isobutane:* NOAEC: 7,131 mg/$m^3$ air (OECD 422) – No reproductive effects

**DEVELOPMENTAL TOXICITY/TERATOGENICITY:**
*Isobutane:* NOAEC: 7,131 mg/$m^3$ air (OECD 422) – No developmental effects

## SECTION 12: ECOLOGICAL INFORMATION

Contact with the environment should be avoided. Spills and leaks should be immediately cleaned up and removed. All precautions should be taken to prevent contact with the environment. Published information regarding ingredients listed on this document area found below; where data is not listed, documentation was unavailable.

**ACUTE AND PROLONGED TOXICITY TO FISH**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Isobutane | $LC_{50}$ (QSAR Calculation) | 27.98 mg/L | Not Specified | 96 h |

**ACUTE TOXICITY TO AQUATIC INVERTEBRATES**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Isobutane | $EC_{50}$ (QSAR Calculation) | 16.33 mg/L | Daphnid | 48 h |

**TOXICITY TO AQUATIC PLANTS**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Isobutane | $EC_{50}$ (QSAR Calculation) | 8.57 mg/L | Green Algae | 96 h |

**TOXICITY TO MICROORGANISMS**
No Data

**PERSISTENCY AND DEGRADABILITY:**
*Isobutane:* Readily Biodegradable – 50.0% (3.1d) (Calculated)

**BIOACCUMULATIVE POTENTIAL:**
*Isobutane:* Not likely to bioaccumulate (1.97)

## SECTION 13: DISPOSAL CONSIDERATIONS

**Those responsible for the performance of disposal, recycling or reclamation activities should refer to Section 8 of this document for advice on personal protective equipment and exposure controls.**

**WASTE DISPOSAL CONTAINERS:** Cans should have caps in place during waste consolidation or dispenser buttons/actuators removed. Appropriate U.S. DOT containers should be utilized which may include fiberboard boxes for products and metal or plastic drums for liquids. These containers should meet the packaging specifications required for DOT compliance.

**WASTE DISPOSAL METHOD:** This product is ignitable (D001) RCRA hazardous wastes when intended for disposal. State specific guidance regarding aerosols should also be consulted. Controlled incineration at a licensed waste facility is the recommended technology for treatment and disposal. This material must not be disposed through sewage.

**RCRA HAZARD CLASS:** D001

Follow all local governmental requirements intended for disposal.

## SECTION 14: TRANSPORT INFORMATION

**North American Ground Transportation**

- **IN CONSUMER PACKAGING:** Limited Quantity/Consumer Commodity
  **UN ID Number:** UN 1950
  **Proper Shipping Name:** Aerosols
  **Hazard Class:** 2.1
  **Packing Group:** N/A
  **Label Statements:** Exempt – Limited Quantity Marking Only

- **LIQUID WITHOUT PROPELLANT:** Non-hazardous/Not Regulated

**Transport Via Water**

- **IN CONSUMER PACKAGING:** Limited Quantity
  **UN ID Number:** UN 1950
  **Proper Shipping Name:** Aerosols
  **Hazard Class:** 2.1
  **Packing Group:** N/A
  **Label Statements:** Exempt – Limited Quantity Marking Only

- **LIQUID WITHOUT PROPELLANT:** Non-hazardous/Not Regulated

**Transport Via Air (Domestic/International)**

- **IN CONSUMER PACKAGING:** Limited Quantity – ID 8000, Consumer Commodity
  **UN ID Number:** ID 8000
  **Proper Shipping Name:** Consumer Commodity
  **Hazard Class:** 9
  **Packing Group:** N/A
  **Label Statements:** Miscellaneous – Dangerous Goods & Limited Quantity Marking

- **LIQUID WITHOUT PROPELLANT:** Non-hazardous/Not Regulated

**Please be aware of carrier transport variations before shipping hazardous materials.**

## SECTION 15: REGULATORY INFORMATION

**National Fire Protection Association Codes:** Health: 1 Fire: 4 Reactivity: 0 Other: None

**Workplace Hazardous Materials Identification System:** Class B Division 5 Flammable Aerosol
7
This regulatory information represents the product, in its consumer packaging.

## SECTION 16: OTHER INFORMATION

**PREPARATION INFORMATION:** This is the first issuance of this document.

Author: Ronald Weslosky (Corporate Regulatory Services)

L'ORÉAL USA

# SAFETY DATA SHEET

**SDS #15-229**

**ISSUANCE DATE: May 29, 2015**

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

L'Oreal USA Products, Inc.
111 Terminal Avenue
Clark, NJ 07066

L'Oreal Canada
4895 rue Hickmore
Ville St-Laurent, H4Y 1K5
Canada

**Emergency Telephone Number**
1-800-535-5053 US (International: 352-323-3500)
In Canada – 1-613-996-6666 (Canutec) (*666 cellular)

**For further information**:
1-732-499-2741

**Poison Control Number:** 412-390-3326

**Product Name: Redken Cerafill Retaliate Hair Regrowth Treatment for Women**

**Recommendations on use**: Personal care product to be applied to the scalp for hair regrowth treatment.

**Restrictions on use**: Avoid fire, flame, heat and other sources of ignition. For external use only. Use only as directed.

## SECTION 2: HAZARDS IDENTIFICATION

**Signal word: WARNING**

| Symbol | Classification | Hazard Statement | Prevention Statements |
|---|---|---|---|
|  | Flammable Liquids Category 3 | Flammable liquid and vapor | • Keep away from heat, sparks, open flames and hot surfaces. No smoking.<br>• Keep container tightly closed.<br>• Ground/bond container and receiving equipment.<br>• Use explosion-proof electrical, ventilating, lighting, manufacturing and packaging equipment.<br>• Use only non-sparking tools.<br>• Take precautionary measures against static discharge.<br>• Wear nitrile or vinyl gloves |
|  | Eye Irritation Category 2A | Causes serious eye irritation | • Wash hands and all skin surfaces contacted thoroughly after handling.<br>• Wear eye protection appropriate for the manufacturing operation being performed (goggles or face shield). |

This material is considered hazardous by the US Occupational Safety and Health Administration Hazard Communication Standard (29 CFR 1910.1200)

General Precautionary Statements: Keep out of reach of children. Read label/insert before use. Possible skin dryness/irritation if over-exposed.

Hazards Not Otherwise Classified: None.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Only hazardous constituents associated with the product are listed below**

| INGREDIENT: | CAS NO. | % WT |
|---|---|---|
| Ethyl Alcohol | 64-17-5 | ≤ 55.0% |
| Minoxidil | 38304-91-5 | ≤ 2.0% |

## SECTION 4: FIRST AID MEASURES

### Response Statements:

**IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing until material is sufficiently removed from the eye. **If eye irritation persists:** Get medical advice/attention.

**IF ON SKIN:** Take off immediately all contaminated clothing. Rinse skin with water/shower. **If skin irritation persists:** Get medical attention.

**IF INHALED:** Remove victim to fresh air and keep comfortable for breathing. Call a Poison Control Center if you feel unwell.

**IF SWALLOWED:** Do not induce vomiting. Never give anything by mouth to an unconscious individual. Consult a physician or Poison Control Center immediately.

**SYMPTOMS/EFFECTS**: Causes serious eye irritation. Possible skin dryness/irritation if over-exposed.

**NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:** Consult product labeling. No special advice.

## SECTION 5: FIRE-FIGHTING MEASURES

**Notes for Non-Emergency Personnel:**

**EXTINGUISHING MEDIA:** In case of fire: Use carbon dioxide, dry chemical and/or foam for extinction. Water spray may be used to soak other materials surrounding the product, to prevent the spread of the fire. Selection of a fire extinguisher should also be appropriate to address the location of the fire and equipment involved. Please review the tools available at your location to ensure proper availability of equipment.

**Notes for those trained to participate in an emergency:**

**SPECIAL FIRE FIGHTING PROCEDURES:** Treat as flammable liquid. Follow National Fire Protection Association Guidelines or local guidelines appropriate for emergency response. Minimize all sources of static electricity.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Observe all appropriate precautions for handling flammable materials.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxides of carbon, nitrogen, hydrocarbons, and/or derivatives.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Notes for non-emergency personnel:**
Consult trained response personnel for clean-up of large spills or locations where providing preliminary control of the chemical release is hazardous. Hazardous locations include areas where ignition sources cannot be controlled. Isolate the area and deny entry to unnecessary and unprotected personnel. Sections 2, 5, 7 and 8 of this document should be consulted upon use of material, to become knowledgeable of the material's hazards and how to control risks associated with handling flammable liquids.

If the location is not hazardous and only a small amount of material is released, control the spill using absorbent pads while wearing the protective equipment as noted below. Clean the area with detergent and water. Prohibit discharge to drains, soil, surface and ground waters. Dispose in accordance with Section 13 of this document.

**PERSONAL PROTECTIVE EQUIPMENT:** Nitrile or vinyl gloves, safety glasses/goggles, protective clothing (e.g. apron) may be required for clean-up of large spills. Respiratory protection is typically not necessary, but may used depending upon the size of the spill and occupational exposure limits. Respiratory protection may include the use of organic vapor cartridges. Refer to Section 8 for additional information.

**Notes for those trained to participate in an emergency:**

**ACCIDENTAL RELEASE MEASURES:** Eliminate all sources of ignition. Dike and contain the free liquid and absorb on vermiculite or spill pillows/pads. Place spent absorbents in UN specification drums for disposal. All precautions associated with controlling a flammable liquid should be employed during clean-up. Wash area completely with water. Take care to avoid contact with wet surfaces or walkways that may become slick when residue is present. Prohibit discharge to drains, soil, surface and ground waters.

Recommendations for personal protective equipment selection are noted above. Non-sparking tools should be utilized in all clean-up associated with flammable liquids. Dispose in accordance with section 13 of this document.

## SECTION 7: HANDLING AND STORAGE

**PRECAUTIONS FOR SAFE HANDLING:**
Do not eat, drink or smoke while working with hazardous materials. Employees should be advised to wear appropriate protective equipment in the manufacturing environment. See section 8 of this document for protective equipment selection. Do not expose to heat or flame. All manufacturing should be performed indoors, in an enclosed environment free from uncontrolled ignition sources. Employees should be advised not to handle flammable products in close proximity to incompatible materials. Use only non-sparking tools. Use explosion-proof electrical/ventilating/lighting equipment. Take precautionary measures against static discharge.

Maintain a clean work environment which includes use of properly functioning containers, proper housekeeping practices.

**CONDITIONS FOR SAFE STORAGE:**

**Storage precautions for unpackaged product (manufacturing environment):** Store in a well-ventilated place and keep cool. Keep containers closed when not in use. Minimize inventory. Use only non-sparking tools. Use explosion-proof electrical/ventilating/lighting equipment. Take precautionary measures against static discharge. Appropriate fire suppression and detection equipment should be utilized. Store on spill pallets or other locations where spill containment will be easily accessible.

**Storage precautions for packaged product:** See consumer packaging. Store at controlled room temperature of 68-77°F (20-25°C).

Keep away from open drains and access to the environment.

**Incompatible materials**: Oxidizing agents. Store away from incompatible materials.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**CONTROL PARAMETERS** – These criteria have been published by the referenced authority to establish exposure limits in the work environment. Employee work areas should be monitored to ensure that permissible limits are not exceeded during the work day. These references do not coincide with product use. These references are meant to be in association with the manufacturing environment.

**OCCUPATIONAL EXPOSURE VALUES (where available from the listed agencies):**

| Component Name (CAS-No.) | Reference | TWA | | STEL/CEILING | |
|---|---|---|---|---|---|
| | | ppm | mg/m$^3$ | ppm | mg/m$^3$ |
| Ethyl Alcohol (64-17-5) | OSHA PEL | 1,000 | 1,900 | -- | -- |
| | ACGIH TLV | -- | -- | 1,000 | 1,880 |
| | NIOSH REL | 1,000 | 1,900 | -- | -- |

No occupational exposure values have been published for other constituents noted in Section 3.

**WORK HYGIENIC PRACTICES:** Ensure all work surfaces are maintained, to prevent contamination.

**ENGINEERING CONTROLS:** None required for product use. For handling large quantities of material, such as in the manufacturing of product, ventilation should be utilized. This ventilation should be compatible with the control of flammable materials. Exhaust ventilation should be utilized to maintain air concentrations of material below the occupational exposure guidelines noted above.

Local exhaust ventilation is not typically required for product use. For handling large quantities of material, such as in the manufacturing of product **--** Local Exhaust: Explosion proof. Mechanical (general): Explosion proof.

**PERSONAL PROTECTIVE EQUIPMENT:** Consistent with good hygiene practices, personal protective equipment (PPE) should be used in conjunction with other control measures including engineering controls, ventilation and isolation. See also Section 5 of this document for PPE advice, in the event of an emergency.

**Eye/Face Protection (Non-Emergency):** None required for product use. For handling of large quantities of liquid material, safety glasses with side shields/goggles are recommended.

**Skin Protection (Non-Emergency):** None required for product use. For handling large quantities of material, such as in product manufacturing, nitrile or vinyl gloves should be considered for use. Tyvek clothing may also be suitable for handling large quantities of material in the manufacturing environment.

**Respiratory Protection (Non-Emergency):** Respiratory protection is not required for product use. For manufacturing of product, respiratory protection may be considered. Ensure that the respirator meets current local occupational health and safety standards. Organic vapor cartridges should be utilized with filtering respiratory protection.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

**APPEARANCE**: Clear liquid

**ODOR:** Alcohol

**ODOR THRESHOLD**: Not Available

| | | |
|---|---|---|
| **pH:** | Not Available | |
| **MELTING/FREEZING POINT:** | **F:** Not Available | **C:** Not Available |
| **BOILING POINT:** | **F:** 173 (as ethanol) | **C:** 78.3 (as ethanol) |
| **FLASH POINT:** | **F**: 85 | **C:** 29.4 **METHOD USED:** Closed Cup |
| **EVAPORATION RATE:** | Not Available | |
| **FLAMMABILITY:** | Non Applicable to Liquids | |
| **FLAMMABLE LIMITS IN AIR:** | ETHYL ALCOHOL: 19% UEL; 3.3% LEL | |
| **VAPOR PRESSURE (mm Hg):** | Not Available | |
| **VAPOR DENSITY (AIR = 1):** | Not Available | |
| **RELATIVE DENSITY (H2O = 1):** | 0.97 – 0.99 | |
| **SOLUBILITY IN WATER:** | Not Available | |
| **PARTITIION COEFFICIENT:** | Not Available | |
| **AUTOIGNITION TEMPERATURE:** | Not Available | |
| **DECOMPOSITION TEMPERATURE:** | Not available | |
| **VISCOSITY:** | 5 – 10 cps | |

## SECTION 10: STABILITY AND REACTIVITY

**REACTIVITY:** Material is not considered reactive under typical handling and storage conditions.

**STABILITY:** Product is stable.

**POSSIBILITY OF HAZARDOUS REACTIONS:** None known. Hazardous polymerization is not expected to occur.

**CONDITIONS TO AVOID:** Heat, fire, flame and other sources of ignition.

**INCOMPATIBILITY (MATERIAL TO AVOID):** Oxidizing agents.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxides of carbon, nitrogen, hydrocarbons, and/or derivatives.

## SECTION 11: TOXICOLOGICAL INFORMATION

**POTENTIAL HEALTH EFFECTS**

**ACUTE HEALTH EFFECTS:**
**SKIN CORROSION/IRRITATION:** Possible skin dryness/irritation if over-exposed.

**SERIOUS EYE DAMAGE/IRRITATION:** Causes serious eye irritation.
**RESPIRATORY/SKIN SENSITIZATION:** None expected
**INGESTION:** Harmful if swallowed
**INHALATION:** None expected

**ROUTES OF EXPOSURE**: Inhalation, ingestion, eyes, skin

**SYMPTOMS**: Causes serious eye irritation. Possible skin dryness/irritation if over-exposed.

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE**: Allergies. Skin disorders.

**ACUTE TOXICOLOGY DATA FOR COMPONENTS**

Where information is not listed specifically for constituents, published information was not available.

| Material | Route | Species | Test Results |
|---|---|---|---|
| Ethyl Alcohol | Oral $LD_{50}$ | Rat | > 6,200 mg/kg bw |
| Ethyl Alcohol | Dermal $LD_{Lo}$ | Rabbit | > 20,000 mg/kg bw |
| Ethyl Alcohol | $LC_{50}$ (4 hr) | Rat | > 8,000 mg/L |
| Minoxidil | Oral $LD_{50}$ | Rat | 1,321 mg/kg bw |

**Skin Corrosion/Irritation:**
*Ethyl Alcohol:* Not Irritating (Rabbit, OECD 404)
*Minoxidil:* Not Irritating (Guinea Pig)

**Serious Eye Damage/Irritation:**
*Ethyl Alcohol:* 25% - Not Irritating / 50% - Mildly Irritating / 100% - Irritating (Rabbit, OECD 405)

**Respiratory Irritation:**
*Ethyl Alcohol:* 27,314 ppm (Mouse) Highly Irritating

**Skin Sensitization:**
*Ethyl Alcohol:* Not sensitizing (Guinea Pig)

**CHRONIC HEALTH HAZARDS:**

**REPEAT DOSE TOXICITY:**
NOAEL (Ethyl Alcohol, oral): >2% (2400 mg/kg); Rat
LOAEL (Ethyl Alcohol, oral): 3% (3600 mg/kg); Rat
LOAEL (Minoxidil, oral): 300 mg/kg/day (Rat, 30d)
LOAEL (Minoxidil, dermal): 80 mg/kg/day (Rat, 90d)

**CARCINOGENICITY:**

| Component Name (CAS-No.) | OSHA | ACGIH | NTP | IARC |
|---|---|---|---|---|
| Ethyl Alcohol (64-17-5) | -- | TLV-A3 | -- | -- |

Notes:
*ACGIH TLV-A3* – Confirmed Animal Carcinogen with Unknown Relevance to Humans

**MUTAGENICITY:**
*Ethyl Alcohol:* A variety of *in vitro* and *in vivo* tests have produced negative results.
*Minoxidil*: A variety of *in vitro* and *in vivo* tests have produced negative results.

**REPRODUCTIVE TOXICITY:**
*Ethyl Alcohol:* NOAEL: 20.7 g/kg/day (15%) (Mouse, OECD 416 eq.) – No effects on fertility

**DEVELOPMENTAL TOXICITY/TERATOGENICITY:**
*Ethyl Alcohol*: NOAEL: ≥ 20,000 ppm (Rat, OECD 414 eq.) – Incident of malformations
*Minoxidil*: NOAEL: 80 mg/kg/d (Rat) – No effects on development

## SECTION 12: ECOLOGICAL INFORMATION

Contact with the environment should be avoided. Spills and leaks should be immediately cleaned up and removed. All precautions should be taken to prevent contact with the environment. Published information regarding ingredients listed on this document area found below; where data is not listed, documentation was unavailable.

**ACUTE AND PROLONGED TOXICITY TO FISH**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Ethyl Alcohol | $LC_{50}$ | 12. 9 - 15.3g/L | Pimephales promelas | 96 h |
| Minoxidil | $LC_{50}$ | > 97 mg/L | Pimephales promelas | 48 h |

**ACUTE TOXICITY TO AQUATIC INVERTEBRATES**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Ethyl Alcohol | $EC_{50}$ | 5,012 mg/L | Ceriodaphnia Dubia | 48 h |

**TOXICITY TO AQUATIC PLANTS**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Ethyl Alcohol | $EC_{50}$ | 675 mg/L | Chlorella Vulgaris | 4 d |

**TOXICITY TO MICROORGANISMS**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Ethyl Alcohol | $EC_{50}$ | 32.1 g/L | Photobacterium phosphoreum | 15 min |
| Minoxidil | $EC_{50}$ | > 1m000 mg/L | Activated Sludge | Not specified |

**PERSISTENCY AND DEGRADABILITY:**
*Ethyl Alcohol:* Readily Biodegradable – OECD 301 B – 97% (28d)

**BIOACCUMULATIVE POTENTIAL:**
*Ethanol:* $logBCF_{(calculated)}$ = 0.5 (BCFWIN v2.15) – Not likely to bioaccumulate

## SECTION 13: DISPOSAL CONSIDERATIONS

**Those responsible for the performance of disposal, recycling or reclamation activities should refer to section 8 of this document for advice on personal protective equipment and exposure controls.**

**WASTE DISPOSAL CONTAINERS:** Appropriate US DOT containers should be utilized which may include cardboard boxes for products, metal or plastic drums for liquids. These containers should meet the packaging specifications required for DOT compliance.

**WASTE DISPOSAL METHOD:** This product is ignitable (D001) RCRA hazardous wastes when intended for disposal. Controlled incineration at a hazardous waste facility is the recommended technology for treatment and disposal. This material must not be disposed through sewage.

**RCRA HAZARD CLASS: D001**

Follow all local governmental requirements intended for disposal.

## SECTION 14: TRANSPORT INFORMATION

**North American Ground Transportation**

- **IN CONSUMER PACKAGING:** Limited Quantity/Consumer Commodity (≤ 5 L)
  **UN ID Number:** UN 1170
  **Proper Shipping Name:** Ethanol solutions
  **Hazard Class:** 3
  **Packing Group:** III
  **Label Statements:** Exempt – Limited Quantity Marking Only

- **OTHER THAN CONSUMER PACKAGING:**
  **UN ID Number:** UN 1170
  **Proper Shipping Name:** Ethanol solutions
  **Hazard Class:** 3
  **Packing Group:** III
  **Label Statements:** Flammable Liquid (Class 3)

**Transport Via Water**

- **IN CONSUMER PACKAGING:** Limited Quantity (≤ 5 L)
  **UN ID Number:** UN 1170
  **Proper Shipping Name:** Ethanol solutions
  **Hazard Class:** 3
  **Packing Group:** III
  **Label Statements:** Exempt – Limited Quantity Marking Only

- **OTHER THAN CONSUMER PACKAGING:**
  **UN ID Number:** UN 1170
  **Proper Shipping Name:** Ethanol solutions
  **Hazard Class:** 3
  **Packing Group:** III
  **Label Statements:** Flammable Liquid (Class 3)

**Transport Via Air (Domestic/International)**

- **IN CONSUMER PACKAGING:** Limited Quantity – ID 8000, Consumer Commodity (≤ 0.5 L)
  **UN ID Number:** ID 8000
  **Proper Shipping Name:** Consumer Commodity
  **Hazard Class:** 9
  **Packing Group:** N/A
  **Label Statements:** Miscellaneous – Dangerous Goods & Limited Quantity Marking

- **OTHER THAN CONSUMER PACKAGING:**

| | |
|---|---|
| **UN ID Number:** | UN 1170 |
| **Proper Shipping Name:** | Ethanol solutions |
| **Hazard Class:** | 3 |
| **Packing Group:** | III |
| **Label Statements:** | Flammable Liquid (Class 3) |

**Please be aware of carrier transport variations before shipping hazardous materials**

## SECTION 15: REGULATORY INFORMATION

**National Fire Protection Association Codes:** Health: 2 Fire: 3 Reactivity: 0 Other: None

**Workplace Hazardous Materials Identification System (as acetone):** Class B Flammable Material; Class D; Division 2, Subdivision B; Eye Irritation

This regulatory information represents the product, in its consumer packaging.

## SECTION 16: OTHER INFORMATION

**PREPARATION INFORMATION:** This is the first issuance of this document.

Author: Ronald Weslosky (Corporate Regulatory Services)

L'ORÉAL USA

# SAFETY DATA SHEET

**SDS #15-228**

**ISSUANCE DATE: May 29, 2015**

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

L'Oreal USA Products, Inc.
111 Terminal Avenue
Clark, NJ 07066

L'Oreal Canada
4895 rue Hickmore
Ville St-Laurent, H4Y 1K5
Canada

**Emergency Telephone Number**
1-800-535-5053 US (International: 352-323-3500)
In Canada – 1-613-996-6666 (Canutec) (*666 cellular)

**For further information**:
1-732-499-2741

**Poison Control Number:** 412-390-3326

**Product Name: Redken Cerafill Retaliate Hair Regrowth Treatment for Men**

**Recommendations on use**: Personal care product to be applied to the scalp for hair regrowth treatment.

**Restrictions on use**: Avoid fire, flame, heat and other sources of ignition. For external use only. Use only as directed.

## SECTION 2: HAZARDS IDENTIFICATION

**Signal word: WARNING**

| Symbol | Classification | Hazard Statement | Prevention Statements |
|---|---|---|---|
|  | Flammable Liquids Category 3 | Flammable liquid and vapor | • Keep away from heat, sparks, open flames and hot surfaces. No smoking.<br>• Keep container tightly closed.<br>• Ground/bond container and receiving equipment.<br>• Use explosion-proof electrical, ventilating, lighting, manufacturing and packaging equipment.<br>• Use only non-sparking tools.<br>• Take precautionary measures against static discharge.<br>• Wear nitrile or vinyl gloves |
| No Symbol | Eye Irritation Category 2B | Causes eye irritation | • Wash hands and all skin surfaces contacted thoroughly after handling. |

This material is considered hazardous by the US Occupational Safety and Health Administration Hazard Communication Standard (29 CFR 1910.1200)

General Precautionary Statements: Keep out of reach of children. Read label/insert before use. Possible skin dryness/irritation if over-exposed.

Hazards Not Otherwise Classified: None.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Only hazardous constituents associated with the product are listed below**

| INGREDIENT: | CAS NO. | % WT |
|---|---|---|
| Ethyl Alcohol | 64-17-5 | ≤ 25.0% |
| Minoxidil | 38304-91-5 | ≤ 5.0% |

## SECTION 4: FIRST AID MEASURES

### Response Statements:

**IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing until material is sufficiently removed from the eye. **If eye irritation persists:** Get medical advice/attention.

**IF ON SKIN:** Take off immediately all contaminated clothing. Rinse skin with water/shower. **If skin irritation persists:** Get medical attention.

**IF INHALED:** Remove victim to fresh air and keep comfortable for breathing. Call a Poison Control Center if you feel unwell.

**IF SWALLOWED:** Do not induce vomiting. Never give anything by mouth to an unconscious individual. Consult a physician or Poison Control Center immediately.

**SYMPTOMS/EFFECTS**: Causes eye irritation. Possible skin dryness/irritation if over-exposed.

**NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:** Consult product labeling. No special advice.

## SECTION 5: FIRE-FIGHTING MEASURES

**Notes for Non-Emergency Personnel:**

**EXTINGUISHING MEDIA:** In case of fire: Use carbon dioxide, dry chemical and/or foam for extinction. Water spray may be used to soak other materials surrounding the product, to prevent the spread of the fire. Selection of a fire extinguisher should also be appropriate to address the location of the fire and equipment involved. Please review the tools available at your location to ensure proper availability of equipment.

**Notes for those trained to participate in an emergency:**

**SPECIAL FIRE FIGHTING PROCEDURES:** Treat as flammable liquid. Follow National Fire Protection Association Guidelines or local guidelines appropriate for emergency response. Minimize all sources of static electricity.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Observe all appropriate precautions for handling flammable materials.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxides of carbon, nitrogen, hydrocarbons, and/or derivatives.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Notes for non-emergency personnel:**
Consult trained response personnel for clean-up of large spills or locations where providing preliminary control of the chemical release is hazardous. Hazardous locations include areas where ignition sources cannot be controlled. Isolate the area and deny entry to unnecessary and unprotected personnel. Sections 2, 5, 7 and 8 of this document should be consulted upon use of material, to become knowledgeable of the material's hazards and how to control risks associated with handling flammable liquids.

If the location is not hazardous and only a small amount of material is released, control the spill using absorbent pads while wearing the protective equipment as noted below. Clean the area with detergent and water. Prohibit discharge to drains, soil, surface and ground waters. Dispose in accordance with Section 13 of this document.

**PERSONAL PROTECTIVE EQUIPMENT:** Nitrile or vinyl gloves, safety glasses/goggles, protective clothing (e.g. apron) may be required for clean-up of large spills. Respiratory protection is typically not necessary, but may used depending upon the size of the spill and occupational exposure limits. Respiratory protection may include the use of organic vapor cartridges. Refer to Section 8 for additional information.

**Notes for those trained to participate in an emergency:**

**ACCIDENTAL RELEASE MEASURES:** Eliminate all sources of ignition. Dike and contain the free liquid and absorb on vermiculite or spill pillows/pads. Place spent absorbents in UN specification drums for disposal. All precautions associated with controlling a flammable liquid should be employed during clean-up. Wash area completely with water. Take care to avoid contact with wet surfaces or walkways that may become slick when residue is present. Prohibit discharge to drains, soil, surface and ground waters.

Recommendations for personal protective equipment selection are noted above. Non-sparking tools should be utilized in all clean-up associated with flammable liquids. Dispose in accordance with section 13 of this document.

## SECTION 7: HANDLING AND STORAGE

**PRECAUTIONS FOR SAFE HANDLING:**
Do not eat, drink or smoke while working with hazardous materials. Employees should be advised to wear appropriate protective equipment in the manufacturing environment. See section 8 of this document for protective equipment selection. Do not expose to heat or flame. All manufacturing should be performed indoors, in an enclosed environment free from uncontrolled ignition sources. Employees should be advised not to handle flammable products in close proximity to incompatible materials. Use only non-sparking tools. Use explosion-proof electrical/ventilating/lighting equipment. Take precautionary measures against static discharge.

Maintain a clean work environment which includes use of properly functioning containers, proper housekeeping practices.

**CONDITIONS FOR SAFE STORAGE:**

**Storage precautions for unpackaged product (manufacturing environment):** Store in a well-ventilated place and keep cool. Keep containers closed when not in use. Minimize inventory. Use only non-sparking tools. Use explosion-proof electrical/ventilating/lighting equipment. Take precautionary measures against static discharge. Appropriate fire suppression and detection equipment should be utilized. Store on spill pallets or other locations where spill containment will be easily accessible.

**Storage precautions for packaged product:** See consumer packaging. Store at controlled room temperature of 68-77°F (20-25°C).

Keep away from open drains and access to the environment.

**Incompatible materials**: Oxidizing agents. Store away from incompatible materials.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**CONTROL PARAMETERS** – These criteria have been published by the referenced authority to establish exposure limits in the work environment. Employee work areas should be monitored to ensure that permissible limits are not exceeded during the work day. These references do not coincide with product use. These references are meant to be in association with the manufacturing environment.

**OCCUPATIONAL EXPOSURE VALUES (where available from the listed agencies):**

| Component Name (CAS-No.) | Reference | TWA | | STEL/CEILING | |
|---|---|---|---|---|---|
| | | ppm | mg/m$^3$ | ppm | mg/m$^3$ |
| Ethyl Alcohol (64-17-5) | OSHA PEL | 1,000 | 1,900 | -- | -- |
| | ACGIH TLV | -- | -- | 1,000 | 1,880 |
| | NIOSH REL | 1,000 | 1,900 | -- | -- |

No occupational exposure values have been published for other constituents noted in Section 3.

**WORK HYGIENIC PRACTICES:** Ensure all work surfaces are maintained, to prevent contamination.

**ENGINEERING CONTROLS:** None required for product use. For handling large quantities of material, such as in the manufacturing of product, ventilation should be utilized. This ventilation should be compatible with the control of flammable materials. Exhaust ventilation should be utilized to maintain air concentrations of material below the occupational exposure guidelines noted above.

Local exhaust ventilation is not typically required for product use. For handling large quantities of material, such as in the manufacturing of product **--** Local Exhaust: Explosion proof. Mechanical (general): Explosion proof.

**PERSONAL PROTECTIVE EQUIPMENT:** Consistent with good hygiene practices, personal protective equipment (PPE) should be used in conjunction with other control measures including engineering controls, ventilation and isolation. See also Section 5 of this document for PPE advice, in the event of an emergency.

**Eye/Face Protection (Non-Emergency):** None required for product use. For handling of large quantities of liquid material, safety glasses with side shields/goggles are recommended.

**Skin Protection (Non-Emergency):** None required for product use. For handling large quantities of material, such as in product manufacturing, nitrile or vinyl gloves should be considered for use. Tyvek clothing may also be suitable for handling large quantities of material in the manufacturing environment.

**Respiratory Protection (Non-Emergency):** Respiratory protection is not required for product use. For manufacturing of product, respiratory protection may be considered. Ensure that the respirator meets current local occupational health and safety standards. Organic vapor cartridges should be utilized with filtering respiratory protection.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

**APPEARANCE**: Clear liquid

**ODOR:** Alcohol

**ODOR THRESHOLD**: Not Available

| | | |
|---|---|---|
| **pH:** | 7.0 – 8.0 | |
| **MELTING/FREEZING POINT:** | **F:** Not Available | **C:** Not Available |
| **BOILING POINT:** | **F:** 173 (as ethanol) | **C:** 78.3 (as ethanol) |
| **FLASH POINT:** | **F**: 90.5 | **C:** 32.5 **METHOD USED:** Closed Cup |
| **EVAPORATION RATE:** | Not Available | |
| **FLAMMABILITY:** | Non Applicable to Liquids | |
| **FLAMMABLE LIMITS IN AIR:** | ETHYL ALCOHOL: 19% UEL; 3.3% LEL | |
| **VAPOR PRESSURE (mm Hg):** | Not Available | |
| **VAPOR DENSITY (AIR = 1):** | Not Available | |
| **RELATIVE DENSITY (H2O = 1):** | 0.97 – 0.99 | |
| **SOLUBILITY IN WATER:** | Not Available | |
| **PARTITIION COEFFICIENT:** | Not Available | |
| **AUTOIGNITION TEMPERATURE:** | Not Available | |
| **DECOMPOSITION TEMPERATURE:** | Not available | |
| **VISCOSITY:** | 5 – 10 cps | |

## SECTION 10: STABILITY AND REACTIVITY

**REACTIVITY:** Material is not considered reactive under typical handling and storage conditions.

**STABILITY:** Product is stable.

**POSSIBILITY OF HAZARDOUS REACTIONS:** None known. Hazardous polymerization is not expected to occur.

**CONDITIONS TO AVOID:** Heat, fire, flame and other sources of ignition.

**INCOMPATIBILITY (MATERIAL TO AVOID):** Oxidizing agents.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxides of carbon, nitrogen, hydrocarbons, and/or derivatives.

## SECTION 11: TOXICOLOGICAL INFORMATION

**POTENTIAL HEALTH EFFECTS**

**ACUTE HEALTH EFFECTS:**
**SKIN CORROSION/IRRITATION:** Possible skin dryness/irritation if over-exposed.

**SERIOUS EYE DAMAGE/IRRITATION:** Causes eye irritation.
**RESPIRATORY/SKIN SENSITIZATION:** None expected
**INGESTION:** Harmful if swallowed
**INHALATION:** None expected

**ROUTES OF EXPOSURE**: Inhalation, ingestion, eyes, skin

**SYMPTOMS**: Causes eye irritation. Possible skin dryness/irritation if over-exposed.

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE**: Allergies. Skin disorders.

**ACUTE TOXICOLOGY DATA FOR COMPONENTS**

Where information is not listed specifically for constituents, published information was not available.

| Material | Route | Species | Test Results |
|---|---|---|---|
| Ethyl Alcohol | Oral $LD_{50}$ | Rat | > 6,200 mg/kg bw |
| Ethyl Alcohol | Dermal $LD_{Lo}$ | Rabbit | > 20,000 mg/kg bw |
| Ethyl Alcohol | $LC_{50}$ (4 hr) | Rat | > 8,000 mg/L |
| Minoxidil | Oral $LD_{50}$ | Rat | 1,321 mg/kg bw |

**Skin Corrosion/Irritation:**
*Ethyl Alcohol:* Not Irritating (Rabbit, OECD 404)
*Minoxidil:* Not Irritating (Guinea Pig)

**Serious Eye Damage/Irritation:**
*Ethyl Alcohol:* 25% - Not Irritating / 50% - Mildly Irritating / 100% - Irritating (Rabbit, OECD 405)

**Respiratory Irritation:**
*Ethyl Alcohol:* 27,314 ppm (Mouse) Highly Irritating

**Skin Sensitization:**
*Ethyl Alcohol:* Not sensitizing (Guinea Pig)

**CHRONIC HEALTH HAZARDS:**

**REPEAT DOSE TOXICITY:**
NOAEL (Ethyl Alcohol, oral): >2% (2400 mg/kg); Rat
LOAEL (Ethyl Alcohol, oral): 3% (3600 mg/kg); Rat
LOAEL (Minoxidil, oral): 300 mg/kg/day (Rat, 30d)
LOAEL (Minoxidil, dermal): 80 mg/kg/day (Rat, 90d)

**CARCINOGENICITY:**

| Component Name (CAS-No.) | OSHA | ACGIH | NTP | IARC |
|---|---|---|---|---|
| Ethyl Alcohol (64-17-5) | -- | TLV-A3 | -- | -- |

Notes:
*ACGIH TLV-A3* – Confirmed Animal Carcinogen with Unknown Relevance to Humans

**MUTAGENICITY:**
*Ethyl Alcohol:* A variety of *in vitro* and *in vivo* tests have produced negative results.
*Minoxidil*: A variety of *in vitro* and *in vivo* tests have produced negative results.

**REPRODUCTIVE TOXICITY:**
*Ethyl Alcohol:* NOAEL: 20.7 g/kg/day (15%) (Mouse, OECD 416 eq.) – No effects on fertility

**DEVELOPMENTAL TOXICITY/TERATOGENICITY:**
*Ethyl Alcohol*: NOAEL: ≥ 20,000 ppm (Rat, OECD 414 eq.) – Incident of malformations
*Minoxidil*: NOAEL: 80 mg/kg/d (Rat) – No effects on development

## SECTION 12: ECOLOGICAL INFORMATION

Contact with the environment should be avoided. Spills and leaks should be immediately cleaned up and removed. All precautions should be taken to prevent contact with the environment. Published information regarding ingredients listed on this document area found below; where data is not listed, documentation was unavailable.

**ACUTE AND PROLONGED TOXICITY TO FISH**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Ethyl Alcohol | $LC_{50}$ | 12. 9 - 15.3g/L | Pimephales promelas | 96 h |
| Minoxidil | $LC_{50}$ | > 97 mg/L | Pimephales promelas | 48 h |

**ACUTE TOXICITY TO AQUATIC INVERTEBRATES**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Ethyl Alcohol | $EC_{50}$ | 5,012 mg/L | Ceriodaphnia Dubia | 48 h |

**TOXICITY TO AQUATIC PLANTS**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Ethyl Alcohol | $EC_{50}$ | 675 mg/L | Chlorella Vulgaris | 4 d |

**TOXICITY TO MICROORGANISMS**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Ethyl Alcohol | $EC_{50}$ | 32.1 g/L | Photobacterium phosphoreum | 15 min |
| Minoxidil | $EC_{50}$ | > 1m000 mg/L | Activated Sludge | Not specified |

**PERSISTENCY AND DEGRADABILITY:**
*Ethyl Alcohol:* Readily Biodegradable – OECD 301 B – 97% (28d)

**BIOACCUMULATIVE POTENTIAL:**
*Ethanol:* $logBCF_{(calculated)}$ = 0.5 (BCFWIN v2.15) – Not likely to bioaccumulate

## SECTION 13: DISPOSAL CONSIDERATIONS

**Those responsible for the performance of disposal, recycling or reclamation activities should refer to section 8 of this document for advice on personal protective equipment and exposure controls.**

**WASTE DISPOSAL CONTAINERS:** Appropriate US DOT containers should be utilized which may include cardboard boxes for products, metal or plastic drums for liquids. These containers should meet the packaging specifications required for DOT compliance.

**WASTE DISPOSAL METHOD:** This product is ignitable (D001) RCRA hazardous wastes when intended for disposal. Controlled incineration at a hazardous waste facility is the recommended technology for treatment and disposal. This material must not be disposed through sewage.

**RCRA HAZARD CLASS: D001**

Follow all local governmental requirements intended for disposal.

## SECTION 14: TRANSPORT INFORMATION

**North American Ground Transportation**

- **IN CONSUMER PACKAGING:** Limited Quantity/Consumer Commodity (≤ 5 L)
  **UN ID Number:** UN 1170
  **Proper Shipping Name:** Ethanol solutions
  **Hazard Class:** 3
  **Packing Group:** III
  **Label Statements:** Exempt – Limited Quantity Marking Only

- **OTHER THAN CONSUMER PACKAGING:**
  **UN ID Number:** UN 1170
  **Proper Shipping Name:** Ethanol solutions
  **Hazard Class:** 3
  **Packing Group:** III
  **Label Statements:** Flammable Liquid (Class 3)

**Transport Via Water**

- **IN CONSUMER PACKAGING:** Limited Quantity (≤ 5 L)
  **UN ID Number:** UN 1170
  **Proper Shipping Name:** Ethanol solutions
  **Hazard Class:** 3
  **Packing Group:** III
  **Label Statements:** Exempt – Limited Quantity Marking Only

- **OTHER THAN CONSUMER PACKAGING:**
  **UN ID Number:** UN 1170
  **Proper Shipping Name:** Ethanol solutions
  **Hazard Class:** 3
  **Packing Group:** III
  **Label Statements:** Flammable Liquid (Class 3)

**Transport Via Air (Domestic/International)**

- **IN CONSUMER PACKAGING:** Limited Quantity – ID 8000, Consumer Commodity (≤ 0.5 L)
  **UN ID Number:** ID 8000
  **Proper Shipping Name:** Consumer Commodity
  **Hazard Class:** 9
  **Packing Group:** N/A
  **Label Statements:** Miscellaneous – Dangerous Goods & Limited Quantity Marking

- **OTHER THAN CONSUMER PACKAGING:**
  **UN ID Number:** UN 1170
  **Proper Shipping Name:** Ethanol solutions
  **Hazard Class:** 3
  **Packing Group:** III
  **Label Statements:** Flammable Liquid (Class 3)

**Please be aware of carrier transport variations before shipping hazardous materials**

## SECTION 15: REGULATORY INFORMATION

**National Fire Protection Association Codes:** Health: 2 Fire: 3 Reactivity: 0 Other: None

**Workplace Hazardous Materials Identification System (as acetone):** Class B Flammable Material; Class D; Division 2, Subdivision B; Eye Irritation

This regulatory information represents the product, in its consumer packaging.

## SECTION 16: OTHER INFORMATION

**PREPARATION INFORMATION:** This is the first issuance of this document.

Author: Ronald Weslosky (Corporate Regulatory Services)

L'ORÉAL USA

# SAFETY DATA SHEET

**SDS # 15-216**

**ISSUANCE DATE: May 19, 2015**

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

L'Oreal USA Products, Inc.
111 Terminal Avenue
Clark, NJ 07066

L'Oreal Canada
4895 rue Hickmore
Ville St-Laurent, H4Y 1K5
Canada

**Emergency Telephone Number**
1-800-535-5053 US (International: 352-323-3500)
In Canada – 1-613-996-6666 (Canutec) (*666 cellular)

**For further information**:
1-732-499-2741

**Poison Control Number:** 412-390-3326

**Product Name: Demi-Permanent Hair Colors containing Ethanolamine**

**Recommendations on use:** Personal care product to be mixed with companion product(s) in accordance with instructions and applied to hair to aid in coloring.

**Restrictions on use:** For external use only. Use only as directed. See product packaging/insert for skin allergy test conditions.

## SECTION 2: HAZARDS IDENTIFICATION

### Signal Word: DANGER

| Symbol | Classification | Hazard Statement | Prevention Statements |
|---|---|---|---|
|  | Eye Damage Category 1 | Causes serious eye damage | • Wear eye protection appropriate for the manufacturing operation being performed (goggles or face shield). |
|  | Skin Sensitizer Category 1 | May cause an allergic skin reaction | • Avoid breathing mist/vapors/spray.<br>• Contaminated work clothing must not be allowed out of the workplace.<br>• Wear nitrile or vinyl gloves |
| See symbol above | Skin Irritation Category 2 | Causes skin irritation | • Wash eyes and all skin surfaces contacted thoroughly after handling. |

| | | | |
|---|---|---|---|
| See symbol above | Acute Toxicity Oral Category 4 | Harmful if swallowed | • Do not eat, drink or smoke when using this product |

This material is considered hazardous by the US Occupational Safety and Health Administration Hazard Communication Standard (29 CFR 1910.1200)

General Precautionary Statements: Keep out of reach of children. Read label before use. Over-exposure may cause respiratory irritation.

Hazards Not Otherwise Classified: None

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Only hazardous constituents associated with the product are listed below**

| INGREDIENT: | CAS NO. | % WT |
|---|---|---|
| Laureth-12 | 68439-50-9 | ≤ 7.0% |
| Ethanolamine | 141-43-5 | ≤ 6.0% |
| Toluene-2,5-Diamine | 95-70-5 | ≤ 3.0% |
| p-Phenylenediamine | 106-50-3 | ≤ 3.0% |
| Sodium Metabisulfite | 7681-57-4 | ≤ 3.0% |
| p-Aminophenol | 123-30-8 | ≤ 2.0% |
| Resorcinol | 108-46-3 | ≤ 1.0% |
| m-Aminophenol | 591-27-5 | ≤ 1.0% |

## SECTION 4: FIRST AID MEASURES

### Response Statements:

**IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing until material is sufficiently removed from the eye. **If eye irritation persists:** Immediately call a Poison Control Center or medical advice/attention.

**IF ON SKIN**: Wash with plenty of water. **If skin irritation or rash occurs:** Get medical advice/attention. Take of contaminated clothing and wash before reuse. See product packaging/insert for specific treatment/additional information.

**IF INHALED:** Remove person to fresh air and keep in a position comfortable for breathing. Immediately call a Poison Control Center or doctor is person feels unwell.

**IF SWALLOWED:** Immediately call a Poison Control Center or doctor. Rinse mouth. Do not induce vomiting. Never give anything by mouth to an unconscious individual.

**SYMPTOMS/EFFECTS**: Causes serious eye damage. May cause allergic skin reaction. Causes skin irritation. Harmful if swallowed. Over-exposure may cause respiratory irritation.

**NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:** Consult product labeling. No special advice.

## SECTION 5: FIRE-FIGHTING MEASURES

**Notes for Non-Emergency Personnel:**

**EXTINGUISHING MEDIA:** In case of fire use carbon dioxide, dry chemical, foam and/or water spray for extinction. Selection of a fire extinguisher should also be appropriate to address the location of the fire and equipment involved. Please review the tools available at your location to ensure proper availability of equipment.

**Notes for those trained to participate in an emergency:**

**SPECIAL FIRE FIGHTING PROCEDURES:** Follow National Fire Protection Association Guidelines or local guidelines appropriate for emergency response.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Observe all appropriate precautions for handling hazardous materials.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxides of carbon, hydrocarbons, and/or derivatives.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Notes for non-emergency personnel:**

Consult trained response personnel for clean-up of large spills or locations where providing preliminary control of the chemical release is hazardous. Isolate the area and deny entry to unnecessary and unprotected. Hazardous locations include areas where ignition sources cannot be controlled. Sections 2, 5, 7 and 8 of this document should be consulted upon use of material, to become knowledgeable of the material's hazards and how to control risks associated with handling hazardous liquids.

If the location is not hazardous and only a small amount of material is spilled, control the release using absorbent pads while wearing the protective equipment as noted below. Care should be taken to prevent contact of the material with skin or eyes. Prohibit discharge to drains, soil, surface and ground waters. Dispose in accordance with section 13 of this document.

**PERSONAL PROTECTIVE EQUIPMENT:** Nitrile or Vinyl gloves, safety glasses/goggles, protective clothing (e.g. apron) may be required for clean-up of large spills. Respiratory protection is typically not necessary, but may be used depending upon the size of the spill and occupational exposure limits. Respiratory protection may include the use of organic vapor/acid gas cartridges. Refer to Section 8 for additional information.

**Notes for those trained to participate in an emergency:**

**ACCIDENTAL RELEASE MEASURES:** Dike and contain the free liquid and absorb on vermiculite or spill pillows/pads. Place spent absorbents in UN specification drums for disposal. All precautions associated with controlling hazardous liquids should be employed during clean-up. Prohibit discharge to drains, soil, surface and ground waters. Inspection of all equipment used in response should occur before any re-use is considered.

Recommendations for personal protective equipment selection are noted above. Dispose in accordance with section 13 of this document.

## SECTION 7: HANDLING AND STORAGE

**PRECAUTIONS FOR SAFE HANDLING:**
Do not eat, drink or smoke while working with hazardous materials. Avoid contact with skin, eyes, and clothing. Employees should be advised to wear appropriate protective equipment in the manufacturing environment. Refer to Section 8 for protective equipment selection. All manufacturing should be performed indoors, in an enclosed environment. Employees should be advised not to handle hazardous products in close proximity to incompatible materials.

Maintain a clean work environment which includes use of properly functioning containers, proper housekeeping practices.

**CONDITIONS FOR SAFE STORAGE:**

**Storage precautions for unpackaged product (manufacturing environment):** Store in a cool and well-ventilated area. Store in original/compatible containers. Keep containers closed when not in use. This material should be "locked up" or stored in an area where production inventory may be controlled by authorized personnel. Appropriate fire suppression and detection equipment should be utilized. Store on spill pallets or in other locations where spill containment will be easily accessible and releases can be contained.

**Storage precautions for packaged product** – see consumer packaging.

Keep away from open drains and access to the environment.

**Incompatible materials**: Oxidizers, strong acids and organic compounds. Store away from incompatible materials.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**CONTROL PARAMETERS:** These criteria have been published by the referenced authority to establish exposure limits in the work environment. Employee work areas should be monitored to ensure that permissible limits are not exceeded during the work day. These references do not coincide with product use. These references are meant to be in association with the manufacturing environment.

**OCCUPATIONAL EXPOSURE VALUES:**

| Component Name (CAS-No.) | Reference | TWA | | STEL/CEILING | |
|---|---|---|---|---|---|
| | | ppm | $mg/m^3$ | ppm | $mg/m^3$ |
| Ethanolamine (141-43-5) | OSHA PEL | 3 | 6 | -- | -- |
| | ACGIH TLV | 3 | 7.5 | 6 | 15 |
| | NIOSH REL | 3 | 8 | 6 | 15 |
| p-Phenylenediamine (106-50-3) | OSHA PEL | -- | 0.1 (skin) | -- | -- |
| | ACGIH TLV | -- | 0.1 | -- | -- |
| | NIOSH REL | -- | 0.1 (skin) | -- | -- |
| Sodium Metabisulfite (7681-57-4) | OSHA PEL | -- | -- | -- | -- |
| | ACGIH TLV | -- | 5 | -- | -- |
| | NIOSH REL | -- | -- | -- | -- |
| Resorcinol (108-46-3) | OSHA PEL | -- | -- | -- | -- |
| | ACGIH TLV | 10 | 45 | 20 | 90 |
| | NIOSH REL | 10 | 45 | 20 | 90 |

No occupational exposure values have been published for other constituents noted in Section 3.

**WORK HYGIENIC PRACTICES:** Ensure all work surfaces are maintained, to prevent contamination.

**ENGINEERING CONTROLS:** None required for product use. For handling large quantities of material, such as in the manufacturing of product, ventilation should be utilized. This ventilation should be compatible with the control of hazardous materials. Exhaust ventilation should be utilized to maintain air concentrations of material below the occupational exposure guidelines noted above.

Local exhaust ventilation is not typically required for product use. For handling large quantities of material, such as in the manufacturing of product -- Local Exhaust: Explosion proof. Mechanical (general): Explosion proof.

**PERSONAL PROTECTIVE EQUIPMENT:** Consistent with good hygiene practices, personal protective equipment (PPE) should be used in conjunction with other control measures including engineering controls, ventilation and isolation. See also Section 5 of this document for PPE advice, in the event of an emergency.

**Eye/Face Protection (Non-Emergency):** None required for product use. For handling of large quantities of liquid material, safety glasses with side shields/goggles are recommended.

**Skin Protection (Non-Emergency):** Gloves should be worn when mixing kit components and applying mixture. For handling large quantities of material, such as in product manufacturing, nitrile or vinyl gloves should be considered for use. Tyvek clothing may also be suitable for handling large quantities of material in the manufacturing environment.

**Respiratory Protection (Non-Emergency):** Respiratory protection is not required for product use. For manufacturing of product, respiratory protection may be considered. Ensure that the respirator meets current local occupational health and safety standards. Organic vapor/acid gas cartridges should be utilized with filtering respiratory protection.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **APPEARANCE**: | Liquid |
| **ODOR:** | Not Available |
| **ODOR THRESHOLD:** | Not Available |
| **pH:** | 9.0 – 10.0 |
| **MELTING/FREEZING POINT:** | **F:** N/A **C:** N/A |
| **BOILING POINT:** | **F:** Not Available **C:** Not Available |
| **FLASH POINT:** | **F:** >212 **C:** >100 **METHOD USED:** Closed cup |
| **EVAPORATION RATE:** | < 1 **(Butyl acetate = 1)** |
| **FLAMMABILITY:** | Not Applicable to Liquids |
| **FLAMMABLE LIMITS IN AIR:** | ETHANOLAMINE: 23.5% UEL; 3.0% LEL |
| **VAPOR PRESSURE (mmHg):** | @ 70F: Not Available @ 21 C: Not Available |
| **VAPOR DENSITY (AIR = 1):** | @ 70F: >1 @ 21 C: > 1 |
| **RELATIVE DENSITY (H2O = 1):** | Not Available |
| **SOLUBILITY IN WATER:** | Not Available |
| **PARTITION COEFFICIENT:** | Not Available |
| **AUTOIGNITION TEMPERATURE:** | Not Available |
| **DECOMPOSITION TEMPERATURE:** | Not Available |
| **VISCOSITY:** | Not Available |

## SECTION 10: STABILITY AND REACTIVITY

**REACTIVITY:** Material is not considered reactive under typical handling and storage conditions.

**STABILITY:** Product is stable.

**POSSIBILITY OF HAZARDOUS REACTIONS:** None known. Hazardous polymerization is not expected to occur.

**CONDITIONS TO AVOID:** Heat, fire, flame and other sources of ignition.

**INCOMPATIBILITY (MATERIAL TO AVOID):** Oxidizers, strong acids and organic compounds.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Oxides of carbon, hydrocarbons, and/or derivatives.

## SECTION 11: TOXICOLOGICAL INFORMATION

**Where information is not listed specifically for constituents, published information was not available.**

**POTENTIAL HEALTH EFFECTS**

**ACUTE HEALTH EFFECTS:**
**SKIN CORROSION/IRRITATION**: Causes skin irritation.
**SERIOUS EYE DAMAGE/IRRITATION**: Causes serious eye damage
**RESPIRATORY/SKIN SENSITIZATION**: May cause allergic skin reaction.
**INGESTION**: Harmful if swallowed.
**INHALATION**: Over-exposure may cause respiratory irritation.

**ROUTES OF EXPOSURE**: Eyes, skin, inhalation

**SYMPTOMS**: Causes serious eye damage. May cause allergic skin reaction. Causes skin irritation. Harmful if swallowed. Over-exposure may cause respiratory irritation.

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE**: None known.

**ACUTE TOXICOLOGY DATA FOR COMPONENTS**

| Material | Route | Species | Test Results |
|---|---|---|---|
| Laureth-12 | Oral $LD_{50}$ | Rat (OECD 401) | >2,000 mg/kg bw |
| Laureth-12 | Inh. $LC_{50}$ (4hr) | Rat (OECD 403) | >1.6 mg/L air (nominal) |
| Laureth-12 | Dermal $LD_{50}$ | Rat (OECD 402) | >2,000 mg/kg bw |
| Ethanolamine | Oral $LD_{50}$ | Rat (OECD 401 eq) | 1,510 mg/kg bw |
| Ethanolamine | Dermal $LD_{50}$ | Rat (OECD 402 eq) | 2,504 mg/kg bw |
| Ethanolamine | Inh. $LC_{50}$ (6hr) | Rat | >1,300 $mg/m^3$ air |
| Toluene-2,5-Diamine | Oral $LD_{50}$ | Rat | 100 mg/kg bw |
| p-Phenylenediamine | Oral $LD_{50}$ | Rat (OECD 420) | 75 mg/kg bw |
| p-Phenylenediamine | Inh. $LC_{50}$ (4hr) | Rat (OECD 403) | 0.92 mg/L |
| p-Phenylenediamine | Dermal $LD_{50}$ | Rabbit | >7,940 mg/kg bw |
| Sodium Metabisulfite | Oral $LD_{50}$ | Rat (OECD 401) | 1,540 mg/kg bw |
| Sodium Metabisulfite | Inh. $LC_{50}$ (4hr) | Rat OECD 403 | >5.5 mg/L air |
| p-Aminophenol | Oral $LD_{50}$ | Rat (EPA OPPTS 870.1100) | 671 mg/kg bw |
| p-Aminophenol | Inh. $LC_{50}$ (4hr) | Rat OECD 403 | >3.42 mg/L air |
| p-Aminophenol | Dermal $LD_{50}$ | Rabbit EPA OPPTS 870.1200 | >8,000 mg/kg bw |
| Resorcinol | Oral $LD_{50}$ | Rat (OECD 401) | 510 mg/kg bw |
| m-Aminophenol | Oral $LD_{50}$ | Rat (OECD 402) | >500 mg/kg bw |
| m-Aminophenol | Dermal $LD_{50}$ | Species unspecified | 6,400 mg/kg |
| m-Aminophenol | Inh. $LC_{50}$ | Rat | 1,162 $mg/m^3$ |

**Skin Corrosion/Irritation:**

| | |
|---|---|
| *Laureth-12* | Not Irritating (Rabbit, OECD 404) |
| *Ethanolamine:* | Corrosive (Rabbit, OECD 404) |
| *Toluene-2,5-Diamine* | Not Irritating |
| *p-Phenylenediamine* | Not Irritating (Rabbit) |
| *Sodium Metabisulfite* | Not Irritating (Rabbit, OECD 404) |
| *p-Aminophenol* | Not Irritating (Rabbit, OECD 404) |
| *Resorcinol* | Not Irritating (Rabbit, OECD 404) |
| *m-Aminophenol* | Not Irritating (Rabbit, OECD 404) |

**Serious Eye Damage/Irritation:**

| | |
|---|---|
| *Laureth-12* | Irritating (Rabbit, OECD 405) |
| *Ethanolamine:* | Corrosive (Rabbit, OECD 405) |
| *Toluene-2,5-Diamine* | Irritating (Rabbit) |
| *p-Phenylenediamine* | Irritating (Rabbit, OECD 405) |
| *Sodium Metabisulfite* | Irritating (Rabbit, OECD 405) |
| *p-Aminophenol* | Not Irritating (Rabbit, OECD 405) |
| *Resorcinol* | Not Irritating (Rabbit, OECD 405) |
| *m-Aminophenol* | Not Irritating (Rabbit, OECD 405) |

**Respiratory Irritation:**
No Data

**Skin Sensitization:**

| | |
|---|---|
| *Laureth-12* | Not sensitizing (Guinea Pig) (OECD 406) |
| *Ethanolamine:* | Not sensitizing (Guinea Pig) |
| *Toluene-2,5-Diamine* | *S*ensitizing (Guinea Pig) (OECD 406) |
| *p-Phenylenediamine* | Sensitizing *(*Mouse) (OECD 429) |
| *Sodium Metabisulfite* | *S*ensitizing *(*Mouse) (OECD 429) |
| *p-Aminophenol* | *S*ensitizing (Guinea Pig) (OECD 406) |
| *Resorcinol* | *S*ensitizing *(*Mouse) (OECD 429) |
| *m-Aminophenol* | *S*ensitizing *(*Mouse) (OECD 429) |

**CHRONIC HEALTH HAZARDS**:

**REPEAT DOSE TOXICITY:**
NOAEL (Laureth-12, oral): > 500 mg/kg bw (Rat, OECD 408)
NOAEL (Ethanolamine, oral): 300 mg/kg bw/day (Rat, OECD 416)
NOAEL (p-Phenylenediamine, oral):16 mg/kg/day (Rat, OECD 408)
NOAEL (Sodium Metabisulfite, oral): 217 mg/kg bw/day (Rat)
NOEL (p-Aminophenol, oral): 10 mg/kg bw/day (Rat, OECD 408)
NOAEL (Resorcinol, oral): 80 mg/kg/day (Rat, OECD 408)
NOEL (m-Aminophenol, oral): 20 mg/kg bw/day

**CARCINOGENICITY:**

| Component Name (CAS-No.) | OSHA | ACGIH | NTP | IARC |
|---|---|---|---|---|
| Toluene-2,5-diamine (95-70-5) | -- | -- | -- | IARC-3 |
| p-Phenylenediamine (106-50-3) | -- | TLV-A4 | -- | IARC-3 |
| Sodium Metabisulfite (7681-57-4) | -- | TLV-A4 | -- | -- |
| Resorcinol (108-46-3) | -- | TLV-A4 | -- | IARC-3 |

**Notes:**
*ACGIH TLV*-A4 – This reference indicates that the material is "Not Classifiable as a Human Carcinogen".
*IARC-3* – This reference indicated that the material is "Unclassifiable as Carcinogenicity in Humans"

**MUTAGENICITY:**

| | |
|---|---|
| *Laureth-12* | A variety of *in vitro* (OECD 471) and *in vivo* (OECD 475) have produced negative results. |
| *Ethanolamine:* | A variety of *in vitro* and *in vivo* tests have produced negative results. |
| *Toluene-2,5-Diamine* | A variety of *in vitro* tests have produced negative results |
| *p-Phenylenediamine* | A variety of vitro tests (OECD 471) has produced positive results with metabolic activation and in vivo tests (OECD 474) has produced negative results. |
| *Sodium Metabisulfite* | A variety of *in vitro* tests have produced negative results (OECD 471) |
| *Resorcinol* | *In vitro tests (OECD 476)* has produced positive results and *in vivo (OECD 474)* tests have produced negative results. |
| *m-Aminophenol* | A variety of *in vitro* tests have produced negative results (OECD 473) |

**REPRODUCTIVE TOXICITY:**

| | |
|---|---|
| *Laureth-12* | NOAEL: >250 mg/kg bw/day (Rat, OECD 416) |
| *Ethanolamine:* | NOAEL: 300 mg/kg bw/day (Rat, OECD 416) |
| *Sodium Metabisulfite* | NOAEL: 942 mg/kg bw/ day (Rat) |
| *p-Aminophenol* | NOAEL: 100 mg/kg/bw day (Rat, OECD 421) |
| *Resorcinol* | NOAEL: >3000 mg/kg bw/day (Rat, OECD 416) |
| *m-Aminophenol* | NOAEL: 10 mg/kg bw/day |

**DEVELOPMENTAL TOXICITY/TERATOGENICITY:**

| | |
|---|---|
| *Laureth-12* | NOAEL: >250 mg/kg bw/day (Rat, OECD 416) |
| *Ethanolamine:* | NOAEL: 450 mg/kg bw/day (Rat, OECD 414) |
| *p-Phenylenediamine* | NOEL: 10 mg/kg/day |
| *Sodium Metabisulfite* | NOAEL: 123 mg/kg bw/day (Rat, OECD 414) |
| *p-Aminophenol* | NOAEL: 100 mg/kg bw/day (Rat, OECD 421) |
| *Resorcinol* | NOAEL: 250 mg/kg/day (Rat, OECD 414) |

## SECTION 12: ECOLOGICAL INFORMATION

Contact with the environment should be avoided. Spills and leaks should be immediately cleaned up and removed. All precautions should be taken to prevent contact with the environment. Published information regarding ingredients listed on this document area found below; where data is not listed, documentation was unavailable.

**ACUTE AND PROLONGED TOXICITY TO FISH**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Laureth-12 | $LC_{50}$ (OECD 203) | 1.1 mg/L | Oncorhynchus mykiss | 96 h |
| Ethanolamine | $LC_{50}$ (ASTM D1345-70) | 170 mg/L | Carassius auratus | 96 h |
| p-Phenylenediamine | $LC_{50}$ (OECD 203) | 3.9 mg/L | Oncorhynchus mykiss | 96 h |
| Sodium Metabisulfite | $LC_{50}$ (OECD 203) | 681. 2 mg/L | Danio Rerio | 96 h |
| p-Aminophenol | $LC_{50}$ (OECD 203) | 0.82 mg/L | Oryzias latipes | 96 h |
| Resorcinol | $LC_{50}$ | 29.5 mg/L | Pimephales promelas | 96 h |
| m-Aminophenol | $LC_{50}$ | 82.64 mg/L | Danio Rerio | 96 h |

**ACUTE TOXICITY TO AQUATIC INVERTEBRATES**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Laureth-12 | $EC_{50}$ (OECD 202) | >2 mg/L | Daphnia Magna | 48 h |
| Ethanolamine | $EC_{50}$ (84/449/EEC C.2) | 65 mg/L | Daphnia Magna | 48 h |
| p-Phenylenediamine | $EC_{50}$ (OECD 202) | 0.33 mg/L | Daphnia magna | 48 h |
| Sodium Metabisulfite | $EC_{50}$ | 89 mg/L | Daphnia magna | 48 h |
| p-Aminophenol | $EC_{50}$ (OECD 202) | 0.182 mg/l | Daphnia magna | 48 h |
| Resorcinol | $EC_{50}$ (OECD 202) | 4.7 mg/L | Daphnia Magna | 48 h |
| m-Aminophenol | $EC_{50}$ | 1.1 mg/L | Daphnia magna | 48 h |

**TOXICITY TO AQUATIC PLANTS**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Laureth-12 | $EC_{50}$ (OECD 201) | 0.41 mg/L | Pseudokirchneriella subcapitata | 72 h |
| Ethanolamine | $EL_{50}$ (92/69/EEC C.3) | 15 mg/L | Green Algae | 72 h |
| p-Phenylenediamine | $EC_{50}$ | 0.27 mg/L | Pseudokirchneriella subcapitata | 72 h |
| Sodium Metabisulfite | $EC_{50}$ (OECD 201) | 43.8 mg/L | Desmodesmus subspicatu | 72 h |
| p-Aminophenol | $EC_{50}$ (OECD 201) | > 0.253 mg/l | Desmodesmus subspicatu | 72 h |

| | | | | |
|---|---|---|---|---|
| Resorcinol | $EC_{50}$ (OECD 201) | > 97 mg/L | Pseudokirchneriella subcapitata | 72 h |
| m-Aminophenol | $EC_{50}$ (OECD 201) | 62 mg/L | Pseudokirchneriella subcapitata | 72 h |

**TOXICITY TO MICROORGANISMS**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Laureth-12 | $EC_{50}$ | >10 g/L | Pseudomonas putida | 16.9 h |
| Ethanolamine | $EC_{10}$ (OECD 209) | > 1,000 mg/L | Activated Sludge | 30 min |
| p-Phenylenediamine | $EC_{50}$ | 100 mg/L | Activated Sludge | 3 h |
| Sodium Metabisulfite | $EC_{50}$ (OECD 209) | >1000 mg/L | Activated sludge | 3 h |
| p-Aminophenol | $EC_{50}$ (OECD 209) | 29.9 mg/L | Activated sludge | 3 h |
| Resorcinol | $EC_{50}$ (OECD 209) | 79 mg/L | Activated Sludge | 3 h |
| m-Aminophenol | $EC_{50}$ | 2.55-2.9 mg/L | Tetrahymena thermophila | 48 h |

**PERSISTENCY AND DEGRADABILITY:**

*Laureth-12* Readily Biodegradable – OECD 301
*Ethanolamine:* Readily Biodegradable – OECD 301 A – >90% (21 d)
*Toluene-2,5-Diamine* Non-Biodegradable
*p-Phenylenediamine* Readily biodegradable (OECD 301 D)
*Resorcinol* Readily Biodegradable – OECD 301 C
*m-Aminophenol* Readily Biodegradable – Half life: 15 days

**BIOACCUMULATIVE POTENTIAL:**

*Ethanolamine* log Pow: -1.91 @ 25°C (OECD 107) – Not expected to bioaccumulate
*p-Phenylenediamine* BCF = 0.3. Not expected to bioaccumulate
*p-Aminophenol* log koc: 1.96 – Low bioaccumulation potential
*Resorcinol* BCF: 3.162 – Not expected to bioaccumulate
m-Aminophenol BCF: 3.2 – Not expected to bioaccumulate

## SECTION 13: DISPOSAL CONSIDERATIONS

**Those responsible for the performance of disposal, recycling or reclamation activities should refer to Section 8 of this document for advice on personal protective equipment and exposure controls.**

**WASTE DISPOSAL CONTAINERS:** Appropriate US DOT containers should be utilized which may include cardboard boxes for products or plastic drums for bulk liquids. These containers should meet the packaging specifications required for DOT compliance.

**WASTE DISPOSAL METHOD:** As manufactured, this product does not exhibit any RCRA characteristics of hazardous waste. Controlled incineration at a licensed waste facility is the recommended technology for treatment and disposal. Material must not be disposed of through sewage.

**RCRA HAZARD CLASS: Not Regulated**

Follow all local governmental requirements intended for disposal.

## SECTION 14: TRANSPORT INFORMATION

**North American Ground Transportation**

- **IN CONSUMER PACKAGING:** Not Regulated
- **OTHER THAN CONSUMER PACKAGING:** Not Regulated

**Transport Via Water**

- **IN CONSUMER PACKAGING:** Not Regulated
- **OTHER THAN CONSUMER PACKAGING:** Not Regulated

**Transport Via Air (Domestic/International)**

- **IN CONSUMER PACKAGING:** Not Regulated
- **OTHER THAN CONSUMER PACKAGING:** Not Regulated

**Please be aware of carrier transport variations before shipping hazardous materials.**

## SECTION 15: REGULATORY INFORMATION

**National Fire Protection Association Codes:** Health: 2 Fire: 1 Reactivity: 0 Other: None

**Workplace Hazardous Materials Identification System:** Class D; Division 2, Subdivision B –Skin Irritation/Sensitizer Class E; Corrosive Material

This regulatory information represents the product, in its consumer packaging.

## SECTION 16: OTHER INFORMATION

**PREPARATION INFORMATION:** This is the first issuance of this document.

Author: Lalita Vedantam (Corporate Regulatory Services)

L'ORÉAL USA

# SAFETY DATA SHEET

**SDS # 15-199**

**ISSUANCE DATE: May 22, 2015**

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

L'Oreal USA Products, Inc.
111 Terminal Avenue
Clark, NJ 07066

L'Oreal Canada
4895 rue Hickmore
Ville St-Laurent, H4Y 1K5
Canada

**Emergency Telephone Number:**
1-800-535-5053 (International: 352-323-3500)
In Canada – 1-613-996-6666 (Canutec) (*666 cellular)

**For further information**:
1-732-499-2741

**Poison Control Number:** 412-390-3326

**Product Name: Redken Up To 7 De-Dusted Lightener**

**Recommendations on use:** Personal care product to be mixed with companion product(s) in accordance with instructions and applied to hair for lightening effect.

**Restrictions on use:** For external use only. Use only as directed.

## SECTION 2: HAZARDS IDENTIFICATION

**Signal Word: DANGER**

| Symbol | Classification | Hazard Statement | Prevention Statements |
|---|---|---|---|
|  | Self-Heating Category 2<br><br>(In containers > 450 L) | Self-heating in large quantities<br>May catch fire | • Keep cool. Protect from sunlight. |
|  | Eye Damage Category 1 | Causes serious eye damage | • Wash hands and all skin surfaces contacted thoroughly after handling<br>• Wear nitrile or vinyl gloves. Wear eye protection appropriate for the manufacturing operation being performed (goggles or face shield). |
|  | Sensitization Respiratory | May cause allergy or asthma symptoms or breathing difficulties if inhaled | • Avoid breathing dust.<br>• In case of inadequate ventilation wear respiratory protection |

| Symbol | Classification | Hazard Statement | Prevention Statements |
|---|---|---|---|
|  | Acute Toxicity Oral Category 4 | Harmful if swallowed | • Do not eat, drink or smoke when using this product |
| No symbol Required | Sensitization – Skin Category 1 | May cause an allergic skin reaction | • Contaminated work clothing must not be allowed out of the workplace |
| No symbol Required | Skin Irritation Category 2 | Causes skin irritation | • See prevention statements above |
| No symbol Required | Specific Target Organ Toxicity (Single Exposure) Category 3 | May cause respiratory irritation | • Use only outdoors or in a well-ventilated area |

This material is considered hazardous by the US Occupational Safety and Health Administration Hazard Communication Standard (29 CFR 1910.1200)

General Precautionary Statements: Keep out of reach of children. Read label/directions before use. Keep from heat and moisture. Do not use metal utensils.

Hazards Not Otherwise Classified: None

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Only hazardous constituents associated with the product are listed below**

| INGREDIENT: | CAS NO. | % WT |
|---|---|---|
| EDTA | 60-00-4 | ≤ 0.3% |
| Titanium Dioxide | 13463-67-7 | ≤ 0.5% |
| Silica | 7631-86-6 / 112926-00-8 | ≤ 1.8% |
| Mica | 12001-26-2 | ≤ 1.0% |
| Sodium Metasilicate | 6834-92-0 | ≤ 2.0% |
| Sodium Lauryl Sulfate | 68955-19-1 | ≤ 4.0% |
| Sodium Persulfate | 7775-27-1 | ≤ 11.5% |
| Sodium Silicate | 1344-09-8 | ≤ 24.0% |
| Potassium Persulfate | 7727-21-1 | ≤ 36.0% |

## SECTION 4: FIRST AID MEASURES

**Response Statements:**

**IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing until material is sufficiently removed from the eye. **If eye irritation persists:** Immediately call a poison control center or get medical advice/attention.

**IF ON SKIN**: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. **If skin irritation or rash occurs:** Get medical advice/attention.

**IF INHALED:** If breathing is difficult, remove person to fresh air and keep in a position comfortable for breathing. **If experiencing respiratory symptoms:** Call a poison control center or get medical advice/attention.

**IF SWALLOWED:** Rinse mouth. Do not induce vomiting. Never give anything by mouth to an unconscious individual. Call a poison control center or get medical advice/attention if you fell unwell.

**SYMPTOMS/EFFECTS**: Causes serious eye damage. May cause asthma symptoms or breathing difficulties. Harmful if swallowed. May cause an allergic skin reaction. Causes skin irritation. May cause respiratory irritation.

**NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:** Consult product labeling. No special advice.

## SECTION 5: FIRE-FIGHTING MEASURES

**Notes for Non-Emergency Personnel:**

**EXTINGUISHING MEDIA:** In case of fire: Use carbon dioxide, dry chemical and/or foam to extinguish. Water spray may be used to soak other materials surrounding the product, to prevent the spread of the fire. Selection of a fire extinguisher should also be appropriate to address the location of the fire and equipment involved. Review the tools available at your location to ensure proper availability of equipment.

**Notes for those trained to participate in an emergency:**

**SPECIAL FIRE FIGHTING PROCEDURES:** Follow National Fire Protection Association Guidelines or local guidelines appropriate for emergency response.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Persulfates yield oxygen and may stimulate combustion of flammable and combustible materials.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxygen, ammonia, oxides of carbon, sulfur, hydrocarbons, and/or derivatives.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Notes for non-emergency personnel:**

Consult trained response personnel for clean-up of large spills or locations where providing preliminary control of the chemical release is hazardous. Hazardous locations include areas where ignition sources cannot be controlled and where mixture with organic material is possible. Isolate the area and deny entry to unnecessary and unprotected personnel. Sections 2, 5, 7 and 8 of this document should be consulted upon use of material, to become knowledgeable of the material's hazards and how to control associated risks.

If the location is not hazardous and only a small amount of material is released, the material can be swept up or wiped with damp towels/sponges while wearing the protective equipment as noted below. Clean the area with detergent and water. Prohibit discharge to drains, soil, surface and ground waters. Dispose in accordance with section 13 of this document.

**PERSONAL PROTECTIVE EQUIPMENT:** Nitrile or vinyl gloves, safety glasses/goggles and protective clothing (e.g. apron) may be required for clean-up of large releases. Respiratory protection is typically not necessary, but may be used depending upon the size of the spill and occupational exposure limits. Respiratory protection may include the use of particulate cartridges. See also section 8 of this document.

**Notes for those trained to participate in an emergency:**

**ACCIDENTAL RELEASE MEASURES:** Materials in powder form are not expected to migrate greatly during release. Released material should be swept up and accumulated in appropriate UN specification containers while minimizing dust generation. Wash area completely with water. Take care to avoid contact with wet surfaces or walkways that may become slick when residue is present. Rinse response equipment (e.g. towels, sponges, mops) thoroughly prior to disposal or storage. Prohibit discharge to drains, soil, surface and ground waters.

Recommendations for personal protective equipment selection are noted above. Dispose in accordance with section 13 of this document.

## SECTION 7: HANDLING AND STORAGE

**PRECAUTIONS FOR SAFE HANDLING:**
Do not eat, drink or smoke while working with hazardous chemicals. Employees should be advised to wear appropriate protective equipment in the manufacturing environment. See section 8 of this document for protective equipment selection. Use only with adequate ventilation and avoid inhalation. Avoid contact with eyes and skin. Do not use with metal utensils. All manufacturing should be performed indoors, in an enclosed environment.

Maintain a clean work environment which includes use of properly functioning containers, proper housekeeping practices.

**CONDITIONS FOR SAFE STORAGE:**

**Storage precautions for unpackaged product (manufacturing environment):** Keep in a cool and well-ventilated area. Keep containers closed when not in use. Store away from moisture. Do not store metal utensils with product. Maintain air gap between stacks/pallets. Store bulk masses greater than 450L at temperatures not exceeding 50°C/122°F. Store away from other materials. Store in a location where spill containment will be easily accessible and releases can be contained.

**Storage precautions for packaged product:** See consumer packaging.

Keep away from open drains and access to the environment.

**Incompatible materials**: Organic compounds and reducing agents. Store away from incompatible materials and moisture.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**CONTROL PARAMETERS:** These criteria have been published by the referenced authority to establish exposure limits in the work environment. Employee work areas should be monitored to ensure that permissible limits are not exceeded during the work day. These references do not coincide with product use. These references are meant to be in association with the manufacturing environment.

**OCCUPATIONAL EXPOSURE VALUES:**

| Component Name (CAS-No.) | Reference | TWA | | STEL/CEILING | |
|---|---|---|---|---|---|
| | | ppm | mg/m$^3$ | ppm | mg/m$^3$ |
| Titanium Dioxide (13463-67-7) | OSHA PEL | -- | 15[o] | -- | -- |
| | ACGIH TLV | -- | 10 | -- | -- |
| | NIOSH REL | -- | -- | -- | -- |
| Silica, amorphous (112926-00-8) | OSHA PEL | -- | -- | -- | -- |
| | ACGIH TLV | 20 mppcf or 80 mg/m$^3$ / %$SiO_2$ | | | |
| | NIOSH REL | -- | 6 | -- | -- |

| Component Name (CAS-No.) | Reference | TWA | | STEL/CEILING | |
|---|---|---|---|---|---|
| | | ppm | mg/m$^3$ | ppm | mg/m$^3$ |
| **Mica (12001-26-2)** | **OSHA PEL** | **20 mppcf** | | | |
| | **ACGIH TLV** | **--** | **3 R** | **--** | **--** |
| | **NIOSH REL** | **--** | **3*** | **--** | **--** |
| **Sodium Persulfate (7775-27-1)** | **OSHA PEL** | **--** | **--** | **--** | **--** |
| | **ACGIH TLV** | **--** | **0.1** | **--** | **--** |
| | **NIOSH REL** | **--** | **--** | **--** | **--** |
| **Potassium Persulfate (Persulfates) 7727-21-1** | **OSHA PEL** | **--** | **--** | **--** | **--** |
| | **ACGIH TLV** | **--** | **0.1** | **--** | **--** |
| | **NIOSH REL** | **--** | **--** | **--** | **--** |

Notes: ⁰ (OSHA) – Total Dust
R – Measured as respirable fraction of the aerosol
*(NIOSH) – Respirable Dust

No occupational exposure values have been published for other constituents noted in Section 3.

**WORK HYGIENIC PRACTICES:** Ensure all work surfaces are maintained, to prevent contamination.

**ENGINEERING CONTROLS:** None required for product use. For handling large quantities of material, such as in the manufacturing of product, ventilation should be utilized. This ventilation should be compatible with the control of oxidizing materials. Exhaust ventilation should be utilized to maintain air concentrations of material below the occupational exposure guidelines noted above.

Local exhaust ventilation is not typically required for product use. For handling large quantities of material, such as in the manufacturing of product **--** Local Exhaust: Explosion proof. Mechanical (general): Explosion proof.

**PERSONAL PROTECTIVE EQUIPMENT:** Consistent with good hygiene practices, personal protective equipment (PPE) should be used in conjunction with other control measures including engineering controls, ventilation and isolation. See also Section 5 of this document for PPE advice, in the event of an emergency.

**Eye/Face Protection (Non-Emergency):** None required for product use. Contact with eyes should be avoided. For handling of large quantities of material, safety glasses with side shields/goggles are recommended.

**Skin Protection (Non-Emergency):** Gloves should be worn when mixing kit components and applying mixture. For handling large quantities of material, such as in product manufacturing, nitrile or vinyl gloves should be considered for use. Tyvek clothing may also be suitable for handling large quantities of material in the manufacturing environment.

**Respiratory Protection (Non-Emergency):** Respiratory protection is not required for product use. For manufacturing of product, respiratory protection such may be considered. Ensure that the respirator meets current local occupational health and safety standards.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

**APPEARANCE**: Finely divided, free-flowing powder

**ODOR:** Not Available

**ODOR THRESHOLD:** Not Available

**pH:** 10.25 – 10.75 (Solution)

**MELTING/FREEZING POINT:** **F:** Not Available **C:** Not Available

**BOILING POINT:** **F:** Not Available **C:** Not Available

| | |
|---|---|
| **FLASH POINT:** | **F:** > Not Applicable **C:** >Not Applicable **METHOD USED:** Not Applicable |
| **EVAPORATION RATE:** | Not Applicable |
| **FLAMMABILITY:** | Not Applicable |
| **VAPOR PRESSURE (mmHg):** | @ 70F: Not Available @ 21 C: Not Available |
| **VAPOR DENSITY (AIR = 1):** | @ 70F: Not Available @ 21 C: Not Available |
| **RELATIVE DENSITY (H2O = 1):** | Not Available |
| **SOLUBILITY IN WATER:** | Not Available |
| **PARTITION COEFFICIENT:** | Not Available |
| **AUTOIGNITION TEMPERATURE:** | Not Available |
| **DECOMPOSITION TEMPERATURE:** | Not Available |
| **VISCOSITY:** | Not Available |

## SECTION 10: STABILITY AND REACTIVITY

**REACTIVITY:** Material is not considered reactive under typical handling and storage conditions. Heat and/or moisture may cause instability.

**STABILITY:** Product is stable.

**POSSIBILITY OF HAZARDOUS REACTIONS:** None known. Hazardous polymerization is not expected to occur.

**CONDITIONS TO AVOID:** Heat, moisture and contamination with organic materials and metal utensils.

**INCOMPATIBILITY (MATERIAL TO AVOID):** Organic compounds and reducing agents.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxygen, ammonia, oxides of carbon, sulfur, hydrocarbons, and/or derivatives.

## SECTION 11: TOXICOLOGICAL INFORMATION

**Where information is not listed specifically for constituents, published information was not available.**

**POTENTIAL HEALTH EFFECTS**

**ACUTE HEALTH EFFECTS:**
**SKIN CORROSION/IRRITATION**: Causes skin irritation
**SERIOUS EYE DAMAGE/IRRITATION**: Causes serious eye damage
**RESPIRATORY/SKIN SENSITIZATION**: May cause allergic reaction/breathing difficulty; May cause allergic skin reaction
**INGESTION**: Harmful if swallowed.
**INHALATION**: May cause respiratory irritation

**ROUTES OF EXPOSURE**: Eyes, skin, ingestion, inhalation

**SYMPTOMS**: Causes serious eye damage. May cause asthma symptoms or breathing difficulties. Harmful if swallowed. May cause an allergic skin reaction. Causes skin irritation. May cause respiratory irritation.

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE**: Existing dermatological conditions (such as eczema) and respiratory conditions (such as bronchial asthma and/or bronchitis) may be exacerbated.

**ACUTE TOXICOLOGY DATA FOR COMPONENTS**

| Material | Route | Species | Test Results |
|---|---|---|---|
| EDTA | Oral $LD_{50}$ | Rat (OECD 401 eq.) | 4,500 mg/kg bw |
| EDTA | Inh. $LC_{50}$ (6h) | Rat (Dust) | >1 mg/l air |
| Titanium Dioxide | Oral $LD_{50}$ | Rat | >5,000 mg/kg bw |
| Silica | Oral $LD_{50}$ | Rat | > 5,000 mg/kg |
| Silica | Dermal $LD_{50}$ | Rabbit | >5,000 mg/kg |
| Silica | $LC_0$ (4hr) | Rat | > 0.139 mg/L |
| Mica | Oral $LD_{50}$ | Rat | 2,000 mg/kg |
| Sodium Metasilicate | Oral $LD_{50}$ | Rat | 1,152 mg/kg bw |
| Sodium Lauryl Sulfate | Oral $LD_{50}$ | Rat | 6,000 mg/kg bw |
| Sodium Lauryl Sulfate | Dermal $LD_{50}$ | Rabbit | >2,000 mg/kg bw |
| Sodium Lauryl Sulfate | $LC_{50}$ (4 hr) | Rat | 8.67 mg/l air |
| Sodium Persulfate | Oral $LD_{50}$ | Rat (OECD 401 eq.) | 920 mg/kg bw |
| Sodium Persulfate | Dermal $LD_{50}$ | Rabbit | >10,000 mg/kg bw |
| Sodium Persulfate | $LC_{50}$ (4 hr) | Rat (OECD 403) | >5.1 mg/l air |
| Sodium Silicate | Oral $LD_{50}$ | Rat (OECD 401 eq.) | 3,400 mg/kg bw |
| Sodium Silicate | Dermal $LD_{50}$ | Rat | >5,000 mg/kg bw |
| Potassium Persulfate | Oral $LD_{50}$ | Rat (OECD 401 eq.) | 1,130 mg/kg bw |
| Potassium Persulfate | Dermal $LD_{50}$ | Rabbit | >10,000 mg/kg bw |
| Potassium Persulfate | $LC_{50}$ (1 hr) | Rat | >42.9 mg/l air |

**Skin Corrosion/Irritation:**

*EDTA:* Not Irritating (Rabbit)
*Titanium Dioxide:* Not Irritating (Rabbit)
*Silica:* Not Irritating (Rabbit)
*Mica:* Not Irritating (Rabbit)
*Sodium Metasilicate:* Corrosive (Rabbit, OECD 404)
*Sodium Lauryl Sulfate:* Irritating (Rabbit, OECD 404)
*Sodium Persulfate:* Irritating (Rabbit)
*Sodium Silicate:* Corrosive (≥ 28%); Irritating (<28%) (Rabbit, 16 CFR 1500.42)
*Potassium Persulfate:* Irritating (Rabbit)

**Serious Eye Damage/Irritation:**

*EDTA:* Irritating (Rabbit)
*Titanium Dioxide:* Not Irritating (Rabbit)
*Silica:* Not Irritating (Rabbit)
*Mica:* Slightly Irritating (Rabbit)
*Sodium Metasilicate:* Corrosive (In Vitro, IRE)
*Sodium Lauryl Sulfate:* Mildly Irritating: 5.1%; Moderately Irritating: 10%; Severely Irritating: 21% (Rat)
*Sodium Persulfate:* Irritating (Rabbit)
*Sodium Silicate:* Corrosive (≥ 39%); Irritating (<39%) (Rabbit, OECD 404)
*Potassium Persulfate:* Irritating (Rabbit)

**Respiratory Irritation:**

*Silica:* Irritating (Rat)
*Sodium Metasilicate:* Irritating
*Sodium Persulfate:* Irritating (Human)
*Sodium Silicate:* Irritating
*Potassium Persulfate:* Irritating (Human)

**Skin Sensitization:**

| | |
|---|---|
| *EDTA:* | Not Sensitizing (Guinea Pig, OECD 406) |
| *Silica:* | Not sensitizing (Guinea Pig) |
| *Sodium Metasilicate:* | Not Sensitizing (Guinea Pig, OECD 429) |
| *Sodium Lauryl Sulfate:* | Not Sensitizing (Guinea Pig, OECD 406) |
| *Sodium Persulfate:* | Sensitizing (Guinea Pig, OECD 406) |
| *Sodium Silicate:* | Not Sensitizing (Human, RIPT) |
| *Potassium Persulfate:* | Sensitizing (Mouse, OECD 429 eq.) |

**CHRONIC HEALTH HAZARDS**:

**REPEAT DOSE TOXICITY:**

NOAEL (*Titanium Dioxide*, oral): 24,000 mg/kg (Rat)
NOAEL (*Silica*, inh.): 1.3 mg/$m^3$ day (Rat)
NOAEL (*Sodium Metasilicate,* oral): >227 mg/kg bw/day (Rat, 90d)
NOAEL (*Sodium Lauryl Sulfate*, oral): 100 mg/kg/day (Rat )
LOAEL (*Sodium Persulfate*): 200 mg/kg bw/day (Rat, OECD 408 eq., 90d)
NOAEL (*Sodium Silicate,* oral): 2,400 mg/kg bw/day (Rat, OECD 407 eq., 90d)
NOAEL (*Potassium Persulfate*, oral): 131.5 mg/kg bw/day (Rat, OECD 407 eq., 28d)

**CARCINOGENICITY:**

| Component Name (CAS-No.) | OSHA | ACGIH | NTP | IARC |
|---|---|---|---|---|
| Titanium Dioxide (13463-67-7) | -- | TLV-A4 | -- | IARC-2B |
| Silica, amorphous (7631-86-9) | -- | -- | -- | IARC-3 |

*ACGIH TLV*-A4 – This reference indicates that the material is "Not Classifiable as a Human Carcinogen".
*IARC-2B* – This reference indicates that the material is "Possibly Carcinogenic to Humans"
*IARC-3* – This reference indicates that the material is "Unclassifiable to Carcinogenicity to Humans"

These products contain titanium dioxide which has received its carcinogenic classification based on exposure in the respirable form. These materials in this product are not in their respirable form and are intended for application to hair.

**MUTAGENICITY:**

| | |
|---|---|
| *EDTA:* | A variety of *in vitro* and i*n vivo* tests have products negative results. |
| *Titanium Dioxide:* | A variety of *in vitro* tests have produced negative results. |
| *Silica*: | A variety of *in vitro* tests have produced negative results. |
| *Sodium Metasilicate:* | A variety of *in vitro* and i*n vivo* tests have products negative results. |
| *Sodium Lauryl Sulfate:* | A variety of *in vitro* and i*n vivo* tests have products negative results. |
| *Sodium Persulfate:* | A variety of *in vitro* and i*n vivo* tests have products negative results. |
| *Sodium Silicate:* | A variety of *in vitro* and i*n vivo* tests have products negative results. |
| *Potassium Persulfate:* | A variety of *in vitro* tests have produced negative results. |

**REPRODUCTIVE TOXICITY:**

| | |
|---|---|
| *Silica:* | NOAEL: 497 mg/kg bw (OECD 415) – No reproductive effects |
| *Sodium Lauryl Sulfate:* | No adverse effect was seen on fertility. |
| *Sodium Silicate:* | NOAEL: >159 mg/kg bw/d (Rat) – No reproductive effects |

**DEVELOPMENTAL TOXICITY/TERATOGENICITY:**

| | |
|---|---|
| *EDTA:* | NOAEL: ≥ 967 mg/kg bw/d (Rat) – No developmental effects |
| *Silica:* | NOAEL: 1,350 mg/kg bw (OECD 414) – No developmental effects |
| *Sodium Metasilicate:* | NOAEL: > 200 mg/kg bw/day (Mouse) |
| *Sodium Lauryl Sulfate*: | NOAEL: 300 mg/kg/day; LOAEL: 600 mg/kg/day (Mice/Rat) |

## SECTION 12: ECOLOGICAL INFORMATION

Contact with the environment should be avoided. Spills and leaks should be immediately cleaned up and removed. All precautions should be taken to prevent contact with the environment. Published information regarding ingredients listed on this document area found below; where data is not listed, documentation was unavailable.

**ACUTE AND PROLONGED TOXICITY TO FISH**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| EDTA | $LC_{50}$ | 159 mg/L | Lepomis macrochirus | 96 h |
| Titanium Dioxide | $LC_{50}$ | >1,000 mg/L | Leuciscusidus idus | 48 h |
| Silica | $LC_0$ (OECD 203) | >10,000 mg/L | Danio rerio | 96 h |
| Sodium Metasilicate | $LC_{50}$ (ISO 7346) | 210 mg/L | Danio rerio | 96 h |
| Sodium Persulfate | $LC_{50}$ (EPA OPP 72-1) | 163 mg/L | Oncorhynchus mykiss | 96 h |
| Sodium Silicate | $LC_{50}$ (OECD 203) | 1,108 mg/L | Danio rerio | 96 h |
| Potassium Persulfate | $LC_{50}$ | 76 mg/L | Oncorhynchus mykiss | 96 h |

**ACUTE TOXICITY TO AQUATIC INVERTEBRATES**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| EDTA | $EC_{50}$ (DIN 38412, 11) | 625 mg/L | Daphnia Magna | 25 h |
| Silica | $EC_{50}$ (OECD 202) | >10,000 mg/L | Daphnia magna | 48 h |
| Sodium Lauryl Sulfate | $EC_{50}$ | 5.55 mg/L | Ceriodaphnia Dubia | 48 h |
| Sodium Persulfate | $EC_{50}$ (EPA OPP 72-2) | 133 mg/L | Daphnia Magna | 48 h |
| Sodium Silicate | $EC_{50}$ (EU Method C.2) | 1,700 mg/L | Daphnia Magna | 48 h |
| Potassium Persulfate | $EC_{50}$ | 120 mg/L | Daphnia Magna | 48 h |

**TOXICITY TO AQUATIC PLANTS**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Titanium Dioxide | $EC_{50}$ | 61 mg/L | Pseudokirchneriella subcapitata | 72 h |
| Silica | $EC_{50}$ (ISO 8692) | 440 mg/L | Scenedesmus capricornutum | 72 h |
| Sodium Lauryl Sulfate | $EC_{50}$ | > 120mg/L | Green Algae | 72 h |
| Sodium Persulfate | $EC_{50}$ (OECD 201) | 116 mg/L | Pseudokirchneriella subcapitata | 72 h |
| Sodium Silicate | $EC_{50}$ (DIN 38412, 9) | >345.4 mg/L | Desmodesmus subspicatus | 72 h |

**TOXICITY TO MICROORGANISMS**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| EDTA | $EC_{50}$ | 2.4 mmol/L | Microorganism | 24 h |
| Titanium Dioxide | $EC_{50}$ | 5-30 mg/L | Activated Sludge | 3 h |
| Sodium Metasilicate | $EC_{50}$ (OECD 209) | > 100 mg/L | Activated Sludge | 3 h |
| Sodium Lauryl Sulfate | $EC_{50}$ | 0.38 mg/L | Photobacterium Phosphoreum | 15 min |
| Sodium Silicate | $EC_0$ (DIN 38412, 27) | 3,454 mg/L | Pseudomonas putida | 30 min |

**PERSISTENCY AND DEGRADABILITY:**

*EDTA:* 37% (14d) – OECD 302 B – Inherently Biodegradable

**BIOACCUMULATIVE POTENTIAL:**

| | |
|---|---|
| *EDTA:* | BCF: 1.1; log Pow: -3.86 (Est.) – Not expected to bioaccumulate |
| *Silica:* | Not expected to bioaccumulate |
| *Sodium Metasilicate:* | Not expected to bioaccumulate |
| *Sodium Persulfate:* | Not expected to bioaccumulate |
| *Sodium Silicate:* | Not expected to bioaccumulate |
| *Potassium Persulfate:* | Not expected to bioaccumulate |

## SECTION 13: DISPOSAL CONSIDERATIONS

**Those responsible for the performance of disposal, recycling or reclamation activities should refer to Section 8 of this document for advice on personal protective equipment and exposure controls.**

**WASTE DISPOSAL CONTAINERS:** Appropriate US DOT containers should be utilized which may include cardboard boxes for products, plastic/lined drums for solids. These containers should meet the packaging specifications required for DOT compliance. Packaging containers must not include incompatible materials.

**WASTE DISPOSAL METHOD:** As manufactured, this product exhibits the ignitable (D001) RCRA characteristic of hazardous waste. Controlled incineration at a licensed waste facility is the recommended technology for treatment and disposal. Material must not be disposed of through sewage.

**RCRA HAZARD CLASS: D001**

Follow all local governmental requirements intended for disposal.

## SECTION 14: TRANSPORT INFORMATION

**North American Ground Transportation**

- **IN CONSUMER PACKAGING:** Not Regulated

- **OTHER THAN CONSUMER PACKAGING (≤ 450L):** Not Regulated

- **OTHER THAN CONSUMER PACKAGING (> 450L):**
  **UN ID Number:** UN 3088
  **Proper Shipping Name:** Self-heating, solid, organic, n.o.s
  **Technical Name:** Potassium persulfate, sodium persulfate
  **Hazard Class:** 4.2
  **Packing Group:** III
  **Label Statements:** Spontaneously Combustible (Division 4.2)

**Transport Via Water**

- **IN CONSUMER PACKAGING:** Not Regulated

- **OTHER THAN CONSUMER PACKAGING (≤ 450L):** Not Regulated

- **OTHER THAN CONSUMER PACKAGING (> 450L):**
  **UN ID Number:** UN 3088
  **Proper Shipping Name:** Self-heating, solid, organic, n.o.s
  **Technical Name:** Potassium persulfate, sodium persulfate
  **Hazard Class:** 4.2
  **Packing Group:** III
  **Label Statements:** Spontaneously Combustible (Division 4.2)

**Transport Via Air (Domestic/International)**

- **IN CONSUMER PACKAGING:** Not Regulated
- **OTHER THAN CONSUMER PACKAGING (≤ 450L):** Not Regulated
- **OTHER THAN CONSUMER PACKAGING (> 450L):**

| | |
|---|---|
| **UN ID Number:** | UN 3088 |
| **Proper Shipping Name:** | Self-heating, solid, organic, n.o.s |
| **Technical Name:** | Potassium persulfate, sodium persulfate |
| **Hazard Class:** | 4.2 |
| **Packing Group:** | III |
| **Label Statements:** | Spontaneously Combustible (Division 4.2) |

**Please be aware of carrier transport variations before shipping hazardous materials.**

## SECTION 15: REGULATORY INFORMATION

**National Fire Protection Association Codes:** Health: 2 Fire: 0 Reactivity: 1 Other:

**Workplace Hazardous Materials Identification System:** Class D; Division 2, Subdivision B; Corneal Damage/Skin Irritation;

This regulatory information represents the product, in its consumer packaging.

## SECTION 16: OTHER INFORMATION

**PREPARATION INFORMATION:** This is the first issuance of this document.

Author: Ronald Weslosky (Corporate Regulatory Services)

L'ORÉAL USA

# SAFETY DATA SHEET

**SDS # 15-193**

**ISSUANCE DATE: May 11, 2015**

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

L'Oreal USA Products, Inc.
111 Terminal Avenue
Clark, NJ 07066

L'Oreal Canada
4895 rue Hickmore
Ville St-Laurent, H4Y 1K5
Canada

**Emergency Telephone Number:**
1-800-535-5053 (International: 352-323-3500)
In Canada – 1-613-996-6666 (Canutec) (*666 cellular)

**For further information**:
1-732-499-2741

**Poison Control Number:** 412-390-3326

**Product Name: Redken Blonde Dimensions Conditioning Lightener**

**Recommendations on use:** Personal care product to be mixed with companion product(s) in accordance with instructions and applied to hair for lightening effect.

**Restrictions on use:** For external use only. Use only as directed.

## SECTION 2: HAZARDS IDENTIFICATION

**Signal Word: DANGER**

| Symbol | Classification | Hazard Statement | Prevention Statements |
|---|---|---|---|
|  | Oxidizing Solids Category 3 | May intensify fire Oxidizer | • Keep away from heat. Keep/Store away from metal and combustible materials.<br>• Take any precaution to avoid mixing with combustibles. |
|  | Eye Damage Category 1 | Causes serious eye damage | • Wash hands and all skin surfaces contacted thoroughly after handling<br>• Wear nitrile or vinyl gloves. Wear eye protection appropriate for the manufacturing operation being performed (goggles or face shield). |
|  | Sensitization Respiratory | May cause allergy or asthma symptoms or breathing difficulties if inhaled | • Avoid breathing dust.<br>• In case of inadequate ventilation wear respiratory protection |

| Symbol | Classification | Hazard Statement | Prevention Statements |
|---|---|---|---|
|  | Acute Toxicity Oral Category 4 | Harmful if swallowed | • Do not eat, drink or smoke when using this product |
| No symbol Required | Sensitization – Skin Category 1 | May cause an allergic skin reaction | • Contaminated work clothing must not be allowed out of the workplace |
| No symbol Required | Skin Irritation Category 2 | Causes skin irritation | • See prevention statements above |
| No symbol Required | Specific Target Organ Toxicity (Single Exposure) Category 3 | May cause respiratory irritation | • Use only outdoors or in a well-ventilated area |

This material is considered hazardous by the US Occupational Safety and Health Administration Hazard Communication Standard (29 CFR 1910.1200)

General Precautionary Statements: Keep out of reach of children. Read label/directions before use. Keep from heat and moisture. Do not use metal utensils.

Hazards Not Otherwise Classified: None

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Only hazardous constituents associated with the product are listed below**

| INGREDIENT: | CAS NO. | % WT |
|---|---|---|
| Sodium Lauroyl Sarcosinate | 137-16-6 | ≤ 0.5% |
| EDTA | 60-00-4 | ≤ 1.0% |
| Silica | 7631-86-6 / 112926-00-8 | ≤ 1.0% |
| Sodium Metasilicate | 6834-92-0 | ≤ 3.0% |
| Sodium Persulfate | 7775-27-1 | ≤ 8.0% |
| Sodium Silicate | 1344-09-8 | ≤ 21.0% |
| Potassium Persulfate | 7727-21-1 | ≤ 46.0% |

## SECTION 4: FIRST AID MEASURES

**Response Statements:**

**IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing until material is sufficiently removed from the eye. **If eye irritation persists:** Immediately call a poison control center or get medical advice/attention.

**IF ON SKIN**: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. **If skin irritation or rash occurs:** Get medical advice/attention.

**IF INHALED:** If breathing is difficult, remove person to fresh air and keep in a position comfortable for breathing. **If experiencing respiratory symptoms:** Call a poison control center or get medical advice/attention.

**IF SWALLOWED:** Rinse mouth. Do not induce vomiting. Never give anything by mouth to an unconscious individual. Call a poison control center or get medical advice/attention if you fell unwell.

**SYMPTOMS/EFFECTS**: Causes serious eye damage. May cause asthma symptoms or breathing difficulties. Harmful if swallowed. May cause an allergic skin reaction. Causes skin irritation. May cause respiratory irritation.

**NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:** Consult product labeling. No special advice.

## SECTION 5: FIRE-FIGHTING MEASURES

**Notes for Non-Emergency Personnel:**

**EXTINGUISHING MEDIA:** In case of fire: Use carbon dioxide, dry chemical and/or foam to extinguish. Water spray may be used to soak other materials surrounding the product, to prevent the spread of the fire. Selection of a fire extinguisher should also be appropriate to address the location of the fire and equipment involved. Review the tools available at your location to ensure proper availability of equipment.

**Notes for those trained to participate in an emergency:**

**SPECIAL FIRE FIGHTING PROCEDURES:** Follow National Fire Protection Association Guidelines or local guidelines appropriate for emergency response.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Persulfates yield oxygen and may stimulate combustion of flammable and combustible materials.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxygen, ammonia, oxides of carbon, sulfur, hydrocarbons, and/or derivatives.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Notes for non-emergency personnel:**

Consult trained response personnel for clean-up of large spills or locations where providing preliminary control of the chemical release is hazardous. Hazardous locations include areas where ignition sources cannot be controlled and where mixture with organic material is possible. Isolate the area and deny entry to unnecessary and unprotected personnel. Sections 2, 5, 7 and 8 of this document should be consulted upon use of material, to become knowledgeable of the material's hazards and how to control associated risks.

If the location is not hazardous and only a small amount of material is released, the material can be swept up or wiped with damp towels/sponges while wearing the protective equipment as noted below. Clean the area with detergent and water. Prohibit discharge to drains, soil, surface and ground waters. Dispose in accordance with section 13 of this document.

**PERSONAL PROTECTIVE EQUIPMENT:** Nitrile or vinyl gloves, safety glasses/goggles and protective clothing (e.g. apron) may be required for clean-up of large releases. Respiratory protection is typically not necessary, but may be used depending upon the size of the spill and occupational exposure limits. Respiratory protection may include the use of particulate cartridges. See also section 8 of this document.

**Notes for those trained to participate in an emergency:**

**ACCIDENTAL RELEASE MEASURES:** Materials in powder form are not expected to migrate greatly during release. Released material should be swept up and accumulated in appropriate UN specification containers while minimizing dust generation. Wash area completely with water. Take care to avoid contact with wet surfaces or walkways that may become slick when residue is present. Rinse response equipment (e.g. towels, sponges, mops) thoroughly prior to disposal or storage. Prohibit discharge to drains, soil, surface and ground waters.

Recommendations for personal protective equipment selection are noted above. Dispose in accordance with section 13 of this document.

## SECTION 7: HANDLING AND STORAGE

**PRECAUTIONS FOR SAFE HANDLING:**
Do not eat, drink or smoke while working with hazardous chemicals. Employees should be advised to wear appropriate protective equipment in the manufacturing environment. See section 8 of this document for protective equipment selection. Use only with adequate ventilation and avoid inhalation. Avoid contact with eyes and skin. Do not use with metal utensils. All manufacturing should be performed indoors, in an enclosed environment.

Maintain a clean work environment which includes use of properly functioning containers, proper housekeeping practices.

**CONDITIONS FOR SAFE STORAGE:**

**Storage precautions for unpackaged product (manufacturing environment):** Keep in a cool and well-ventilated area. Keep containers closed when not in use. Store away from moisture. Do not store metal utensils with product. This material should be stored locked up in an area where production inventory may be controlled by authorized personnel. Store in a location where spill containment will be easily accessible and releases can be contained.

**Storage precautions for packaged product:** See consumer packaging.

Keep away from open drains and access to the environment.

**Incompatible materials**: Organic compounds and reducing agents. Store away from incompatible materials and moisture.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**CONTROL PARAMETERS:** These criteria have been published by the referenced authority to establish exposure limits in the work environment. Employee work areas should be monitored to ensure that permissible limits are not exceeded during the work day. These references do not coincide with product use. These references are meant to be in association with the manufacturing environment.

**OCCUPATIONAL EXPOSURE VALUES:**

| Component Name (CAS-No.) | Reference | TWA | | STEL/CEILING | |
|---|---|---|---|---|---|
| | | ppm | $mg/m^3$ | ppm | $mg/m^3$ |
| Silica, amorphous (112926-00-8) | OSHA PEL | -- | -- | -- | -- |
| | ACGIH TLV | 20 mppcf or 80 $mg/m^3$ / $\%SiO_2$ | | | |
| | NIOSH REL | -- | 6 | -- | -- |
| Sodium Persulfate (7775-27-1) | OSHA PEL | -- | -- | -- | -- |
| | ACGIH TLV | -- | 0.1 | -- | -- |
| | NIOSH REL | -- | -- | -- | -- |

| Component Name (CAS-No.) | Reference | TWA | | STEL/CEILING | |
|---|---|---|---|---|---|
| | | ppm | mg/m$^3$ | ppm | mg/m$^3$ |
| Potassium Persulfate (Persulfates) 7727-21-1 | OSHA PEL | -- | -- | -- | -- |
| | ACGIH TLV | -- | 0.1 | -- | -- |
| | NIOSH REL | -- | -- | -- | -- |

No occupational exposure values have been published for other constituents noted in Section 3.

**WORK HYGIENIC PRACTICES:** Ensure all work surfaces are maintained, to prevent contamination.

**ENGINEERING CONTROLS:** None required for product use. For handling large quantities of material, such as in the manufacturing of product, ventilation should be utilized. This ventilation should be compatible with the control of oxidizing materials. Exhaust ventilation should be utilized to maintain air concentrations of material below the occupational exposure guidelines noted above.

Local exhaust ventilation is not typically required for product use. For handling large quantities of material, such as in the manufacturing of product **--** Local Exhaust: Explosion proof. Mechanical (general): Explosion proof.

**PERSONAL PROTECTIVE EQUIPMENT:** Consistent with good hygiene practices, personal protective equipment (PPE) should be used in conjunction with other control measures including engineering controls, ventilation and isolation. See also Section 5 of this document for PPE advice, in the event of an emergency.

**Eye/Face Protection (Non-Emergency):** None required for product use. Contact with eyes should be avoided. For handling of large quantities of material, safety glasses with side shields/goggles are recommended.

**Skin Protection (Non-Emergency):** Gloves should be worn when mixing kit components and applying mixture. For handling large quantities of material, such as in product manufacturing, nitrile or vinyl gloves should be considered for use. Tyvek clothing may also be suitable for handling large quantities of material in the manufacturing environment.

**Respiratory Protection (Non-Emergency):** Respiratory protection is not required for product use. For manufacturing of product, respiratory protection such may be considered. Ensure that the respirator meets current local occupational health and safety standards.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

**APPEARANCE**: Finely divided, free-flowing powder

**ODOR:** Lightly fragranced

**ODOR THRESHOLD:** Not Available

**pH:** 10.2– 10.8 (Solution)

**MELTING/FREEZING POINT:** **F:** Not Available **C:** Not Available

**BOILING POINT:** **F:** Not Available **C:** Not Available

**FLASH POINT:** **F:** > Not Applicable **C:** >Not Applicable **METHOD USED:** Not Applicable

**EVAPORATION RATE:** Not Applicable

**FLAMMABILITY:** Not Applicable

**VAPOR PRESSURE (mmHg):** @ 70F: Not Available @ 21 C: Not Available

| | |
|---|---|
| **VAPOR DENSITY (AIR = 1):** | @ 70F: Not Available @ 21 C: Not Available |
| **RELATIVE DENSITY (H2O = 1):** | Not Available |
| **SOLUBILITY IN WATER:** | Not Available |
| **PARTITION COEFFICIENT:** | Not Available |
| **AUTOIGNITION TEMPERATURE:** | Not Available |
| **DECOMPOSITION TEMPERATURE:** | Not Available |
| **VISCOSITY:** | Not Available |

## SECTION 10: STABILITY AND REACTIVITY

**REACTIVITY:** Material is not considered reactive under typical handling and storage conditions.

**STABILITY:** Product is stable.

**POSSIBILITY OF HAZARDOUS REACTIONS:** None known. Hazardous polymerization is not expected to occur.

**CONDITIONS TO AVOID:** Heat, moisture and contamination with organic materials and metal utensils.

**INCOMPATIBILITY (MATERIAL TO AVOID):** Organic compounds and reducing agents.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxygen, ammonia, oxides of carbon, sulfur, hydrocarbons, and/or derivatives.

## SECTION 11: TOXICOLOGICAL INFORMATION

**Where information is not listed specifically for constituents, published information was not available.**

**POTENTIAL HEALTH EFFECTS**

**ACUTE HEALTH EFFECTS:**
**SKIN CORROSION/IRRITATION**: Causes skin irritation
**SERIOUS EYE DAMAGE/IRRITATION**: Causes serious eye damage
**RESPIRATORY/SKIN SENSITIZATION**: May cause allergic reaction/breathing difficulty; May cause allergic skin reaction
**INGESTION**: Harmful if swallowed.
**INHALATION**: May cause respiratory irritation

**ROUTES OF EXPOSURE**: Eyes, skin, ingestion, inhalation

**SYMPTOMS**: Causes serious eye damage. May cause asthma symptoms or breathing difficulties. Harmful if swallowed. May cause an allergic skin reaction. Causes skin irritation. May cause respiratory irritation.

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE**: Existing dermatological conditions (such as eczema) and respiratory conditions (such as bronchial asthma and/or bronchitis) may be exacerbated.

**ACUTE TOXICOLOGY DATA FOR COMPONENTS**

| Material | Route | Species | Test Results |
|---|---|---|---|
| Sodium Lauroyl Sarcosinate | Oral $LD_{50}$ | Rat (OEDC 401) | >5,000 mg/kg bw |
| Sodium Lauroyl Sarcosinate | $LC_{50}$ (4 hr) | Rat (OECD 403) | 1-5 mg/l air |
| EDTA | Oral $LD_{50}$ | Rat (OECD 401 eq.) | 4,500 mg/kg bw |
| EDTA | Inh. $LC_{50}$ (6h) | Rat (Dust) | >1 mg/l air |
| Silica | Oral $LD_{50}$ | Rat | > 5,000 mg/kg |
| Silica | Dermal $LD_{50}$ | Rabbit | >5,000 mg/kg |
| Silica | $LC_0$ (4hr) | Rat | > 0.139 mg/L |
| Sodium Metasilicate | Oral $LD_{50}$ | Rat | 1,152 mg/kg bw |
| Sodium Persulfate | Oral $LD_{50}$ | Rat (OECD 401 eq.) | 920 mg/kg bw |
| Sodium Persulfate | Dermal $LD_{50}$ | Rabbit | >10,000 mg/kg bw |
| Sodium Persulfate | $LC_{50}$ (4 hr) | Rat (OECD 403) | >5.1 mg/l air |
| Sodium Silicate | Oral $LD_{50}$ | Rat (OECD 401 eq.) | 3,400 mg/kg bw |
| Sodium Silicate | Dermal $LD_{50}$ | Rat | >5,000 mg/kg bw |
| Potassium Persulfate | Oral $LD_{50}$ | Rat (OECD 401 eq.) | 1,130 mg/kg bw |
| Potassium Persulfate | Dermal $LD_{50}$ | Rabbit | >10,000 mg/kg bw |
| Potassium Persulfate | $LC_{50}$ (1 hr) | Rat | >42.9 mg/l air |

**Skin Corrosion/Irritation:**

*Sodium Lauroyl Sarcosinate:* Mildly Irritating (Rabbit, OECD 404) (30%)
*EDTA:* Not Irritating (Rabbit)
*Silica:* Not Irritating (Rabbit)
*Sodium Metasilicate:* Corrosive (Rabbit, OECD 404)
*Sodium Persulfate:* Irritating (Rabbit)
*Sodium Silicate:* Corrosive (≥ 28%); Irritating (<28%) (Rabbit, 16 CFR 1500.42)
*Potassium Persulfate:* Irritating (Rabbit)

**Serious Eye Damage/Irritation:**

*Sodium Lauroyl Sarcosinate:* Irritating (Rabbit, OECD 405) (30%)
*EDTA:* Irritating (Rabbit)
*Silica:* Not Irritating (Rabbit)
*Sodium Metasilicate:* Corrosive (In Vitro, IRE)
*Sodium Persulfate:* Irritating (Rabbit)
*Sodium Silicate:* Corrosive (≥ 39%); Irritating (<39%) (Rabbit, OECD 404)
*Potassium Persulfate:* Irritating (Rabbit)

**Respiratory Irritation:**

*Sodium Lauroyl Sarcosinate:* Irritating (Rat) (34.5%)
*Silica:* Irritating (Rat)
*Sodium Metasilicate:* Irritating
*Sodium Persulfate:* Irritating (Human)
*Sodium Silicate:* Irritating
*Potassium Persulfate:* Irritating (Human)

**Skin Sensitization:**

*Sodium Lauroyl Sarcosinate:* Not Sensitizing (Guinea Pig) (30%)
*EDTA:* Not Sensitizing (Guinea Pig, OECD 406)
*Silica:* Not sensitizing (Guinea Pig)
*Sodium Metasilicate:* Not Sensitizing (Guinea Pig, OECD 429)
*Sodium Persulfate:* Sensitizing (Guinea Pig, OECD 406)
*Sodium Silicate:* Not Sensitizing (Human, RIPT)
*Potassium Persulfate:* Sensitizing (Mouse, OECD 429 eq.)

**CHRONIC HEALTH HAZARDS**:

**REPEAT DOSE TOXICITY:**
NOAEL (*Sodium Lauroyl Sarcosinate*, oral): 1,000 mg/kg/day (Rat, OECD 408, 90d)
NOAEL (*Silica*, inh.): 1.3 mg/$m^3$ day (Rat)
NOAEL (*Sodium Metasilicate,* oral): >227 mg/kg bw/day (Rat, 90d)
LOAEL (*Sodium Persulfate*): 200 mg/kg bw/day (Rat, OECD 408 eq., 90d)
NOAEL (*Sodium Silicate,* oral): 2,400 mg/kg bw/day (Rat, OECD 407 eq., 90d)
NOAEL (*Potassium Persulfate*, oral): 131.5 mg/kg bw/day (Rat, OECD 407 eq., 28d)

**CARCINOGENICITY:**

| Component Name (CAS-No.) | OSHA | ACGIH | NTP | IARC |
|---|---|---|---|---|
| Silica, amorphous (7631-86-9) | -- | -- | -- | IARC-3 |

*IARC-3* – This reference indicates that the material is "Unclassifiable to Carcinogenicity to Humans"

**MUTAGENICITY:**
*Sodium Lauroyl Sarcosinate:* A variety of *in vitro* tests have produced negative results.
*Silica*: A variety of *in vitro* tests have produced negative results.
*Sodium Metasilicate:* A variety of *in vitro* and i*n vivo* tests have products negative results.
*Sodium Persulfate:* A variety of *in vitro* and i*n vivo* tests have products negative results.
*Sodium Silicate:* A variety of *in vitro* and i*n vivo* tests have products negative results.
*Potassium Persulfate:* A variety of *in vitro* tests have produced negative results.

**REPRODUCTIVE TOXICITY:**
*Silica:* NOAEL: 497 mg/kg bw (OECD 415) – No reproductive effects
*Sodium Silicate:* NOAEL: >159 mg/kg bw/d (Rat) – No reproductive effects

**DEVELOPMENTAL TOXICITY/TERATOGENICITY:**
*Sodium Lauroyl Sarcosinate:* NOAEL: ≥ 250 mg/kg/day (Rat, OECD 414)
*EDTA:* NOAEL: ≥ 967 mg/kg bw/d (Rat) – No developmental effects
*Silica:* NOAEL: 1,350 mg/kg bw (OECD 414) – No developmental effects
*Sodium Metasilicate:* NOAEL: > 200 mg/kg bw/day (Mouse)

## SECTION 12: ECOLOGICAL INFORMATION

Contact with the environment should be avoided. Spills and leaks should be immediately cleaned up and removed. All precautions should be taken to prevent contact with the environment. Published information regarding ingredients listed on this document area found below; where data is not listed, documentation was unavailable.

**ACUTE AND PROLONGED TOXICITY TO FISH**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Sodium Lauroyl Sarcosinate | $LC_{50}$ (OECD 203) | 107 mg/L | Danio rerio | 96h |
| EDTA | $LC_{50}$ | 159 mg/L | Lepomis macrochirus | 96 h |
| Silica | $LC_{0}$ (OECD 203) | > 10,000mg/L | Danio rerio | 96 h |
| Sodium Metasilicate | $LC_{50}$ (ISO 7346) | 210 mg/L | Danio rerio | 96 h |
| Sodium Persulfate | $LC_{50}$ (EPA OPP 72-1) | 163 mg/L | Oncorhynchus mykiss | 96 h |
| Sodium Silicate | $LC_{50}$ (OECD 203) | 1,108 mg/L | Danio rerio | 96 h |
| Potassium Persulfate | $LC_{50}$ | 76 mg/L | Oncorhynchus mykiss | 96 h |

**ACUTE TOXICITY TO AQUATIC INVERTEBRATES**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Sodium Lauroyl Sarcosinate | $EC_{50}$ (OECD 202) | 29.7 mg/L | Daphnia magna | 48 h |
| EDTA | $EC_{50}$ (DIN 38412, 11) | 625 mg/L | Daphnia Magna | 25 h |
| Silica | $EC_{50}$ (OECD 202) | > 10,000mg/L | Daphnia magna | 48 h |
| Sodium Persulfate | $EC_{50}$ (EPA OPP 72-2) | 133 mg/L | Daphnia Magna | 48 h |
| Sodium Silicate | $EC_{50}$ (EU Method C.2) | 1,700 mg/L | Daphnia Magna | 48 h |
| Potassium Persulfate | $EC_{50}$ | 120 mg/L | Daphnia Magna | 48 h |

**TOXICITY TO AQUATIC PLANTS**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Sodium Lauroyl Sarcosinate | $EC_{50}$ (OECD 201) | 79 mg/L | Desmodesmus subspicatus | 72 h |
| Silica | $EC_{50}$ (ISO 8692) | 440 mg/L | Scenedesmus capricornutum | 72 h |
| Sodium Persulfate | $EC_{50}$ (OECD 201) | 116 mg/L | Pseudokirchneriella subcapitata | 72 h |
| Sodium Silicate | $EC_{50}$ (DIN 38412, 9) | >345.4 mg/L | Desmodesmus subspicatus | 72 h |

**TOXICITY TO MICROORGANISMS**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Sodium Lauroyl Sarcosinate | $EC_{50}$ (OECD 209) | >1,000 mg/L | Activated Sludge | 3 h |
| EDTA | $EC_{50}$ | 2.4 mmol/L | Microorganism | 24 h |
| Sodium Metasilicate | $EC_{50}$ (OECD 209) | > 100 mg/L | Activated Sludge | 3 h |
| Sodium Silicate | $EC_0$ (DIN 38412, 27) | 3,454 mg/L | Pseudomonas putida | 30 min |

**PERSISTENCY AND DEGRADABILITY:**

*Sodium Lauroyl Sarcosinate:* 82% (28d) – ISO 14593 – Readily Biodegradable
*EDTA:* 37% (14d) – OECD 302 B – Inherently Biodegradable

**BIOACCUMULATIVE POTENTIAL:**

*Sodium Lauroyl Sarcosinate:* BCF: 238 – 288; log Pow: 4.6; – Low potential to bioaccumulate
*EDTA:* BCF: 1.1; log Pow: -3.86 (Est.) – Not expected to bioaccumulate
*Silica:* Not expected to bioaccumulate
*Sodium Metasilicate:* Not expected to bioaccumulate
*Sodium Silicate:* Not expected to bioaacumulate
*Sodium Persulfate:* Not expected to bioaccumulate
*Potassium Persulfate:* Not expected to bioaccumulate

## SECTION 13: DISPOSAL CONSIDERATIONS

**Those responsible for the performance of disposal, recycling or reclamation activities should refer to Section 8 of this document for advice on personal protective equipment and exposure controls.**

**WASTE DISPOSAL CONTAINERS:** Appropriate US DOT containers should be utilized which may include cardboard boxes for products, plastic/lined drums for solids. These containers should meet the packaging specifications required for DOT compliance. Packaging containers must not include incompatible materials.

**WASTE DISPOSAL METHOD:** As manufactured, this product exhibits the ignitable (D001) RCRA characteristic of hazardous waste. Controlled incineration at a licensed waste facility is the recommended technology for treatment and disposal. Material must not be disposed of through sewage.

**RCRA HAZARD CLASS: D001**

Follow all local governmental requirements intended for disposal.

## SECTION 14: TRANSPORT INFORMATION

**North American Ground Transportation**

- **IN CONSUMER PACKAGING:** Limited Quantity/Consumer Commodity (≤ 5 kg)
  **UN ID Number:** UN 3215
  **Proper Shipping Name:** Persulfates, inorganic, n.o.s.
  **Technical Name:** Potassium persulfate, sodium persulfate
  **Hazard Class:** 5.1
  **Packing Group:** III
  **Label Statements:** Exempt – Limited Quantity Marking Only

- **OTHER THAN CONSUMER PACKAGING:**
  **UN ID Number:** UN 3215
  **Proper Shipping Name:** Persulfates, inorganic, n.o.s.
  **Technical Name:** Potassium persulfate, sodium persulfate
  **Hazard Class:** 5.1
  **Packing Group:** III
  **Label Statements:** Oxidizing (Division 5.1)

**Transport Via Water**

- **IN CONSUMER PACKAGING:** Limited Quantity/Consumer Commodity (≤ 5 kg)
  **UN ID Number:** UN 3215
  **Proper Shipping Name:** Persulfates, inorganic, n.o.s.
  **Technical Name:** Potassium persulfate, sodium persulfate
  **Hazard Class:** 5.1
  **Packing Group:** III
  **Label Statements:** Exempt – Limited Quantity Marking Only

- **OTHER THAN CONSUMER PACKAGING:**
  **UN ID Number:** UN 3215
  **Proper Shipping Name:** Persulfates, inorganic, n.o.s.
  **Technical Name:** Potassium persulfate, sodium persulfate
  **Hazard Class:** 5.1
  **Packing Group:** III
  **Label Statements:** Oxidizing (Division 5.1)

**Transport Via Air (Domestic/International)**

- **IN CONSUMER PACKAGING:** Limited Quantity (≤ 1 kg) (*Not eligible for ID 8000, Consumer Commodity*)
  **UN ID Number:** UN 3215
  **Proper Shipping Name:** Persulfates, inorganic, n.o.s.
  **Technical Name:** Potassium persulfate, sodium persulfate
  **Hazard Class:** 5.1
  **Packing Group:** III
  **Label Statements:** Limited Quantity Marking & Oxidizer (Division 5.1)

- **OTHER THAN CONSUMER PACKAGING:**
  **UN ID Number:** UN 3215
  **Proper Shipping Name:** Persulfates, inorganic, n.o.s.
  **Technical Name:** Potassium persulfate, sodium persulfate
  **Hazard Class:** 5.1
  **Packing Group:** III
  **Label Statements:** Oxidizing (Division 5.1)

**Please be aware of carrier transport variations before shipping hazardous materials.**

## SECTION 15: REGULATORY INFORMATION

**National Fire Protection Association Codes:** Health: 2 Fire: 0 Reactivity: 1 Other: OX

**Workplace Hazardous Materials Identification System:** Class C; Oxidizing Material; Class D; Division 2, Subdivision B; Corneal Damage/Skin Irritation;

This regulatory information represents the product, in its consumer packaging.

## SECTION 16: OTHER INFORMATION

**PREPARATION INFORMATION:** This is the first issuance of this document.

Author: Ronald Weslosky (Corporate Regulatory Services)

L'ORÉAL USA

# SAFETY DATA SHEET

**SDS # 15-184**

**ISSUANCE DATE: May 28, 2015**

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

L'Oreal USA Products, Inc.
111 Terminal Avenue
Clark, NJ 07066

L'Oreal Canada
4895 rue Hickmore
Ville St-Laurent, H4Y 1K5
Canada

**Emergency Telephone Number**
1-800-535-5053 US (International: 352-323-3500)
In Canada – 1-613-996-6666 (Canutec) (*666 cellular)

**For further information**:
1-732-499-2741

**Poison Control Number:** 412-390-3326

**Product Name: Flammable Hair Colors containing Isopropyl Alcohol, Ethanolamine and Ammonium Hydroxide**

**Recommendations on use:** Personal care product to be mixed with companion product(s) in accordance with instructions and applied to hair to aid in coloring.

**Restrictions on use:** Avoid fire, flame, heat and other sources of ignition. For external use only. Use only as directed. See product packaging/insert for skin allergy test conditions.

## SECTION 2: HAZARDS IDENTIFICATION

### Signal Word: DANGER

| Symbol | Classification | Hazard Statement | Prevention Statements |
|---|---|---|---|
|  | Flammable Liquid Category 3 | Flammable Liquid and Vapor | • Keep away from heat, sparks, open flames and hot surfaces. No smoking.<br>• Keep container tightly closed.<br>• Ground/bond container and receiving equipment.<br>• Use explosion-proof electrical, ventilating, lighting, manufacturing and packaging equipment.<br>• Use only non-sparking tools.<br>• Take precautionary measures against static discharge. |

| | | | |
|---|---|---|---|
|  | Eye Damage Category 1 | Causes serious eye damage | • Wear eye protection/face protection |
|  | Skin Irritation Category 2 | Causes skin irritation | • Wash eyes and all skin surfaces contacted thoroughly after handling.<br>• Wear nitrile or vinyl gloves. Eye protection appropriate for the manufacturing operation being performed should be used (goggles or face shield). |
| See symbol above | Skin Sensitizer Category 1 | May cause an allergic skin reaction | • Avoid breathing mist/vapors/spray.<br>• Contaminated work clothing must not be allowed out of the workplace. |

This material is considered hazardous by the US Occupational Safety and Health Administration Hazard Communication Standard (29 CFR 1910.1200)

General Precautionary Statements: Keep out of reach of children. Read label before use. Over-exposure may cause respiratory irritation.

Hazards Not Otherwise Classified: None

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Only hazardous constituents associated with the product are listed below**

| INGREDIENT: | CAS NO. | % WT |
|---|---|---|
| Isopropyl Alcohol | 67-63-0 | ≤ 13.0% |
| Deceth-3 | 66455-15-0 | ≤ 8.5% |
| Ethanolamine | 141-43-5 | ≤ 4.5% |
| Ammonium Hydroxide | 1336-21-6 | ≤ 3.5% |
| Resorcinol | 108-46-3 | ≤ 1.0% |
| m-Aminophenol | 591-27-5 | ≤ 1.0% |
| p-Phenylenediamine | 106-50-3 | ≤ 1.0% |
| p-Aminophenol | 123-30-8 | ≤ 1.0% |
| Sodium Metabisulfite | 7681-57-4 | ≤ 1.0% |

## SECTION 4: FIRST AID MEASURES

### Response Statements:

**IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing until material is sufficiently removed from the eye. **If eye irritation persists:** Get medical advice/attention.

**IF ON SKIN**: Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. **If skin irritation or rash persists:** Get medical attention. See product packaging/insert for additional information.

**IF INHALED:** Remove person to fresh air and keep in a position comfortable for breathing. Immediately call a Poison Control Center or doctor is person feels unwell.

**IF SWALLOWED:** Rinse mouth. Do not induce vomiting. Never give anything by mouth to an unconscious individual. Immediately call a Poison Control Center or doctor.

**SYMPTOMS/EFFECTS**: Causes severe eye damage. Causes skin irritation. May cause an allergic skin reaction. Over-exposure may cause respiratory irritation.

**NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:** Consult product labeling. No special advice.

## SECTION 5: FIRE-FIGHTING MEASURES

**Notes for Non-Emergency Personnel:**

**EXTINGUISHING MEDIA:** In case of fire use carbon dioxide, dry chemical, foam and/or water spray for extinction. Selection of a fire extinguisher should also be appropriate to address the location of the fire and equipment involved. Please review the tools available at your location to ensure proper availability of equipment.

**Notes for those trained to participate in an emergency:**

**SPECIAL FIRE FIGHTING PROCEDURES:** Follow National Fire Protection Association Guidelines or local guidelines appropriate for emergency response.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Observe all appropriate precautions for handling corrosive materials.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxides of carbon, hydrocarbons, and/or derivatives.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Notes for non-emergency personnel:**

Consult trained response personnel for clean-up of large spills or locations where providing preliminary control of the chemical release is hazardous. Isolate the area and deny entry to unnecessary and unprotected. Hazardous locations include areas where ignition sources cannot be controlled. Sections 2, 5, 7 and 8 of this document should be consulted upon use of material, to become knowledgeable of the material's hazards and how to control risks associated with handling corrosive liquids.

If the location is not hazardous and only a small amount of material is spilled, control the release using absorbent pads while wearing the protective equipment as noted below. Care should be taken to prevent contact of the material with skin or eyes. Prohibit discharge to drains, soil, surface and ground waters. Dispose in accordance with section 13 of this document.

**PERSONAL PROTECTIVE EQUIPMENT:** Nitrile or Vinyl gloves, safety glasses/goggles, protective clothing (e.g. apron) may be required for clean-up of large spills. Respiratory protection is typically not necessary, but may be used depending upon the size of the spill and occupational exposure limits. Respiratory protection may include the use of organic vapor/acid gas cartridges. Refer to Section 8 for additional information.

**Notes for those trained to participate in an emergency:**

**ACCIDENTAL RELEASE MEASURES:** Dike and contain the free liquid and absorb on vermiculite or spill pillows/pads. Place spent absorbents in UN specification drums for disposal. All precautions associated with controlling corrosive liquids should be employed during clean-up. Prohibit discharge to drains, soil, surface and ground waters. Inspection of all equipment used in response should occur before any re-use is considered.

Recommendations for personal protective equipment selection are noted above. Dispose in accordance with section 13 of this document.

## SECTION 7: HANDLING AND STORAGE

**PRECAUTIONS FOR SAFE HANDLING:**
Do not eat, drink or smoke while working with hazardous materials. Avoid contact with skin, eyes, and clothing. Employees should be advised to wear appropriate protective equipment in the manufacturing environment. Refer to Section 8 for protective equipment selection. All manufacturing should be performed indoors, in an enclosed environment. Employees should be advised not to handle hazardous products in close proximity to incompatible materials.

**Storage precautions for unpackaged product (manufacturing environment):** Store in a well-ventilated place. Keep cool. Minimize inventory. Keep container tightly closed. It is suggested that this material be "locked up" or stored in an area where production inventory may be controlled by authorized personnel. Appropriate fire suppression and detection equipment should be utilized. Store on spill pallets or other locations where spill containment will be easily accessible.

Maintain a clean work environment which includes use of properly functioning containers, proper housekeeping practices.

**CONDITIONS FOR SAFE STORAGE:**

**Storage precautions for unpackaged product (manufacturing environment):** Store in a cool and well-ventilated area. Store in original/compatible containers. Keep containers closed when not in use. This material should be "locked up" or stored in an area where production inventory may be controlled by authorized personnel. Appropriate fire suppression and detection equipment should be utilized. Store on spill pallets or in other locations where spill containment will be easily accessible and releases can be contained.

**Storage precautions for packaged product** – see consumer packaging.

Keep away from open drains and access to the environment.

**Incompatible materials**: Oxidizers, strong acids and organic compounds. Store away from incompatible materials.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**CONTROL PARAMETERS:** These criteria have been published by the referenced authority to establish exposure limits in the work environment. Employee work areas should be monitored to ensure that permissible limits are not exceeded during the work day. These references do not coincide with product use. These references are meant to be in association with the manufacturing environment.

**OCCUPATIONAL EXPOSURE VALUES:**

| Component Name (CAS-No.) | Reference | TWA | | STEL/CEILING | |
|---|---|---|---|---|---|
| | | ppm | $mg/m^3$ | ppm | $mg/m^3$ |
| Isopropyl Alcohol (67-63-0) | OSHA PEL | 400 | 980 | -- | -- |
| | ACGIH TLV | 400 | 980 | -- | -- |
| | NIOSH REL | 400 | 980 | 500 | 1225 |
| Ethanolamine (141-43-5) | OSHA PEL | 3 | 6 | -- | -- |
| | ACGIH TLV | 3 | 7.5 | 6 | 15 |
| | NIOSH REL | 3 | 8 | 6 | 15 |
| Resorcinol (108-46-3) | OSHA PEL | -- | -- | -- | -- |
| | ACGIH TLV | 10 | 45 | 20 | 90 |
| | NIOSH REL | 10 | 45 | 20 | 90 |
| p-Phenylenediamine (106-50-3) | OSHA PEL | -- | 0.1 (skin) | -- | -- |
| | ACGIH TLV | -- | 0.1 | -- | -- |
| | NIOSH REL | -- | 0.1 (skin) | -- | -- |

| | | | | | |
|---|---|---|---|---|---|
| **Sodium Metabisulfite (7681-57-4)** | **OSHA PEL** | **--** | **--** | **--** | **--** |
| | **ACGIH TLV** | **--** | **5** | **--** | **--** |
| | **NIOSH REL** | **--** | **--** | **--** | **--** |

Notes: º (OSHA) – Total Dust

No occupational exposure values have been published for other constituents noted in Section 3.

**WORK HYGIENIC PRACTICES:** Ensure all work surfaces are maintained, to prevent contamination.

**ENGINEERING CONTROLS:** None required for product use. For handling large quantities of material, such as in the manufacturing of product, ventilation should be utilized. This ventilation should be compatible with the control of corrosive materials. Exhaust ventilation should be utilized to maintain air concentrations of material below the occupational exposure guidelines noted above.

Local exhaust ventilation is not typically required for product use. For handling large quantities of material, such as in the manufacturing of product **--** Local Exhaust: Explosion proof. Mechanical (general): Explosion proof.

**PERSONAL PROTECTIVE EQUIPMENT:** Consistent with good hygiene practices, personal protective equipment (PPE) should be used in conjunction with other control measures including engineering controls, ventilation and isolation. See also Section 5 of this document for PPE advice, in the event of an emergency.

**Eye/Face Protection (Non-Emergency):** None required for product use. For handling of large quantities of liquid material, safety glasses with side shields/goggles are recommended.

**Skin Protection (Non-Emergency):** Gloves should be worn when mixing kit components and applying mixture. For handling large quantities of material, such as in product manufacturing, nitrile or vinyl gloves should be considered for use. Tyvek clothing may also be suitable for handling large quantities of material in the manufacturing environment.

**Respiratory Protection (Non-Emergency):** Respiratory protection is not required for product use. For manufacturing of product, respiratory protection may be considered. Ensure that the respirator meets current local occupational health and safety standards. Organic vapor/acid gas cartridges should be utilized with filtering respiratory protection.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

**APPEARANCE**: Clear to yellow liquid/cream

**ODOR:** Not Available

**ODOR THRESHOLD:** Not Available

**pH:** 11.35 +/- 0.35

**MELTING/FREEZING POINT:** **F:** N/A **C:** N/A

**BOILING POINT:** **F:** Not Available **C:** Not Available

**FLASH POINT:** **F:** >212 **C:** >100 **METHOD USED:** Closed cup

**EVAPORATION RATE:** > 1 **(Butyl acetate = 1)**

**FLAMMABILITY:** Not Applicable to Liquids

**FLAMMABLE LIMITS IN AIR:** ISOPROPYL ALCOHOL: (@200F) 12.7% UEL; 2.0% LEL
AMMONIA: 28% UEL; 15% LEL
ETHANOLAMINE: 23.5% UEL; 3.0% LEL

**VAPOR PRESSURE (mmHg):** @ 70F: N/A @ 21 C: N/A

**VAPOR DENSITY (AIR = 1):** @ 70F: N/A @ 21 C: N/A

**RELATIVE DENSITY (H2O = 1):** Not Available

**SOLUBILITY IN WATER:** Not Available

**PARTITION COEFFICIENT:** Not Available

**AUTOIGNITION TEMPERATURE:** Not Available

**DECOMPOSITION TEMPERATURE:** Not Available

**VISCOSITY:** Not Available

## SECTION 10: STABILITY AND REACTIVITY

**REACTIVITY:** Material is not considered reactive under typical handling and storage conditions.

**STABILITY:** Product is stable.

**POSSIBILITY OF HAZARDOUS REACTIONS:** None known. Hazardous polymerization is not expected to occur.

**CONDITIONS TO AVOID:** Heat, fire, flame and other sources of ignition.

**INCOMPATIBILITY (MATERIAL TO AVOID):** Oxidizers, strong acids and organic compounds.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Oxides of carbon, hydrocarbons, and/or derivatives.

## SECTION 11: TOXICOLOGICAL INFORMATION

**Where information is not listed specifically for constituents, published information was not available.**

**POTENTIAL HEALTH EFFECTS**

**ACUTE HEALTH EFFECTS:**
**SKIN CORROSION/IRRITATION**: Causes skin irritation
**SERIOUS EYE DAMAGE/IRRITATION**: Causes serious eye damage
**RESPIRATORY/SKIN SENSITIZATION**: None expected
**INGESTION**: Harmful if swallowed.
**INHALATION**: Over-exposure may cause respiratory irritation.

**ROUTES OF EXPOSURE**: Eyes, skin

**SYMPTOMS**: Causes severe eye damage. Causes skin irritation. May cause an allergic skin reaction. Over-exposure may cause respiratory irritation.

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE**: None known.

**ACUTE TOXICOLOGY DATA FOR COMPONENTS**

| Material | Route | Species | Test Results |
|---|---|---|---|
| Isopropyl Alcohol | $LC_{50}$ | Rat | 16,000 ppm |
| Isopropyl Alcohol | Oral $LD_{50}$ | Rat | 5,045 mg/kg |
| Deceth-3 (analogy) | Oral $LD_{50}$ | Rat | >2,000 mg/kg bw |
| Deceth-3 (analogy) | Dermal $LD_{50}$ | Rat | >2,000 mg/kg bw |
| Ethanolamine | Oral $LD_{50}$ | Rat (OECD 401 eq) | 1,510 mg/kg bw |
| Ethanolamine | Dermal $LD_{50}$ | Rat (OECD 402 eq) | 2,504 mg/kg bw |

| | | | |
|---|---|---|---|
| Ethanolamine | Inh. $LC_{50}$ (6hr) | Rat | >1,300 mg/m$^3$ air |
| Ammonium Hydroxide | Oral $LD_{50}$ | Rat (OECD 401) | 350 mg/kg |
| Ammonium Hydroxide | Inh. $LC_{50}$ (1h) | Rat | 11,590 mg/L air |
| Resorcinol | Oral $LD_{50}$ | Rat (OECD 401) | 510 mg/kg bw |
| m-Aminophenol | Oral $LD_{50}$ | Rat (OECD 402) | >500 mg/kg bw |
| m-Aminophenol | Dermal $LD_{50}$ | Species unspecified | 6,400 mg/kg |
| m-Aminophenol | Inh. $LC_{50}$ | Rat | 1,162 mg/m³ |
| p-Phenylenediamine | Oral $LD_{50}$ | Rat (OECD 420) | 75 mg/kg bw |
| p-Phenylenediamine | Inh. $LC_{50}$ (4hr) | Rat (OECD 403) | 0.92 mg/L |
| p-Phenylenediamine | Dermal $LD_{50}$ | Rabbit | >7,940 mg/kg bw |
| p-Aminophenol | Oral $LD_{50}$ | Rat (EPA OPPTS 870.1100) | 671 mg/kg bw |
| p-Aminophenol | Inh. $LC_{50}$ (4hr) | Rat OECD 403 | >3.42 mg/L air |
| p-Aminophenol | Dermal $LD_{50}$ | Rabbit EPA OPPTS 870.1200 | >8,000 mg/kg bw |
| Sodium Metabisulfite | Oral $LD_{50}$ | Rat (OECD 401) | 1,540 mg/kg bw |
| Sodium Metabisulfite | Inh. $LC_{50}$ (4hr) | Rat OECD 403 | >5.5 mg/L air |

**Skin Corrosion/Irritation:**

| | |
|---|---|
| *Isopropyl Alcohol:* | Slight Irritant (Rat) |
| *Deceth-3* | Slightly Irritating (analogy) |
| *Ammonium Hydroxide* | Irritating (5-10%); Corrosive (≥ 10%) |
| *Ethanolamine:* | Corrosive (Rabbit, OECD 404) |
| *Resorcinol* | Not Irritating (Rabbit, OECD 404) |
| *m-Aminophenol* | Not Irritating (Rabbit, OECD 404) |
| *Toluene-2,5-Diamine* | Not Irritating |
| *p-Phenylenediamine* | Not Irritating (Rabbit) |
| *p-Aminophenol* | Not Irritating (Rabbit, OECD 404) |
| *Sodium Metabisulfite* | Not Irritating (Rabbit, OECD 404) |

**Serious Eye Damage/Irritation:**

| | |
|---|---|
| *Isopropyl Alcohol:* | Highly Irritating (Rat) |
| *Deceth-3:* | Corrosive |
| *Ammonium Hydroxide* | Corrosive (Rabbit) |
| *Ethanolamine:* | Corrosive (Rabbit, OECD 405) |
| *Resorcinol* | Not Irritating (Rabbit, OECD 405) |
| *m-Aminophenol* | Not Irritating (Rabbit, OECD 405) |
| *Toluene-2,5-Diamine* | Irritating (Rabbit) |
| *p-Phenylenediamine* | Irritating (Rabbit, OECD 405) |
| *p-Aminophenol* | Not Irritating (Rabbit, OECD 405) |
| *Sodium Metabisulfite* | Irritating (Rabbit, OECD 405) |

**Respiratory Irritation:**

| | |
|---|---|
| *Isopropyl Alcohol:* | Irritating (Rat) |
| *Ammonium Hydroxide* | Highly Irritating (>50 ppm) (Human) |

**Skin Sensitization:**

| | |
|---|---|
| *Isopropyl Alcohol:* | Irritating (Rat) |
| *Deceth-3* | Not Sensitizing (Guinea Pig) (analogy) |
| *Ammonium Hydroxide* | Not Sensitizing (Guinea Pig) |
| *Ethanolamine:* | Not sensitizing (Guinea Pig) |
| *Resorcinol* | *S*ensitizing *(*Mouse) (OECD 429) |
| *m-Aminophenol* | *S*ensitizing *(*Mouse) (OECD 429) |
| *Toluene-2,5-Diamine* | *S*ensitizing (Guinea Pig) (OECD SIDS) |
| *p-Phenylenediamine* | Sensitizing *(*Mouse) (OECD 429) |
| *p-Aminophenol* | *S*ensitizing (Guinea Pig) (OECD 406) |
| *Sodium Metabisulfite* | *S*ensitizing *(*Mouse) (OECD 429) |

**CHRONIC HEALTH HAZARDS**:

**REPEAT DOSE TOXICITY:**
NOAEL (Isopropyl Alcohol, inhalation, rats): 504 mg/kg
LOAEL (Isopropyl Alcohol, inhalation, rats): 2,509 mg/kg
NOAEL (Deceth-3 (analogy), oral): 80-400 mg/kg/day (Rat, OECD 408)
NOAEL (Deceth-3 (analogy), dermal): 80 mg/kg/day (Rat, OECD 411)
NOAEL (Ethanolamine, oral): 300 mg/kg bw/day (Rat, OECD 416)
NOAEL (Resorcinol, oral): 80 mg/kg/day (Rat, OECD 408)
NOAEL (m-Aminophenol, oral): 20 mg/kg bw/day
NOAEL (p-Phenylenediamine, oral):16 mg/kg/day (Rat, OECD 408)
NOAEL (m-Aminophenol, oral): 300 mg/kg bw/day (Rat, OECD 416)
NOAEL (Sodium Metabisulfite, oral): 217 mg/kg bw/day (Rat)

**CARCINOGENICITY:**

| Component Name (CAS-No.) | OSHA | ACGIH | NTP | IARC |
|---|---|---|---|---|
| Isopropyl Alcohol (67-63-0) | -- | TLV-A4 | -- | IARC-3 |
| Resorcinol (108-46-3) | -- | TLV-A4 | -- | IARC-3 |
| Toluene-2,5-diamine (95-70-5) | -- | -- | -- | IARC-3 |
| p-Phenylenediamine (106-50-3) | -- | TLV-A4 | -- | IARC-3 |
| Sodium Metabisulfite (7681-57-4) | -- | TLV-A4 | -- | -- |

**Notes:**
*ACGIH TLV*-A4 – This reference indicates that the material is "Not Classifiable as a Human Carcinogen".
*IARC-3* – This reference indicated that the material is "Unclassifiable as Carcinogenicity in Humans"

**MUTAGENICITY:**
*Isopropyl Alcohol:* A variety of in vitro and in vivo tests have produced negative results.
*Deceth-3* A variety of *in vitro* tests have produced negative results. (analogy)
*Ammonium Hydroxide* A variety of *in vitro* test have produced negative results.
*Ethanolamine:* A variety of *in vitro* and *in vivo* tests have produced negative results.
*Resorcinol* *In vitro tests (OECD 476)* has produced positive results and *in vivo (OECD 474)* tests have produced negative results.
*m-Aminophenol* A variety of *in vitro* tests have produced negative results (OECD 473)
*Toluene-2,5-Diamine* A variety of *in vitro* tests have produced negative results
*p-Phenylenediamine* A variety of vitro tests (OECD 471) has produced positive results with metabolic activation and in vivo tests (OECD 474) has produced negative results.
*Sodium Metabisulfite* A variety of *in vitro* tests have produced negative results (OECD 471)

**REPRODUCTIVE TOXICITY:**
*Isopropyl Alcohol:* In a multi-generation study, reproductive performance was not affected at any concentration.
*Deceth-3* NOAEL: >250 mg/kg (Rat, OECD 416) (analogy)
*Ethanolamine:* NOAEL: 300 mg/kg bw/day (Rat, OECD 416)
*Resorcinol* NOAEL: >3000 mg/kg bw/day (Rat, OECD 416)
*m-Aminophenol* NOAEL: 10 mg/kg bw/day
*p-Aminophenol* NOAEL: 100 mg/kg/bw day (Rat, OECD 421)
*Sodium Metabisulfite* NOAEL: 942 mg/kg bw/ day (Rat)

**DEVELOPMENTAL TOXICITY/TERATOGENICITY:**
*Isopropyl Alcohol:* No development toxicity observed (OECD Guideline 414)
*Deceth-3:* NOAEL: >250 mg/kg (Rat, OECD 416) (analogy)
*Ethanolamine:* NOAEL: 450 mg/kg bw/day (Rat, OECD 414)
*Resorcinol* NOAEL: 250 mg/kg/day (Rat, OECD 414)
*p-Phenylenediamine* NOEL: 10 mg/kg/day

*p-Aminophenol* NOAEL: 100 mg/kg bw/day (Rat, OECD 421)
*Sodium Metabisulfite* NOAEL: 123 mg/kg bw/day (Rat, OECD 414)

## SECTION 12: ECOLOGICAL INFORMATION

Contact with the environment should be avoided. Spills and leaks should be immediately cleaned up and removed. All precautions should be taken to prevent contact with the environment. Published information regarding ingredients listed on this document area found below; where data is not listed, documentation was unavailable.

### ACUTE AND PROLONGED TOXICITY TO FISH

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Isopropyl Alcohol | $LC_{50}$ | 11,130 mg/l | Pimephas promelas | 96 h |
| Deceth-3 | $LC_{50}$ | 11.5 mg/L | Oncorhynchus mykiss | 96 h |
| Ammonium Hydroxide | $LC_{50}$ | 1.73 mg/L | Lepomis cyanellus | 96 h |
| Ethanolamine | $LC_{50}$ (ASTM D1345-70) | 170 mg/L | Carassius auratus | 96 h |
| Resorcinol | $LC_{50}$ | 29.5 mg/L | Pimephales promelas | 96 h |
| m-Aminophenol | $LC_{50}$ | 82.64 mg/L | Danio Rerio | 96 h |
| p-Phenylenediamine | $LC_{50}$ | 3.9 mg/L (OECD 203) | Oncorhynchus mykiss | 96 h |
| p-Aminophenol | $LC_{50}$ | 0.82 mg/L (OECD 203) | Oryzias latipes | 96 h |
| Sodium Metabisulfite | $LC_{50}$ | 681. 2 mg/L (OECD 203) | Danio Rerio | 96 h |

### ACUTE TOXICITY TO AQUATIC INVERTEBRATES

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Isopropyl Alcohol | $LC_{50}$ | 903 mg/l | Daphnia Magna | 96 h |
| Deceth-3 | $EC_{50}$ | 5.1 mg/L | Daphnia Magna | 48 h |
| Ammonium Hydroxide | $EC_{50}$(ASTM E729-80) | 101 mg/L | Daphnia Magna | 48 h |
| Ethanolamine | $EC_{50}$ (84/449/EEC C.2) | 65 mg/L | Daphnia Magna | 48 h |
| Resorcinol | $EC_{50}$ | 4.7 mg/L (OECD 202) | Daphnia Magna | 48 h |
| m-Aminophenol | $EC_{50}$ | 1.1 mg/L | Daphnia magna | 48 h |
| p-Phenylenediamine | $EC_{50}$ | 0.33 mg/L (OECD 202) | Daphnia magna | 48 h |
| p-Aminophenol | $EC_{50}$ | 0.182 mg/l OECD Guideline 202 | Daphnia magna | 48 h |
| Sodium Metabisulfite | $EC_{50}$ | 89 mg/L | Daphnia magna | 48 h |

### TOXICITY TO AQUATIC PLANTS

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Isopropyl Alcohol | $EC_{50}$ | >1,000 mg/l | Scenedesmus subspicatus (algae) | 96 h |
| Ethanolamine | $EL_{50}$ (92/69/EEC C.3) | 15 mg/L | Green Algae | 72 h |
| Resorcinol | $EC_{50}$ | > 97 mg/L (OECD 201) | Pseudokirchneriella Subcapitata | 72 h |
| m-Aminophenol | $EC_{50}$ | 62 mg/L (OECD 201) | Pseudokirchnerella Subcapitata | 72 h |
| p-Phenylenediamine | $EC_{50}$ | 0.27 mg/L | Pseudokirchnerella Subcapitata | 72 h |

| | | | | |
|---|---|---|---|---|
| p-Aminophenol | $EC_{50}$ | > 0.253 mg/l (OECD 201) | Desmodesmus Subspicatu | 72 h |
| Sodium Metabisulfite | $EC_{50}$ | 43.8 mg/L (OECD 201) | Desmodesmus subspicatu | 72 h |

**TOXICITY TO MICROORGANISMS**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Isopropyl Alcohol | $EC_{50}$ | 41,676 mg/l | Bacteria (activated sludge) | 30 days |
| Ethanolamine | $EC_{10}$ (OECD 209) | > 1,000 mg/L | Activated Sludge | 30 min |
| Resorcinol | $EC_{50}$ | 79 mg/L (OECD 209) | Activated Sludge | 3 h |
| m-Aminophenol | $EC_{50}$ | 2.55-2.9 mg/L | Tetrahymena thermophila | 48 h |
| p-Phenylenediamine | $EC_{50}$ | 100 mg/L | Activated Sludge | 3 h |
| p-Aminophenol | $EC_{50}$ | 29.9 mg/L (OECD 209) | Activated sludge | 3 h |
| Sodium Metabisulfite | $EC_{50}$ | >1000 mg/L(OECD 209) | Activated sludge | 3 h |

**PERSISTENCY AND DEGRADABILITY:**

| | |
|---|---|
| Isopropyl Alcohol: | Readily Biodegradable – Half life: 1 - 10 days |
| *Deceth-3* | Readily Biodegradable – OECD 301 |
| *Ethanolamine:* | Readily Biodegradable – OECD 301 A – >90% (21 d) |
| *Ammonium Hydroxide* | Expected to be Readily Biodegradable (Converts to nitrates) |
| *Resorcinol* | Readily Biodegradable – OECD 301 C |
| *m-Aminophenol* | Readily Biodegradable – Half life: 15 days |
| *Toluene-2,5-Diamine* | Non-Biodegradable |
| *p-Phenylenediamine* | Readily biodegradable (OECD 301 D) |

**BIOACCUMULATIVE POTENTIAL:**

| | |
|---|---|
| *Isopropyl Alcohol:* | Not expected to bioaccumulation. |
| *Deceth-3* | Not expected to bioaccumulate (analogy |
| *Ethanolamine* | log Pow: -1.91 @ 25°C (OECD 107) – Not expected to bioaccumulate |
| *Ammonium Hydroxide* | Not Applicable |
| Resorcinol | BCF: 3.162 – Not expected to bioaccumulate |
| m-Aminophenol | BCF: 3.2 – Not expected to bioaccumulate |
| *p-Phenylenediamine* | BCF = 0.3. Not expected to bioaccumulate |
| *p-Aminophenol* | log koc: 1.96 – Low bioaccumulation potential |

## SECTION 13: DISPOSAL CONSIDERATIONS

**Those responsible for the performance of disposal, recycling or reclamation activities should refer to Section 8 of this document for advice on personal protective equipment and exposure controls.**

**WASTE DISPOSAL CONTAINERS:** Appropriate US DOT containers should be utilized which may include cardboard boxes for products, plastic/lined drums for solids. These containers should meet the packaging specifications required for DOT compliance. Packaging containers must not include incompatible materials.

**WASTE DISPOSAL METHOD:** As manufactured, this product exhibits the ignitable (D001) RCRA characteristic of hazardous waste. Controlled incineration at a licensed waste facility is the recommended technology for treatment and disposal. Material must not be disposed of through sewage.

**RCRA HAZARD CLASS: D001**

Follow all local governmental requirements intended for disposal.

## SECTION 14: TRANSPORT INFORMATION

**North American Ground Transportation**

- **IN CONSUMER PACKAGING:** Not Regulated
- **OTHER THAN CONSUMER PACKAGING:** Not Regulated

**Transport Via Water**

- **IN CONSUMER PACKAGING:** Not Regulated
- **OTHER THAN CONSUMER PACKAGING:** Not Regulated

**Transport Via Air (Domestic/International)**

- **IN CONSUMER PACKAGING:** Not Regulated
- **OTHER THAN CONSUMER PACKAGING:** Not Regulated

**Please be aware of carrier transport variations before shipping hazardous materials.**

## SECTION 15: REGULATORY INFORMATION

**National Fire Protection Association Codes:** Health: 3 Fire: 1 Reactivity: 0 Other: None

**Workplace Hazardous Materials Identification System:** Class E; Corrosive Material

This regulatory information represents the product, in its consumer packaging.

## SECTION 16: OTHER INFORMATION

**PREPARATION INFORMATION:** This is the first issuance of this document.

Author: Lalita Vedantam (Corporate Regulatory Services)

L'ORÉAL USA

# SAFETY DATA SHEET

**SDS # 15-183**

**ISSUANCE DATE: May 28, 2015**

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

L'Oreal USA Products, Inc.
111 Terminal Avenue
Clark, NJ 07066

L'Oreal Canada
4895 rue Hickmore
Ville St-Laurent, H4Y 1K5
Canada

**Emergency Telephone Number**
1-800-535-5053 US (International: 352-323-3500)
In Canada – 1-613-996-6666 (Canutec) (*666 cellular)

**For further information**:
1-732-499-2741

**Poison Control Number:** 412-390-3326

**Product Name: Flammable Hair Colors containing Isopropyl Alcohol and Ethanolamine**

**Recommendations on use:** Personal care product to be mixed with companion product(s) in accordance with instructions and applied to hair to aid in coloring.

**Restrictions on use:** Avoid fire, flame, heat and other sources of ignition. For external use only. Use only as directed. See product packaging/insert for skin allergy test conditions.

## SECTION 2: HAZARDS IDENTIFICATION

### Signal Word: DANGER

| Symbol | Classification | Hazard Statement | Prevention Statements |
|---|---|---|---|
|  | Flammable Liquid Category 3 | Flammable Liquid and Vapor | • Keep away from heat, sparks, open flames and hot surfaces. No smoking.<br>• Keep container tightly closed.<br>• Ground/bond container and receiving equipment.<br>• Use explosion-proof electrical, ventilating, lighting, manufacturing and packaging equipment.<br>• Use only non-sparking tools.<br>• Take precautionary measures against static discharge. |
|  | Eye Damage Category 1 | Causes serious eye damage | • Wear eye protection/face protection |

| | | | |
|---|---|---|---|
|  | Skin Irritation Category 2 | Causes skin irritation | • Wash eyes and all skin surfaces contacted thoroughly after handling.<br>• Wear nitrile or vinyl gloves. Eye protection appropriate for the manufacturing operation being performed should be used (goggles or face shield). |
| See symbol above | Skin Sensitizer Category 1 | May cause an allergic skin reaction | • Avoid breathing mist/vapors/spray.<br>• Contaminated work clothing must not be allowed out of the workplace. |

This material is considered hazardous by the US Occupational Safety and Health Administration Hazard Communication Standard (29 CFR 1910.1200)

General Precautionary Statements: Keep out of reach of children. Read label before use. Over-exposure may cause respiratory irritation.

Hazards Not Otherwise Classified: None

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Only hazardous constituents associated with the product are listed below**

| INGREDIENT: | CAS NO. | % WT |
|---|---|---|
| Isopropyl Alcohol | 67-63-0 | ≤ 10.0% |
| Deceth-3 | 66455-15-0 | ≤ 8.5% |
| Ethanolamine | 141-43-5 | ≤ 1.0% |
| Resorcinol | 108-46-3 | ≤ 1.0% |
| m-Aminophenol | 591-27-5 | ≤ 1.0% |
| p-Phenylenediamine | 106-50-3 | ≤ 1.0% |
| p-Aminophenol | 123-30-8 | ≤ 1.0% |
| Sodium Metabisulfite | 7681-57-4 | ≤ 1.0% |

## SECTION 4: FIRST AID MEASURES

### Response Statements:

**IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing until material is sufficiently removed from the eye. **If eye irritation persists:** Get medical advice/attention.

**IF ON SKIN**: Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. **If skin irritation or rash persists:** Get medical attention. See product packaging/insert for additional information.

**IF INHALED:** Remove person to fresh air and keep in a position comfortable for breathing. Immediately call a Poison Control Center or doctor is person feels unwell.

**IF SWALLOWED:** Rinse mouth. Do not induce vomiting. Never give anything by mouth to an unconscious individual. Immediately call a Poison Control Center or doctor.

**SYMPTOMS/EFFECTS**: Causes severe eye damage. Causes skin irritation. May cause an allergic skin reaction. Over-exposure may cause respiratory irritation.

**NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:** Consult product labeling. No special advice.

## SECTION 5: FIRE-FIGHTING MEASURES

**Notes for Non-Emergency Personnel:**

**EXTINGUISHING MEDIA:** In case of fire use carbon dioxide, dry chemical, foam and/or water spray for extinction. Selection of a fire extinguisher should also be appropriate to address the location of the fire and equipment involved. Please review the tools available at your location to ensure proper availability of equipment.

**Notes for those trained to participate in an emergency:**

**SPECIAL FIRE FIGHTING PROCEDURES:** Follow National Fire Protection Association Guidelines or local guidelines appropriate for emergency response.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Observe all appropriate precautions for handling hazardous materials.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxides of carbon, hydrocarbons, and/or derivatives.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Notes for non-emergency personnel:**

Consult trained response personnel for clean-up of large spills or locations where providing preliminary control of the chemical release is hazardous. Isolate the area and deny entry to unnecessary and unprotected. Hazardous locations include areas where ignition sources cannot be controlled. Sections 2, 5, 7 and 8 of this document should be consulted upon use of material, to become knowledgeable of the material's hazards and how to control risks associated with handling hazardous liquids.

If the location is not hazardous and only a small amount of material is spilled, control the release using absorbent pads while wearing the protective equipment as noted below. Care should be taken to prevent contact of the material with skin or eyes. Prohibit discharge to drains, soil, surface and ground waters. Dispose in accordance with section 13 of this document.

**PERSONAL PROTECTIVE EQUIPMENT:** Nitrile or Vinyl gloves, safety glasses/goggles, protective clothing (e.g. apron) may be required for clean-up of large spills. Respiratory protection is typically not necessary, but may be used depending upon the size of the spill and occupational exposure limits. Respiratory protection may include the use of organic vapor/acid gas cartridges. Refer to Section 8 for additional information.

**Notes for those trained to participate in an emergency:**

**ACCIDENTAL RELEASE MEASURES:** Eliminate all sources of ignition. Dike and contain the free liquid and absorb on vermiculite or spill pillows/pads. Place spent absorbents in UN specification drums for disposal. All precautions associated with controlling hazardous liquids should be employed during clean-up. Prohibit discharge to drains, soil, surface and ground waters. Inspection of all equipment used in response should occur before any re-use is considered.

Recommendations for personal protective equipment selection are noted above. Non-sparking tools should be utilized in all clean-up associated with hazardous liquids. Dispose in accordance with section 13 of this document.

## SECTION 7: HANDLING AND STORAGE

**PRECAUTIONS FOR SAFE HANDLING:**
Do not eat, drink or smoke while working with hazardous materials. Avoid contact with skin, eyes, and clothing. Employees should be advised to wear appropriate protective equipment in the manufacturing environment. Refer to Section 8 for protective equipment selection. All manufacturing should be performed indoors, in an enclosed environment. Employees should be advised not to handle hazardous products in close proximity to incompatible materials. Use only

non-sparking tools. Use explosion-proof electrical/ventilating/lighting equipment. Take precautionary measures against static discharge.

**Storage precautions for unpackaged product (manufacturing environment):** Store in a well-ventilated place and keep cool. Keep containers closed when not in use. Minimize inventory. Use only non-sparking tools. Use explosion-proof electrical/ventilating/lighting equipment. Take precautionary measures against static discharge. Appropriate fire suppression and detection equipment should be utilized. Store on spill pallets or other locations where spill containment will be easily accessible.

Maintain a clean work environment which includes use of properly functioning containers, proper housekeeping practices.

**CONDITIONS FOR SAFE STORAGE:**

**Storage precautions for unpackaged product (manufacturing environment):** Store in a cool and well-ventilated area. Store in original/compatible containers. Keep containers closed when not in use. This material should be "locked up" or stored in an area where production inventory may be controlled by authorized personnel. Appropriate fire suppression and detection equipment should be utilized. Store on spill pallets or in other locations where spill containment will be easily accessible and releases can be contained.

**Storage precautions for packaged product** – see consumer packaging.

Keep away from open drains and access to the environment.

**Incompatible materials**: Oxidizers, strong acids and organic compounds. Store away from incompatible materials.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**CONTROL PARAMETERS:** These criteria have been published by the referenced authority to establish exposure limits in the work environment. Employee work areas should be monitored to ensure that permissible limits are not exceeded during the work day. These references do not coincide with product use. These references are meant to be in association with the manufacturing environment.

**OCCUPATIONAL EXPOSURE VALUES:**

| Component Name (CAS-No.) | Reference | TWA | | STEL/CEILING | |
|---|---|---|---|---|---|
| | | ppm | mg/m$^3$ | ppm | mg/m$^3$ |
| Isopropyl Alcohol (67-63-0) | OSHA PEL | 400 | 980 | -- | -- |
| | ACGIH TLV | 400 | 980 | -- | -- |
| | NIOSH REL | 400 | 980 | 500 | 1225 |
| Ethanolamine (141-43-5) | OSHA PEL | 3 | 6 | -- | -- |
| | ACGIH TLV | 3 | 7.5 | 6 | 15 |
| | NIOSH REL | 3 | 8 | 6 | 15 |
| Resorcinol (108-46-3) | OSHA PEL | -- | -- | -- | -- |
| | ACGIH TLV | 10 | 45 | 20 | 90 |
| | NIOSH REL | 10 | 45 | 20 | 90 |
| p-Phenylenediamine (106-50-3) | OSHA PEL | -- | 0.1 (skin) | -- | -- |
| | ACGIH TLV | -- | 0.1 | -- | -- |
| | NIOSH REL | -- | 0.1 (skin) | -- | -- |
| Sodium Metabisulfite (7681-57-4) | OSHA PEL | -- | -- | -- | -- |
| | ACGIH TLV | -- | 5 | -- | -- |
| | NIOSH REL | -- | -- | -- | -- |

Notes: º (OSHA) – Total Dust

No occupational exposure values have been published for other constituents noted in Section 3.

**WORK HYGIENIC PRACTICES:** Ensure all work surfaces are maintained, to prevent contamination.

**ENGINEERING CONTROLS:** None required for product use. For handling large quantities of material, such as in the manufacturing of product, ventilation should be utilized. This ventilation should be compatible with the control of hazardous materials. Exhaust ventilation should be utilized to maintain air concentrations of material below the occupational exposure guidelines noted above.

Local exhaust ventilation is not typically required for product use. For handling large quantities of material, such as in the manufacturing of product **--** Local Exhaust: Explosion proof. Mechanical (general): Explosion proof.

**PERSONAL PROTECTIVE EQUIPMENT:** Consistent with good hygiene practices, personal protective equipment (PPE) should be used in conjunction with other control measures including engineering controls, ventilation and isolation. See also Section 5 of this document for PPE advice, in the event of an emergency.

**Eye/Face Protection (Non-Emergency):** None required for product use. For handling of large quantities of liquid material, safety glasses with side shields/goggles are recommended.

**Skin Protection (Non-Emergency):** Gloves should be worn when mixing kit components and applying mixture. For handling large quantities of material, such as in product manufacturing, nitrile or vinyl gloves should be considered for use. Tyvek clothing may also be suitable for handling large quantities of material in the manufacturing environment.

**Respiratory Protection (Non-Emergency):** Respiratory protection is not required for product use. For manufacturing of product, respiratory protection may be considered. Ensure that the respirator meets current local occupational health and safety standards. Organic vapor/acid gas cartridges should be utilized with filtering respiratory protection.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **APPEARANCE**: | Liquid |
| **ODOR:** | Not Available |
| **ODOR THRESHOLD:** | Not Available |
| **pH:** | 9.0 – 10.0 |
| **MELTING/FREEZING POINT:** | **F:** N/A **C:** N/A |
| **BOILING POINT:** | **F:** Not Available **C:** Not Available |
| **FLASH POINT:** | **F:** 104 - 122 **C:** 40 - 50 **METHOD USED:** Closed cup |
| **EVAPORATION RATE:** | > 1 **(Butyl acetate = 1)** |
| **FLAMMABILITY:** | Not Applicable to Liquids |
| **FLAMMABLE LIMITS IN AIR:** | ISOPROPYL ALCOHOL: (@200F) 12.7% UEL; 2.0% LEL<br>ETHANOLAMINE: 23.5% UEL; 3.0% LEL |
| **VAPOR PRESSURE (mmHg):** | @ 70F: N/A @ 21 C: N/A |
| **VAPOR DENSITY (AIR = 1):** | @ 70F: N/A @ 21 C: N/A |
| **RELATIVE DENSITY (H2O = 1):** | Not Available |

**SOLUBILITY IN WATER:** Not Available

**PARTITION COEFFICIENT:** Not Available

**AUTOIGNITION TEMPERATURE:** Not Available

**DECOMPOSITION TEMPERATURE:** Not Available

**VISCOSITY:** Not Available

## SECTION 10: STABILITY AND REACTIVITY

**REACTIVITY:** Material is not considered reactive under typical handling and storage conditions.

**STABILITY:** Product is stable.

**POSSIBILITY OF HAZARDOUS REACTIONS:** None known. Hazardous polymerization is not expected to occur.

**CONDITIONS TO AVOID:** Heat, fire, flame and other sources of ignition.

**INCOMPATIBILITY (MATERIAL TO AVOID):** Oxidizers, strong acids and organic compounds.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Oxides of carbon, hydrocarbons, and/or derivatives.

## SECTION 11: TOXICOLOGICAL INFORMATION

**Where information is not listed specifically for constituents, published information was not available.**

**POTENTIAL HEALTH EFFECTS**

**ACUTE HEALTH EFFECTS:**
**SKIN CORROSION/IRRITATION**: Causes skin irritation
**SERIOUS EYE DAMAGE/IRRITATION**: Causes serious eye damage
**RESPIRATORY/SKIN SENSITIZATION**: May cause allergic skin reaction
**INGESTION**: Harmful if swallowed.
**INHALATION**: Over-exposure may cause respiratory irritation.

**ROUTES OF EXPOSURE**: Eyes, skin

**SYMPTOMS**: Causes severe eye damage. Causes skin irritation. May cause an allergic skin reaction. Over-exposure may cause respiratory irritation.

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE**: None known.

**ACUTE TOXICOLOGY DATA FOR COMPONENTS**

| Material | Route | Species | Test Results |
|---|---|---|---|
| Isopropyl Alcohol | $LC_{50}$ | Rat | 16,000 ppm |
| Isopropyl Alcohol | Oral $LD_{50}$ | Rat | 5,045 mg/kg |
| Ethanolamine | Oral $LD_{50}$ | Rat (OECD 401 eq) | 1,510 mg/kg bw |
| Deceth-3 (analogy) | Oral $LD_{50}$ | Rat | >2,000 mg/kg bw |
| Deceth-3 (analogy) | Dermal $LD_{50}$ | Rat | >2,000 mg/kg bw |
| Ethanolamine | Dermal $LD_{50}$ | Rat (OECD 402 eq) | 2,504 mg/kg bw |
| Ethanolamine | Inh. $LC_{50}$ (6hr) | Rat | >1,300 $mg/m^3$ air |

| | | | |
|---|---|---|---|
| Resorcinol | Oral $LD_{50}$ | Rat (OECD 401) | 510 mg/kg bw |
| m-Aminophenol | Oral $LD_{50}$ | Rat (OECD 402) | >500 mg/kg bw |
| m-Aminophenol | Dermal $LD_{50}$ | Species unspecified | 6,400 mg/kg |
| m-Aminophenol | Inh. $LC_{50}$ | Rat | 1,162 $mg/m^3$ |
| p-Phenylenediamine | Oral $LD_{50}$ | Rat (OECD 420) | 75 mg/kg bw |
| p-Phenylenediamine | Inh. $LC_{50}$ (4hr) | Rat (OECD 403) | 0.92 mg/L |
| p-Phenylenediamine | Dermal $LD_{50}$ | Rabbit | >7,940 mg/kg bw |
| p-Aminophenol | Oral $LD_{50}$ | Rat (EPA OPPTS 870.1100) | 671 mg/kg bw |
| p-Aminophenol | Inh. $LC_{50}$ (4hr) | Rat OECD 403 | >3.42 mg/L air |
| p-Aminophenol | Dermal $LD_{50}$ | Rabbit EPA OPPTS 870.1200 | >8,000 mg/kg bw |
| Sodium Metabisulfite | Oral $LD_{50}$ | Rat (OECD 401) | 1,540 mg/kg bw |
| Sodium Metabisulfite | Inh. $LC_{50}$ (4hr) | Rat OECD 403 | >5.5 mg/L air |

**Skin Corrosion/Irritation:**

| | |
|---|---|
| *Isopropyl Alcohol:* | Slight Irritant (Rat) |
| *Deceth-3* | Slightly Irritating (analogy) |
| *Ethanolamine:* | Corrosive (Rabbit, OECD 404) |
| *Resorcinol* | Not Irritating (Rabbit, OECD 404) |
| *m-Aminophenol* | Not Irritating (Rabbit, OECD 404) |
| *Toluene-2,5-Diamine* | Not Irritating |
| *p-Phenylenediamine* | Not Irritating (Rabbit) |
| *p-Aminophenol* | Not Irritating (Rabbit, OECD 404) |
| *Sodium Metabisulfite* | Not Irritating (Rabbit, OECD 404) |

**Serious Eye Damage/Irritation:**

| | |
|---|---|
| *Isopropyl Alcohol:* | Highly Irritating (Rat) |
| *Deceth-3:* | Corrosive |
| *Ethanolamine:* | Corrosive (Rabbit, OECD 405) |
| *Resorcinol* | Not Irritating (Rabbit, OECD 405) |
| *m-Aminophenol* | Not Irritating (Rabbit, OECD 405) |
| *Toluene-2,5-Diamine* | Irritating (Rabbit) |
| *p-Phenylenediamine* | Irritating (Rabbit, OECD 405) |
| *p-Aminophenol* | Not Irritating (Rabbit, OECD 405) |
| *Sodium Metabisulfite* | Irritating (Rabbit, OECD 405) |

**Respiratory Irritation:**

| | |
|---|---|
| *Isopropyl Alcohol:* | Irritating (Rat) |

**Skin Sensitization:**

| | |
|---|---|
| *Isopropyl Alcohol:* | Slight Irritant (Rat) |
| *Deceth-3* | Not Sensitizing (Guinea Pig) (analogy) |
| *Ethanolamine:* | Not sensitizing (Guinea Pig) |
| *Resorcinol* | *S*ensitizing *(*Mouse) (OECD 429) |
| *m-Aminophenol* | *S*ensitizing *(*Mouse) (OECD 429) |
| *Toluene-2,5-Diamine* | *S*ensitizing (Guinea Pig) (OECD SIDS) |
| *p-Phenylenediamine* | Sensitizing *(*Mouse) (OECD 429) |
| *p-Aminophenol* | *S*ensitizing (Guinea Pig) (OECD 406) |
| *Sodium Metabisulfite* | *S*ensitizing *(*Mouse) (OECD 429) |

**CHRONIC HEALTH HAZARDS**:

**REPEAT DOSE TOXICITY:**

NOAEL (Isopropyl Alcohol, inhalation, rats): 504 mg/kg
LOAEL (Isopropyl Alcohol, inhalation, rats): 2,509 mg/kg
NOAEL (Deceth-3 (analogy), oral): 80-400 mg/kg/day (Rat, OECD 408)
NOAEL (Deceth-3 (analogy), dermal): 80 mg/kg/day (Rat, OECD 411)
NOAEL (Ethanolamine, oral): 300 mg/kg bw/day (Rat, OECD 416)

NOAEL (Resorcinol, oral): 80 mg/kg/day (Rat, OECD 408)
NOAEL (m-Aminophenol, oral): 20 mg/kg bw/day
NOAEL (p-Phenylenediamine, oral):16 mg/kg/day (Rat, OECD 408)
NOAEL (m-Aminophenol, oral): 300 mg/kg bw/day (Rat, OECD 416)
NOAEL (Sodium Metabisulfite, oral): 217 mg/kg bw/day (Rat)

**CARCINOGENICITY:**

| Component Name (CAS-No.) | OSHA | ACGIH | NTP | IARC |
|---|---|---|---|---|
| Isopropyl Alcohol (67-63-0) | -- | TLV-A4 | -- | IARC-3 |
| Resorcinol (108-46-3) | -- | TLV-A4 | -- | IARC-3 |
| Toluene-2,5-diamine (95-70-5) | -- | -- | -- | IARC-3 |
| p-Phenylenediamine (106-50-3) | -- | TLV-A4 | -- | IARC-3 |
| Sodium Metabisulfite (7681-57-4) | -- | TLV-A4 | -- | -- |

**Notes:**

*ACGIH TLV*-A4 – This reference indicates that the material is "Not Classifiable as a Human Carcinogen".
*IARC-3* – This reference indicated that the material is "Unclassifiable as Carcinogenicity in Humans"

**MUTAGENICITY:**

| | |
|---|---|
| *Isopropyl Alcohol:* | A variety of *in vitro* and *in vivo* tests have produced negative results. |
| *Deceth-3* | A variety of *in vitro* tests have produced negative results. (analogy) |
| *Ethanolamine:* | A variety of *in vitro* and *in vivo* tests have produced negative results. |
| *Resorcinol* | *In vitro* tests *(OECD 476)* has produced positive results and *in vivo (OECD 474)* tests have produced negative results. |
| *m-Aminophenol* | A variety of *in vitro* tests have produced negative results (OECD 473) |
| *Toluene-2,5-Diamine* | A variety of *in vitro* tests have produced negative results |
| *p-Phenylenediamine* | A variety of *in vitro* tests (OECD 471) has produced positive results with metabolic activation and *in vivo* tests (OECD 474) has produced negative results. |
| *Sodium Metabisulfite* | A variety of *in vitro* tests have produced negative results (OECD 471) |

**REPRODUCTIVE TOXICITY:**

| | |
|---|---|
| *Isopropyl Alcohol:* | In a multi-generation study, reproductive performance was not affected at any concentration. |
| *Deceth-3* | NOAEL: >250 mg/kg (Rat, OECD 416) (analogy) |
| *Resorcinol* | NOAEL: >3000 mg/kg bw/day (Rat, OECD 416) |
| *m-Aminophenol* | NOAEL: 10 mg/kg bw/day |
| *p-Aminophenol* | NOAEL: 100 mg/kg/bw day (Rat, OECD 421) |
| *Sodium Metabisulfite* | NOAEL: 942 mg/kg bw/ day (Rat) |

**DEVELOPMENTAL TOXICITY/TERATOGENICITY:**

| | |
|---|---|
| *Isopropyl Alcohol:* | No development toxicity observed (OECD Guideline 414) |
| *Deceth-3:* | NOAEL: >250 mg/kg (Rat, OECD 416) (analogy) |
| *Ethanolamine:* | NOAEL: 450 mg/kg bw/day (Rat, OECD 414) |
| *Resorcinol* | NOAEL: 250 mg/kg/day (Rat, OECD 414) |
| *p-Phenylenediamine* | NOEL: 10 mg/kg/day |
| *p-Aminophenol* | NOAEL: 100 mg/kg bw/day (Rat, OECD 421) |
| *Sodium Metabisulfite* | NOAEL: 123 mg/kg bw/day (Rat, OECD 414) |

## SECTION 12: ECOLOGICAL INFORMATION

Contact with the environment should be avoided. Spills and leaks should be immediately cleaned up and removed. All precautions should be taken to prevent contact with the environment. Published information regarding ingredients listed on this document area found below; where data is not listed, documentation was unavailable.

**ACUTE AND PROLONGED TOXICITY TO FISH**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Isopropyl Alcohol | $LC_{50}$ | 11,130 mg/l | Pimephas promelas | 96 h |
| Deceth-3 | $LC_{50}$ | 11.5 mg/L | Oncorhynchus mykiss | 96 h |
| Ethanolamine | $LC_{50}$ (ASTM D1345-70) | 170 mg/L | Carassius auratus | 96 h |
| Resorcinol | $LC_{50}$ | 29.5 mg/L | Pimephales promelas | 96 h |
| m-Aminophenol | $LC_{50}$ | 82.64 mg/L | Danio Rerio | 96 h |
| p-Phenylenediamine | $LC_{50}$ | 3.9 mg/L (OECD 203) | Oncorhynchus mykiss | 96 h |
| p-Aminophenol | $LC_{50}$ | 0.82 mg/L (OECD 203) | Oryzias latipes | 96 h |
| Sodium Metabisulfite | $LC_{50}$ | 681. 2 mg/L (OECD 203) | Danio Rerio | 96 h |

**ACUTE TOXICITY TO AQUATIC INVERTEBRATES**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Isopropyl Alcohol | $LC_{50}$ | 903 mg/l | Daphnia Magna | 96 h |
| Deceth-3 | $EC_{50}$ | 5.1 mg/L | Daphnia Magna | 48 h |
| Ethanolamine | $EC_{50}$ (84/449/EEC C.2) | 65 mg/L | Daphnia Magna | 48 h |
| Resorcinol | $EC_{50}$ | 4.7 mg/L (OECD 202) | Daphnia Magna | 48 h |
| m-Aminophenol | $EC_{50}$ | 1.1 mg/L | Daphnia magna | 48 h |
| p-Phenylenediamine | $EC_{50}$ | 0.33 mg/L (OECD 202) | Daphnia magna | 48 h |
| p-Aminophenol | $EC_{50}$ | 0.182 mg/l OECD Guideline 202 | Daphnia magna | 48 h |
| Sodium Metabisulfite | $EC_{50}$ | 89 mg/L | Daphnia magna | 48 h |

**TOXICITY TO AQUATIC PLANTS**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Isopropyl Alcohol | $EC_{50}$ | >1,000 mg/l | Scenedesmus subspicatus (algae) | 96 h |
| Ethanolamine | $EL_{50}$ (92/69/EEC C.3) | 15 mg/L | Green Algae | 72 h |
| Resorcinol | $EC_{50}$ | > 97 mg/L (OECD 201) | Pseudokirchneriella Subcapitata | 72 h |
| m-Aminophenol | $EC_{50}$ | 62 mg/L (OECD 201) | Pseudokirchnerella Subcapitata | 72 h |
| p-Phenylenediamine | $EC_{50}$ | 0.27 mg/L | Pseudokirchnerella Subcapitata | 72 h |
| p-Aminophenol | $EC_{50}$ | > 0.253 mg/l (OECD 201) | Desmodesmus Subspicatu | 72 h |
| Sodium Metabisulfite | $EC_{50}$ | 43.8 mg/L (OECD 201) | Desmodesmus subspicatu | 72 h |

**TOXICITY TO MICROORGANISMS**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Isopropyl Alcohol | $EC_{50}$ | 41,676 mg/l | Bacteria (activated sludge) | 30 days |
| Ethanolamine | $EC_{10}$ (OECD 209) | > 1,000 mg/L | Activated Sludge | 30 min |
| Resorcinol | $EC_{50}$ | 79 mg/L (OECD 209) | Activated Sludge | 3 h |
| m-Aminophenol | $EC_{50}$ | 2.55-2.9 mg/L | Tetrahymena thermophila | 48 h |
| p-Phenylenediamine | $EC_{50}$ | 100 mg/L | Activated Sludge | 3 h |

| | | | | |
|---|---|---|---|---|
| p-Aminophenol | $EC_{50}$ | 29.9 mg/L (OECD 209) | Activated sludge | 3 h |
| Sodium Metabisulfite | $EC_{50}$ | >1000 mg/L(OECD 209) | Activated sludge | 3 h |

**PERSISTENCY AND DEGRADABILITY:**

| | |
|---|---|
| *Isopropyl Alcohol:* | Readily Biodegradable – Half life: 1 - 10 days). |
| *Deceth-3* | Readily Biodegradable – OECD 301 |
| *Ethanolamine:* | Readily Biodegradable – OECD 301 A – >90% (21 d) |
| *Resorcinol* | Readily Biodegradable – OECD 301 C |
| *m-Aminophenol* | Readily Biodegradable – Half life: 15 days |
| *Toluene-2,5-Diamine* | Non-Biodegradable |
| *p-Phenylenediamine* | Readily biodegradable (OECD 301 D) |

**BIOACCUMULATIVE POTENTIAL:**

| | |
|---|---|
| *Isopropyl Alcohol:* | Not expected to bioaccumulation. |
| *Deceth-3* | Not expected to bioaccumulate (analogy) |
| *Ethanolamine* | log Pow: -1.91 @ 25°C (OECD 107) – Not expected to bioaccumulate |
| *Resorcinol* | BCF: 3.162 – Not expected to bioaccumulate |
| m-Aminophenol | BCF: 3.2 – Not expected to bioaccumulate |
| *p-Phenylenediamine* | BCF = 0.3. Not expected to bioaccumulate |
| *p-Aminophenol* | log koc: 1.96 – Low bioaccumulation potential |

## SECTION 13: DISPOSAL CONSIDERATIONS

**Those responsible for the performance of disposal, recycling or reclamation activities should refer to Section 8 of this document for advice on personal protective equipment and exposure controls.**

**WASTE DISPOSAL CONTAINERS:** Appropriate US DOT containers should be utilized which may include cardboard boxes for products, plastic/lined drums for solids. These containers should meet the packaging specifications required for DOT compliance. Packaging containers must not include incompatible materials.

**WASTE DISPOSAL METHOD:** As manufactured, this product exhibits the ignitable (D001) RCRA characteristic of hazardous waste. Controlled incineration at a licensed waste facility is the recommended technology for treatment and disposal. Material must not be disposed of through sewage.

**RCRA HAZARD CLASS: D001**

Follow all local governmental requirements intended for disposal.

## SECTION 14: TRANSPORT INFORMATION

**North American Ground Transportation**

- **IN CONSUMER PACKAGING:** Not Regulated
- **OTHER THAN CONSUMER PACKAGING:** Not Regulated

**Transport Via Water**

- **IN CONSUMER PACKAGING:** Not Regulated
- **OTHER THAN CONSUMER PACKAGING:** Not Regulated

**Transport Via Air (Domestic/International)**

- **IN CONSUMER PACKAGING:** Not Regulated
- **OTHER THAN CONSUMER PACKAGING:** Not Regulated

**Please be aware of carrier transport variations before shipping hazardous materials.**

## SECTION 15: REGULATORY INFORMATION

**National Fire Protection Association Codes:** Health: 3 Fire: 1 Reactivity: 0 Other: None

**Workplace Hazardous Materials Identification System:** Class E; Corrosive Material

This regulatory information represents the product, in its consumer packaging.

## SECTION 16: OTHER INFORMATION

**PREPARATION INFORMATION:** This is the first issuance of this document**.**

Author: Lalita Vedantam (Corporate Regulatory Services)

L'ORÉAL USA

# SAFETY DATA SHEET

**SDS # 15-179**

**ISSUANCE DATE: May 27, 2015**

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

L'Oreal USA Products, Inc.
111 Terminal Avenue
Clark, NJ 07066

L'Oreal Canada
4895 rue Hickmore
Ville St-Laurent, H4Y 1K5
Canada

**Emergency Telephone Number**
1-800-535-5053 US (International: 352-323-3500)
In Canada – 1-613-996-6666 (Canutec) (*666 cellular)

**For further information**:
1-732-499-2741

**Poison Control Number:** 412-390-3326

**Product Name: Flammable Hair Colors containing Glyceryl Lauryl Ether and Ethanolamine**

**Recommendations on use:** Personal care product to be mixed with companion product(s) in accordance with instructions and applied to hair to aid in coloring.

**Restrictions on use:** Avoid fire, flame, heat and other sources of ignition. For external use only. Use only as directed. See product packaging/insert for skin allergy test conditions.

## SECTION 2: HAZARDS IDENTIFICATION

### Signal Word: DANGER

| Symbol | Classification | Hazard Statement | Prevention Statements |
|---|---|---|---|
|  | Flammable Liquid Category 3 | Flammable Liquid and Vapor | • Keep away from heat, sparks, open flames and hot surfaces. No smoking.<br>• Keep container tightly closed.<br>• Ground/bond container and receiving equipment.<br>• Use explosion-proof electrical, ventilating, lighting, manufacturing and packaging equipment.<br>• Use only non-sparking tools.<br>• Take precautionary measures against static discharge. |

| | | | |
|---|---|---|---|
|  | Eye Damage Category 1 | Causes serious eye damage | • Wear eye protection/face protection |
|  | Skin Irritation Category 2 | Causes skin irritation | • Wash eyes and all skin surfaces contacted thoroughly after handling.<br>• Wear nitrile or vinyl gloves. Eye protection appropriate for the manufacturing operation being performed should be used (goggles or face shield). |
| See symbol above | Skin Sensitizer Category 1 | May cause an allergic skin reaction | • Avoid breathing mist/vapors/spray.<br>• Contaminated work clothing must not be allowed out of the workplace. |

This material is considered hazardous by the US Occupational Safety and Health Administration Hazard Communication Standard (29 CFR 1910.1200)

General Precautionary Statements: Keep out of reach of children. Read label before use. Over-exposure may cause respiratory irritation.

Hazards Not Otherwise Classified: None

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Only hazardous constituents associated with the product are listed below**

| INGREDIENT: | CAS NO. | % WT |
|---|---|---|
| Ethyl Alcohol | 64-17-5 | <9.0% |
| Glyceryl Lauryl Ether | 9022-75-7 | <7.0% |
| Deceth-3 | 66455-15-0 | ≤ 7.0% |
| Ethanolamine | 141-43-5 | ≤ 3.0% |
| Toluene-2,5-Diamine | 95-70-5 | ≤ 2.0% |
| Resorcinol | 108-46-3 | ≤ 2.0% |
| p-Phenylenediamine | 106-50-3 | ≤ 2.0% |
| m-Aminophenol | 591-27-5 | ≤ 1.0% |
| Sodium Metabisulfite | 7681-57-4 | ≤ 1.0% |
| p-Aminophenol | 123-30-8 | ≤ 0.5% |

## SECTION 4: FIRST AID MEASURES

### Response Statements:

**IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing until material is sufficiently removed from eye. **If eye irritation persists:** Get medical advice/attention.

**IF ON SKIN:** Wash with plenty of water. See product packaging/insert for specific treatment/ additional information. **If skin irritation or rash occurs:** get medical advice/attention. Take off contaminated clothing and wash it before reuse.

**IF INHALED:** Remove person to fresh air and keep in a position comfortable for breathing. Immediately call a Poison Control Center or doctor is person feels unwell.

**IF SWALLOWED:** Rinse mouth. Do not induce vomiting. Never give anything by mouth to an unconscious individual. Immediately call a Poison Control Center or doctor.

**SYMPTOMS/EFFECTS**: Causes severe eye damage. Causes skin irritation. May cause an allergic skin reaction. Over-exposure may cause respiratory irritation.

**NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:** Consult product labeling. No special advice.

## SECTION 5: FIRE-FIGHTING MEASURES

**Notes for Non-Emergency Personnel:**

**EXTINGUISHING MEDIA:** In case of fire use carbon dioxide, dry chemical and/or foam for extinction. Water spray may be used to soak other materials surrounding the product, to prevent the spread of the fire. Selection of a fire extinguisher should also be appropriate to address the location of the fire and equipment involved. Please review the tools available at your location to ensure proper availability of equipment.

**Notes for those trained to participate in an emergency:**

**SPECIAL FIRE FIGHTING PROCEDURES:** Treat as a flammable liquid. Follow National Fire Protection Association Guidelines or local guidelines appropriate for emergency response.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Observe all appropriate precautions for handling flammable materials.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxides of carbon, hydrocarbons, and/or derivatives.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Notes for non-emergency personnel:**

Consult trained response personnel for clean-up of large spills or locations where providing preliminary control of the chemical release is hazardous. Isolate the area and deny entry to unnecessary and unprotected. Hazardous locations include areas where ignition sources cannot be controlled. Sections 2, 5, 7 and 8 of this document should be consulted upon use of material, to become knowledgeable of the material's hazards and how to control risks associated with handling flammable liquids.

If the location is not hazardous and only a small amount of material is spilled, control the release using absorbent pads while wearing the protective equipment as noted below. Care should be taken to prevent contact of the material with skin or eyes. Prohibit discharge to drains, soil, surface and ground waters. Dispose in accordance with section 13 of this document.

**PERSONAL PROTECTIVE EQUIPMENT:** Nitrile or Vinyl gloves, safety glasses/goggles, protective clothing (e.g. apron) may be required for clean-up of large spills. Respiratory protection is typically not necessary, but may be used depending upon the size of the spill and occupational exposure limits. Respiratory protection may include the use of organic vapor/acid gas cartridges. Refer to Section 8 for additional information.

**Notes for those trained to participate in an emergency:**

**ACCIDENTAL RELEASE MEASURES:** Eliminate all sources of ignition. Dike and contain the free liquid and absorb on vermiculite or spill pillows/pads. Place spent absorbents in UN specification drums for disposal. All precautions associated with controlling flammable liquids should be employed during clean-up. Prohibit discharge to drains, soil, surface and ground waters. Inspection of all equipment used in response should occur before any re-use is considered.

Recommendations for personal protective equipment selection are noted above. Non-sparking tools should be utilized in all clean-up associated with flammable liquids. Dispose in accordance with section 13 of this document.

## SECTION 7: HANDLING AND STORAGE

**PRECAUTIONS FOR SAFE HANDLING:**
Do not eat, drink or smoke while working with hazardous materials. Avoid contact with skin, eyes, and clothing. Employees should be advised to wear appropriate protective equipment in the manufacturing environment. Refer to Section 8 for protective equipment selection. All manufacturing should be performed indoors, in an enclosed environment. Employees should be advised not to handle flammable products in close proximity to incompatible materials. Use only non-sparking tools. Use explosion-proof electrical/ventilating/lighting equipment. Take precautionary measures against static discharge.

**Storage precautions for unpackaged product (manufacturing environment):** Store in a well-ventilated place and keep cool. Keep containers closed when not in use. Minimize inventory. Use only non-sparking tools. Use explosion-proof electrical/ventilating/lighting equipment. Take precautionary measures against static discharge. Appropriate fire suppression and detection equipment should be utilized. Store on spill pallets or other locations where spill containment will be easily accessible.

Maintain a clean work environment which includes use of properly functioning containers, proper housekeeping practices.

**CONDITIONS FOR SAFE STORAGE:**

**Storage precautions for unpackaged product (manufacturing environment):** Store in a cool and well-ventilated area. Store in original/compatible containers. Keep containers closed when not in use. This material should be "locked up" or stored in an area where production inventory may be controlled by authorized personnel. Appropriate fire suppression and detection equipment should be utilized. Store on spill pallets or in other locations where spill containment will be easily accessible and releases can be contained.

**Storage precautions for packaged product** – see consumer packaging.

Keep away from open drains and access to the environment.

**Incompatible materials**: Oxidizers, strong acids and organic compounds. Store away from incompatible materials.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**CONTROL PARAMETERS:** These criteria have been published by the referenced authority to establish exposure limits in the work environment. Employee work areas should be monitored to ensure that permissible limits are not exceeded during the work day. These references do not coincide with product use. These references are meant to be in association with the manufacturing environment.

**OCCUPATIONAL EXPOSURE VALUES:**

| Component Name (CAS-No.) | Reference | TWA | | STEL/CEILING | |
|---|---|---|---|---|---|
| | | ppm | $mg/m^3$ | ppm | $mg/m^3$ |
| Ethyl Alcohol (64-17-5) | OSHA PEL | 1,000 | 1,900 | -- | -- |
| | ACGIH TLV | -- | -- | 1,000 | 1,880 |
| | NIOSH REL | 1,000 | 1,900 | -- | -- |
| Ethanolamine (141-43-5) | OSHA PEL | 3 | 6 | -- | -- |
| | ACGIH TLV | 3 | 7.5 | 6 | 15 |
| | NIOSH REL | 3 | 8 | 6 | 15 |
| Resorcinol (108-46-3) | OSHA PEL | -- | -- | -- | -- |
| | ACGIH TLV | 10 | 45 | 20 | 90 |
| | NIOSH REL | 10 | 45 | 20 | 90 |
| p-Phenylenediamine (106-50-3) | OSHA PEL | -- | 0.1 (skin) | -- | -- |
| | ACGIH TLV | -- | 0.1 | -- | -- |

| | | | | | |
|---|---|---|---|---|---|
| | **NIOSH REL** | **--** | **0.1 (skin)** | **--** | **--** |
| **Sodium Metabisulfite (7681-57-4)** | **OSHA PEL** | **--** | **--** | **--** | **--** |
| | **ACGIH TLV** | **--** | **5** | **--** | **--** |
| | **NIOSH REL** | **--** | **--** | **--** | **--** |

No occupational exposure values have been published for other constituents noted in Section 3.

**WORK HYGIENIC PRACTICES:** Ensure all work surfaces are maintained, to prevent contamination.

**ENGINEERING CONTROLS:** None required for product use. For handling large quantities of material, such as in the manufacturing of product, ventilation should be utilized. This ventilation should be compatible with the control of flammable materials. Exhaust ventilation should be utilized to maintain air concentrations of material below the occupational exposure guidelines noted above.

Local exhaust ventilation is not typically required for product use. For handling large quantities of material, such as in the manufacturing of product **--** Local Exhaust: Explosion proof. Mechanical (general): Explosion proof.

**PERSONAL PROTECTIVE EQUIPMENT:** Consistent with good hygiene practices, personal protective equipment (PPE) should be used in conjunction with other control measures including engineering controls, ventilation and isolation. See also Section 5 of this document for PPE advice, in the event of an emergency.

**Eye/Face Protection (Non-Emergency):** None required for product use. For handling of large quantities of liquid material, safety glasses with side shields/goggles are recommended.

**Skin Protection (Non-Emergency):** Gloves should be worn when mixing kit components and applying mixture. For handling large quantities of material, such as in product manufacturing, nitrile or vinyl gloves should be considered for use. Tyvek clothing may also be suitable for handling large quantities of material in the manufacturing environment.

**Respiratory Protection (Non-Emergency):** Respiratory protection is not required for product use. For manufacturing of product, respiratory protection may be considered. Ensure that the respirator meets current local occupational health and safety standards. Organic vapor/acid gas cartridges should be utilized with filtering respiratory protection.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

**APPEARANCE**: Liquid

**ODOR:** Not Available

**ODOR THRESHOLD:** Not Available

**pH:** Not Available

**MELTING/FREEZING POINT:** **F:** N/A **C:** N/A

**BOILING POINT:** **F:** Not Available **C:** Not Available

**FLASH POINT:** **F:** 118.4 **C:** 48 **METHOD USED:** Closed cup

**EVAPORATION RATE:** > 1 **(Butyl acetate = 1)**

**FLAMMABILITY:** Not Applicable to Liquids

**FLAMMABLE LIMITS IN AIR:** ETHYL ALCOHOL: 19% UEL; 3.3% LEL
ETHANOLAMINE: 23.5% UEL; 3.0% LEL

**VAPOR PRESSURE (mmHg):** @ 70F: 44 (as ethanol) @ 21 C: 44 (as ethanol)

| | | |
|---|---|---|
| **VAPOR DENSITY (AIR = 1):** | @ 70F: >1 | @ 21 C: > 1 |
| **RELATIVE DENSITY (H2O = 1):** | Not Available | |
| **SOLUBILITY IN WATER:** | Not Available | |
| **PARTITION COEFFICIENT:** | Not Available | |
| **AUTOIGNITION TEMPERATURE:** | Not Available | |
| **DECOMPOSITION TEMPERATURE:** | Not Available | |
| **VISCOSITY:** | Not Available | |

## SECTION 10: STABILITY AND REACTIVITY

**REACTIVITY:** Material is not considered reactive under typical handling and storage conditions.

**STABILITY:** Product is stable.

**POSSIBILITY OF HAZARDOUS REACTIONS:** None known. Hazardous polymerization is not expected to occur.

**CONDITIONS TO AVOID:** Heat, fire, flame and other sources of ignition.

**INCOMPATIBILITY (MATERIAL TO AVOID):** Oxidizers, strong acids and organic compounds.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Oxides of carbon, hydrocarbons, and/or derivatives.

## SECTION 11: TOXICOLOGICAL INFORMATION

**Where information is not listed specifically for constituents, published information was not available.**

**POTENTIAL HEALTH EFFECTS**

**ACUTE HEALTH EFFECTS:**
**SKIN CORROSION/IRRITATION**: Causes skin irritation
**SERIOUS EYE DAMAGE/IRRITATION**: Causes serious eye damage
**RESPIRATORY/SKIN SENSITIZATION**: May cause an allergic skin reaction
**INGESTION**: Harmful if swallowed.
**INHALATION**: Over-exposure may cause respiratory irritation.

**ROUTES OF EXPOSURE**: Eyes, skin

**SYMPTOMS**: Causes serious eye damage. Causes skin irritation. May cause an allergic skin reaction. Over-exposure may cause respiratory irritation.

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE**: None known.

**ACUTE TOXICOLOGY DATA FOR COMPONENTS**

| Material | Route | Species | Test Results |
|---|---|---|---|
| Ethyl Alcohol | Oral $LD_{50}$ | Rat | > 6,200 mg/kg bw |
| Ethyl Alcohol | Dermal $LD_{Lo}$ | Rabbit | > 20,000 mg/kg bw |
| Ethyl Alcohol | $LC_{50}$ (4 hr) | Rat | > 8,000 mg/L |
| Deceth-3 (analogy) | Oral $LD_{50}$ | Rat | >2,000 mg/kg bw |
| Deceth-3 (analogy) | Dermal $LD_{50}$ | Rat | >2,000 mg/kg bw |

| | | | |
|---|---|---|---|
| Ethanolamine | Oral $LD_{50}$ | Rat (OECD 401 eq) | 1,510 mg/kg bw |
| Ethanolamine | Dermal $LD_{50}$ | Rat (OECD 402 eq) | 2,504 mg/kg bw |
| Ethanolamine | Inh. $LC_{50}$ (6hr) | Rat | >1,300 $mg/m^3$ air |
| Resorcinol | Oral $LD_{50}$ | Rat (OECD 401) | 510 mg/kg bw |
| p-Phenylenediamine | Oral $LD_{50}$ | Rat (OECD 420) | 75 mg/kg bw |
| p-Phenylenediamine | Inh. $LC_{50}$ (4hr) | Rat (OECD 403) | 0.92 mg/L |
| p-Phenylenediamine | Dermal $LD_{50}$ | Rabbit | >7,940 mg/kg bw |
| m-Aminophenol | Oral $LD_{50}$ | Rat (OECD 402) | >500 mg/kg bw |
| m-Aminophenol | Dermal $LD_{50}$ | Species unspecified | 6,400 mg/kg |
| m-Aminophenol | Inh. $LC_{50}$ | Rat | 1,162 $mg/m^3$ |
| Sodium Metabisulfite | Oral $LD_{50}$ | Rat (OECD 401) | 1,540 mg/kg bw |
| Sodium Metabisulfite | Inh. $LC_{50}$ (4hr) | Rat OECD 403 | >5.5 mg/L air |
| p-Aminophenol | Oral $LD_{50}$ | Rat (EPA OPPTS 870.1100) | 671 mg/kg bw |
| p-Aminophenol | Inh. $LC_{50}$ (4hr) | Rat OECD 403 | >3.42 mg/L air |
| p-Aminophenol | Dermal $LD_{50}$ | Rabbit EPA OPPTS 870.1200 | >8,000 mg/kg bw |

**Skin Corrosion/Irritation:**

| | |
|---|---|
| *Ethyl Alcohol:* | Not Irritating (Rabbit, OECD 404) |
| *Deceth-3* | Slightly Irritating (analogy) |
| *Ethanolamine:* | Corrosive (Rabbit, OECD 404) |
| *Toluene-2,5-Diamine* | Not Irritating |
| *Resorcinol* | Not Irritating (Rabbit, OECD 404) |
| *m-Aminophenol* | Not Irritating (Rabbit, OECD 404) |
| *p-Phenylenediamine* | Not Irritating (Rabbit) |
| *Sodium Metabisulfite* | Not Irritating (Rabbit, OECD 404) |
| *p-Aminophenol* | Not Irritating (Rabbit, OECD 404) |

**Serious Eye Damage/Irritation:**

| | |
|---|---|
| *Ethyl Alcohol:* | 25% - Not Irritating / 50% - Mildly Irritating / 100% - Irritating (Rabbit, OECD 405) |
| *Deceth-3:* | Corrosive |
| *Ethanolamine:* | Corrosive (Rabbit, OECD 405) |
| *Toluene-2,5-Diamine* | Irritating (Rabbit) |
| *Resorcinol* | Not Irritating (Rabbit, OECD 405) |
| *m-Aminophenol* | Not Irritating (Rabbit, OECD 405) |
| *p-Phenylenediamine* | Irritating (Rabbit, OECD 405) |
| *Sodium Metabisulfite* | Irritating (Rabbit, OECD 405) |
| *p-Aminophenol* | Not Irritating (Rabbit, OECD 405) |

**Respiratory Irritation:**

| | |
|---|---|
| *Ethyl Alcohol:* | 27,314 ppm (Mouse) Highly Irritating |

**Skin Sensitization:**

| | |
|---|---|
| *Ethyl Alcohol:* | Not sensitizing (Guinea Pig) |
| *Deceth-3* | Not Sensitizing (Guinea Pig) (analogy) |
| *Ethanolamine:* | Not sensitizing (Guinea Pig) |
| *Toluene-2,5-Diamine* | *S*ensitizing (Guinea Pig) (OECD SIDS) |
| *Resorcinol* | *S*ensitizing *(*Mouse) (OECD 429) |
| *m-Aminophenol* | *S*ensitizing *(*Mouse) (OECD 429) |
| *p-Phenylenediamine* | Sensitizing *(*Mouse) (OECD 429) |
| *Sodium Metabisulfite* | *S*ensitizing *(*Mouse) (OECD 429) |
| *p-Aminophenol* | *S*ensitizing (Guinea Pig) (OECD 406) |

**CHRONIC HEALTH HAZARDS**:

**REPEAT DOSE TOXICITY:**

NOAEL (Ethyl Alcohol, oral): >2% (2400 mg/kg); Rat
LOAEL (Ethyl Alcohol, oral): 3% (3600 mg/kg); Rat

NOAEL (Deceth-3 (analogy), oral): 80-400 mg/kg/day (Rat, OECD 408)
NOAEL (Deceth-3 (analogy), dermal): 80 mg/kg/day (Rat, OECD 411)
NOAEL (Ethanolamine, oral): 300 mg/kg bw/day (Rat, OECD 416)
NOAEL (Resorcinol, oral): 80 mg/kg/day (Rat, OECD 408)
NOAEL (m-Aminophenol, oral): 20 mg/kg bw/day
NOAEL (p-Phenylenediamine, oral):16 mg/kg/day (Rat, OECD 408)
NOAEL (Sodium Metabisulfite, oral): 217 mg/kg bw/day (Rat)
NOAEL (p-Aminophenol, oral): 300 mg/kg bw/day (Rat, OECD 416)

**CARCINOGENICITY:**

| Component Name (CAS-No.) | OSHA | ACGIH | NTP | IARC |
|---|---|---|---|---|
| Ethyl Alcohol (64-17-5) | -- | TLV-A3 | -- | -- |
| Resorcinol (108-46-3) | -- | TLV-A4 | -- | IARC-3 |
| Toluene-2,5-diamine (95-70-5) | -- | -- | -- | IARC-3 |
| p-Phenylenediamine (106-50-3) | -- | TLV-A4 | -- | IARC-3 |
| Sodium Metabisulfite (7681-57-4) | -- | TLV-A4 | -- | -- |

**Notes:**

*ACGIH TLV-A3* – Confirmed Animal Carcinogen with Unknown Relevance to Humans
*ACGIH TLV*-A4 – This reference indicates that the material is "Not Classifiable as a Human Carcinogen".
*IARC-3* – This reference indicated that the material is "Unclassifiable as Carcinogenicity in Humans"

**MUTAGENICITY:**

*Ethyl Alcohol:* Classified as mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast. May affect genetic material (mutagenic).
*Deceth-3* A variety of *in vitro* tests have produced negative results. (analogy)
*Ethanolamine:* A variety of *in vitro* and *in vivo* tests have produced negative results.
*Resorcinol* *In vitro tests (OECD 476)* has produced positive results and *in vivo (OECD 474)* tests have produced negative results.
*m-Aminophenol* A variety of *in vitro* tests have produced negative results (OECD 473)
*Toluene-2,5-Diamine* A variety of *in vitro* tests have produced negative results
*p-Phenylenediamine* A variety of vitro tests (OECD 471) has produced positive results with metabolic activation and in vivo tests (OECD 474) has produced negative results.
*Sodium Metabisulfite* A variety of *in vitro* tests have produced negative results (OECD 471)

**REPRODUCTIVE TOXICITY:**

*Ethyl Alcohol:* Effects on the female reproductive system can include menstrual problems, altered sexual behavior, infertility, altered puberty onset, altered length of pregnancy, lactation problems, altered menopause onset and pregnancy outcome. Effects on the male reproductive system can include altered sexual behavior, altered fertility and problems with sperm shape or count.
*Deceth-3* NOAEL: >250 mg/kg (Rat, OECD 416) (analogy)
*Ethanolamine:* NOAEL: 300 mg/kg bw/day (Rat, OECD 416)
*Resorcinol* NOAEL: >3000 mg/kg bw/day (Rat, OECD 416)
*m-Aminophenol* NOAEL: 10 mg/kg bw/day
*p-Aminophenol* NOAEL: 100 mg/kg/bw day (Rat, OECD 421)
*Sodium Metabisulfite* NOAEL: 942 mg/kg bw/ day (Rat)

**DEVELOPMENTAL TOXICITY/TERATOGENICITY:**

*Ethyl Alcohol*: Ethanol has been connected to adverse reproductive effects and birth defects (teratogenic), based on moderate to heavy consumption. Human: passes through the placenta, excreted in maternal milk. Repeated ingestion of ethanol by pregnant mothers has been shown to adversely affect the central nervous system of the fetus, producing a collection of effects which together constitute fetal alcohol syndrome. These include mental and physical retardation, disturbances of learning, motor and language deficiencies, behavioral disorders and small size head.
*Deceth-3:* NOAEL: >250 mg/kg (Rat, OECD 416) (analogy)

| | |
|---|---|
| *Ethanolamine:* | NOAEL: 450 mg/kg bw/day (Rat, OECD 414) |
| *Resorcinol* | NOAEL: 250 mg/kg/day (Rat, OECD 414) |
| *p-Phenylenediamine* | NOEL: 10 mg/kg/day |
| *Sodium Metabisulfite* | NOAEL: 123 mg/kg bw/day (Rat, OECD 414) |
| *p-Aminophenol* | NOAEL: 100 mg/kg bw/day (Rat, OECD 421) |

## SECTION 12: ECOLOGICAL INFORMATION

Contact with the environment should be avoided. Spills and leaks should be immediately cleaned up and removed. All precautions should be taken to prevent contact with the environment. Published information regarding ingredients listed on this document area found below; where data is not listed, documentation was unavailable.

### ACUTE AND PROLONGED TOXICITY TO FISH

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Ethyl Alcohol | $LC_{50}$ | 12. 9 - 15.3g/L | Pimephales promelas | 96 h |
| Deceth-3 | $LC_{50}$ | 11.5 mg/L | Oncorhynchus mykiss | 96 h |
| Ethanolamine | $LC_{50}$ | 170 mg/L (ASTM D1345-70) | Carassius auratus | 96 h |
| Resorcinol | $LC_{50}$ | 29.5 mg/L | Pimephales promelas | 96 h |
| m-Aminophenol | $LC_{50}$ | 82.64 mg/L | Danio Rerio | 96 h |
| p-Phenylenediamine | $LC_{50}$ | 3.9 mg/L (OECD 203) | Oncorhynchus mykiss | 96 h |
| Sodium Metabisulfite | $LC_{50}$ | 681. 2 mg/L (OECD 203) | Danio Rerio | 96 h |
| p-Aminophenol | $LC_{50}$ | 0.82 mg/L (OECD 203) | Oryzias latipes | 96 h |

### ACUTE TOXICITY TO AQUATIC INVERTEBRATES

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Ethyl Alcohol | $EC_{50}$ | 5,012 mg/L | Ceriodaphnia Dubia | 48 h |
| Deceth-3 | $EC_{50}$ | 5.1 mg/L | Daphnia Magna | 48 h |
| Ethanolamine | $EC_{50}$ | 65 mg/L (84/449/EEC C.2) | Daphnia Magna | 48 h |
| | | | | |
| Resorcinol | $EC_{50}$ | 4.7 mg/L (OECD 202) | Daphnia Magna | 48 h |
| m-Aminophenol | $EC_{50}$ | 1.1 mg/L | Daphnia magna | 48 h |
| p-Phenylenediamine | $EC_{50}$ | 0.33 mg/L (OECD 202) | Daphnia magna | 48 h |
| Sodium Metabisulfite | $EC_{50}$ | 89 mg/L | Daphnia magna | 48 h |
| p-Aminophenol | $EC_{50}$ | 0.182 mg/l OECD Guideline 202 | Daphnia magna | 48 h |

### TOXICITY TO AQUATIC PLANTS

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Ethyl Alcohol | $EC_{50}$ | 675 mg/L | Chlorella Vulgaris | 4 d |
| Ethanolamine | $EL_{50}$ | 15 mg/L(92/69/EEC C.3) | Green Algae | 72 h |
| Resorcinol | $EC_{50}$ | > 97 mg/L (OECD 201) | Pseudokirchneriella Subcapitata | 72 h |
| m-Aminophenol | $EC_{50}$ | 62 mg/L (OECD 201) | Pseudokirchnerella Subcapitata | 72 h |
| p-Phenylenediamine | $EC_{50}$ | 0.27 mg/L | Pseudokirchnerella Subcapitata | 72 h |
| Sodium Metabisulfite | $EC_{50}$ | 43.8 mg/L (OECD 201) | Desmodesmus subspicatu | 72 h |
| p-Aminophenol | $EC_{50}$ | > 0.253 mg/l (OECD 201) | Desmodesmus Subspicatu | 72 h |

**TOXICITY TO MICROORGANISMS**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Ethyl Alcohol | $EC_{50}$ | 32.1 g/L | Photobacterium phoshoreum | 15 min |
| Ethanolamine | $EC_{10}$ (OECD 209) | > 1,000 mg/L | Activated Sludge | 30 min |
| Resorcinol | $EC_{50}$ | 79 mg/L (OECD 209) | Activated Sludge | 3 h |
| m-Aminophenol | $EC_{50}$ | 2.55-2.9 mg/L | Tetrahymena thermophila | 48 h |
| p-Phenylenediamine | $EC_{50}$ | 100 mg/L | Activated Sludge | 3 h |
| Sodium Metabisulfite | $EC_{50}$ | >1000 mg/L(OECD 209) | Activated sludge | 3 h |
| p-Aminophenol | $EC_{50}$ | 29.9 mg/L (OECD 209) | Activated sludge | 3 h |

**PERSISTENCY AND DEGRADABILITY:**

*Ethyl Alcohol:* Readily Biodegradable – OECD 301 B – 97% (28d)
*Deceth-3* Readily Biodegradable – OECD 301
*Ethanolamine:* Readily Biodegradable – OECD 301 A – >90% (21 d)
*Resorcinol* Readily Biodegradable – OECD 301 C
*m-Aminophenol* Readily Biodegradable – Half life: 15 days
*Toluene-2,5-Diamine* Non-Biodegradable
*p-Phenylenediamine* Readily biodegradable (OECD 301 D)

**BIOACCUMULATIVE POTENTIAL:**

*Ethanol:* $\log BCF_{(calculated)}$ = 0.5 (BCFWIN v2.15) – Not likely to bioaccumulate
*Ethanolamine* log Pow: -1.91 @ 25°C (OECD 107) – Not expected to bioaccumulate
*Deceth-3* Not expected to bioaccumulate (analogy)
*Resorcinol* BCF: 3.162 – Not expected to bioaccumulate
m-Aminophenol BCF: 3.2 – Not expected to bioaccumulate
*p-Phenylenediamine* BCF = 0.3. Not expected to bioaccumulate
*p-Aminophenol* log koc: 1.96 – Low bioaccumulation potential

## SECTION 13: DISPOSAL CONSIDERATIONS

**Those responsible for the performance of disposal, recycling or reclamation activities should refer to Section 8 of this document for advice on personal protective equipment and exposure controls.**

**WASTE DISPOSAL CONTAINERS:** Appropriate US DOT containers should be utilized which may include cardboard boxes for products, plastic/lined drums for solids. These containers should meet the packaging specifications required for DOT compliance. Packaging containers must not include incompatible materials.

**WASTE DISPOSAL METHOD:** As manufactured, this product exhibits the ignitable (D001) RCRA characteristic of hazardous waste. Controlled incineration at a licensed waste facility is the recommended technology for treatment and disposal. Material must not be disposed of through sewage.

**RCRA HAZARD CLASS: D001**

Follow all local governmental requirements intended for disposal.

## SECTION 14: TRANSPORT INFORMATION

**North American Ground Transportation**

- **IN CONSUMER PACKAGING:** Not Regulated
- **OTHER THAN CONSUMER PACKAGING:** Not Regulated

**Transport Via Water**

- **IN CONSUMER PACKAGING:** Not Regulated
- **OTHER THAN CONSUMER PACKAGING:** Not Regulated

**Transport Via Air (Domestic/International)**

- **IN CONSUMER PACKAGING:** Not Regulated
- **OTHER THAN CONSUMER PACKAGING:** Not Regulated

**Please be aware of carrier transport variations before shipping hazardous materials.**

## SECTION 15: REGULATORY INFORMATION

**National Fire Protection Association Codes:** Health: 3 Fire: 1 Reactivity: 0 Other: None

**Workplace Hazardous Materials Identification System:** Class E; Corrosive Material (Eye); Class D; Division 2, Subdivision B – Skin Irritation/Skin sensitization

This regulatory information represents the product, in its consumer packaging.

## SECTION 16: OTHER INFORMATION

**PREPARATION INFORMATION:**

Author: Lalita Vedantam (Corporate Regulatory Services)

L'ORÉAL USA

# SAFETY DATA SHEET

**SDS # 15-177**

**ISSUANCE DATE: May 19, 2015**

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

L'Oreal USA Products, Inc.
111 Terminal Avenue
Clark, NJ 07066

L'Oreal Canada
4895 rue Hickmore
Ville St-Laurent, H4Y 1K5
Canada

**Emergency Telephone Number**
1-800-535-5053 US (International: 352-323-3500)
In Canada – 1-613-996-6666 (Canutec) (*666 cellular)

**For further information**:
1-732-499-2741

**Poison Control Number:** 412-390-3326

**Product Name: Demi-Permanent Hair Colors containing Ethanolamine and Deceths**

**Recommendations on use:** Personal care product to be mixed with companion product(s) in accordance with instructions and applied to hair to aid in coloring.

**Restrictions on use:** For external use only. Use only as directed. See product packaging/insert for skin allergy test conditions.

## SECTION 2: HAZARDS IDENTIFICATION

### Signal Word: DANGER

| Symbol | Classification | Hazard Statement | Prevention Statements |
|---|---|---|---|
|  | Eye Damage Category 1 | Causes serious eye damage | • Wear eye protection appropriate for the manufacturing operation being performed (goggles or face shield). |
|  | Skin Sensitizer Category 1 | May cause an allergic skin reaction | • Avoid breathing mist/vapors/spray.<br>• Contaminated work clothing must not be allowed out of the workplace.<br>• Wear nitrile or vinyl gloves |
| See symbol above | Skin Irritation Category 2 | Causes skin irritation | • Wash eyes and all skin surfaces contacted thoroughly after handling. |

| | | | |
|---|---|---|---|
| See symbol above | Acute Toxicity Oral Category 4 | Harmful if swallowed | • Do not eat, drink or smoke when using this product |
|  | Toxic to Reproduction Category 2 | Suspected of damaging fertility or the unborn child | • Obtain special instructions before use<br>• Do not handle until all safety precautions have been read and understood.<br>• Wear protective gloves/protective clothing/eye protection/face protection. |

This material is considered hazardous by the US Occupational Safety and Health Administration Hazard Communication Standard (29 CFR 1910.1200)

General Precautionary Statements: Keep out of reach of children. Read label before use. Over-exposure may cause respiratory irritation.

Hazards Not Otherwise Classified: None

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Only hazardous constituents associated with the product are listed below**

| INGREDIENT: | CAS NO. | % WT |
|---|---|---|
| Deceth-3 | 66455-15-0 | ≤ 15.0% |
| Laureth-12 | 68439-50-9 | ≤ 7.0% |
| Ethanolamine | 141-43-5 | ≤ 6.0% |
| Toluene-2,5-Diamine | 95-70-5 | ≤ 3.0% |
| p-Phenylenediamine | 106-50-3 | ≤ 3.0% |
| Sodium Metabisulfite | 7681-57-4 | ≤ 3.0% |
| p-Aminophenol | 123-30-8 | ≤ 2.0% |
| Resorcinol | 108-46-3 | ≤ 2.0% |
| m-Aminophenol | 591-27-5 | ≤ 1.0% |
| Pentasodium Pentetate | 140-01-2 | ≤ 1.0% |

## SECTION 4: FIRST AID MEASURES

### Response Statements:

**IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing until material is sufficiently removed from the eye. **If eye irritation persists:** Immediately call a Poison Control Center or medical advice/attention.

**IF ON SKIN**: Wash with plenty of water. **If skin irritation or rash occurs:** Get medical advice/attention. Take of contaminated clothing and wash before reuse. See product packaging/insert for specific treatment/additional information.

**IF INHALED:** Remove person to fresh air and keep in a position comfortable for breathing. Immediately call a Poison Control Center or doctor is person feels unwell.

**IF SWALLOWED:** Immediately call a Poison Control Center or doctor. Rinse mouth. Do not induce vomiting. Never give anything by mouth to an unconscious individual.

**SYMPTOMS/EFFECTS**: Causes serious eye damage. May cause allergic skin reaction. Causes skin irritation. Harmful if swallowed. Over-exposure may cause respiratory irritation.

**NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:** Consult product labeling. No special advice.

## SECTION 5: FIRE-FIGHTING MEASURES

**Notes for Non-Emergency Personnel:**

**EXTINGUISHING MEDIA:** In case of fire use carbon dioxide, dry chemical, foam and/or water spray for extinction. Selection of a fire extinguisher should also be appropriate to address the location of the fire and equipment involved. Please review the tools available at your location to ensure proper availability of equipment.

**Notes for those trained to participate in an emergency:**

**SPECIAL FIRE FIGHTING PROCEDURES:** Follow National Fire Protection Association Guidelines or local guidelines appropriate for emergency response.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Observe all appropriate precautions for handling hazardous materials.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxides of carbon, hydrocarbons, and/or derivatives.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Notes for non-emergency personnel:**

Consult trained response personnel for clean-up of large spills or locations where providing preliminary control of the chemical release is hazardous. Isolate the area and deny entry to unnecessary and unprotected. Hazardous locations include areas where ignition sources cannot be controlled. Sections 2, 5, 7 and 8 of this document should be consulted upon use of material, to become knowledgeable of the material's hazards and how to control risks associated with handling hazardous liquids.

If the location is not hazardous and only a small amount of material is spilled, control the release using absorbent pads while wearing the protective equipment as noted below. Care should be taken to prevent contact of the material with skin or eyes. Prohibit discharge to drains, soil, surface and ground waters. Dispose in accordance with section 13 of this document.

**PERSONAL PROTECTIVE EQUIPMENT:** Nitrile or Vinyl gloves, safety glasses/goggles, protective clothing (e.g. apron) may be required for clean-up of large spills. Respiratory protection is typically not necessary, but may be used depending upon the size of the spill and occupational exposure limits. Respiratory protection may include the use of organic vapor/acid gas cartridges. Refer to Section 8 for additional information.

**Notes for those trained to participate in an emergency:**

**ACCIDENTAL RELEASE MEASURES:** Dike and contain the free liquid and absorb on vermiculite or spill pillows/pads. Place spent absorbents in UN specification drums for disposal. All precautions associated with controlling hazardous liquids should be employed during clean-up. Prohibit discharge to drains, soil, surface and ground waters. Inspection of all equipment used in response should occur before any re-use is considered.

Recommendations for personal protective equipment selection are noted above. Dispose in accordance with section 13 of this document.

## SECTION 7: HANDLING AND STORAGE

**PRECAUTIONS FOR SAFE HANDLING:**
Do not eat, drink or smoke while working with hazardous materials. Avoid contact with skin, eyes, and clothing. Employees should be advised to wear appropriate protective equipment in the manufacturing environment. Refer to Section 8 for protective equipment selection. All manufacturing should be performed indoors, in an enclosed environment. Employees should be advised not to handle hazardous products in close proximity to incompatible materials.

Maintain a clean work environment which includes use of properly functioning containers, proper housekeeping practices.

**CONDITIONS FOR SAFE STORAGE:**

**Storage precautions for unpackaged product (manufacturing environment):** Store in a cool and well-ventilated area. Store in original/compatible containers. Keep containers closed when not in use. This material should be "locked up" or stored in an area where production inventory may be controlled by authorized personnel. Appropriate fire suppression and detection equipment should be utilized. Store on spill pallets or in other locations where spill containment will be easily accessible and releases can be contained.

**Storage precautions for packaged product** – see consumer packaging.

Keep away from open drains and access to the environment.

**Incompatible materials**: Oxidizers, strong acids and organic compounds. Store away from incompatible materials.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**CONTROL PARAMETERS:** These criteria have been published by the referenced authority to establish exposure limits in the work environment. Employee work areas should be monitored to ensure that permissible limits are not exceeded during the work day. These references do not coincide with product use. These references are meant to be in association with the manufacturing environment.

**OCCUPATIONAL EXPOSURE VALUES:**

| Component Name (CAS-No.) | Reference | TWA | | STEL/CEILING | |
|---|---|---|---|---|---|
| | | ppm | $mg/m^3$ | ppm | $mg/m^3$ |
| Ethanolamine (141-43-5) | OSHA PEL | 3 | 6 | -- | -- |
| | ACGIH TLV | 3 | 7.5 | 6 | 15 |
| | NIOSH REL | 3 | 8 | 6 | 15 |
| Resorcinol (108-46-3) | OSHA PEL | -- | -- | -- | -- |
| | ACGIH TLV | 10 | 45 | 20 | 90 |
| | NIOSH REL | 10 | 45 | 20 | 90 |
| p-Phenylenediamine (106-50-3) | OSHA PEL | -- | 0.1 (skin) | -- | -- |
| | ACGIH TLV | -- | 0.1 | -- | -- |
| | NIOSH REL | -- | 0.1 (skin) | -- | -- |
| Sodium Metabisulfite (7681-57-4) | OSHA PEL | -- | -- | -- | -- |
| | ACGIH TLV | -- | 5 | -- | -- |
| | NIOSH REL | -- | -- | -- | -- |

No occupational exposure values have been published for other constituents noted in Section 3.

**WORK HYGIENIC PRACTICES:** Ensure all work surfaces are maintained, to prevent contamination.

**ENGINEERING CONTROLS:** None required for product use. For handling large quantities of material, such as in the manufacturing of product, ventilation should be utilized. This ventilation should be compatible with the control of hazardous materials. Exhaust ventilation should be utilized to maintain air concentrations of material below the occupational exposure guidelines noted above.

Local exhaust ventilation is not typically required for product use. For handling large quantities of material, such as in the manufacturing of product **--** Local Exhaust: Explosion proof. Mechanical (general): Explosion proof.

**PERSONAL PROTECTIVE EQUIPMENT:** Consistent with good hygiene practices, personal protective equipment (PPE) should be used in conjunction with other control measures including engineering controls, ventilation and isolation. See also Section 5 of this document for PPE advice, in the event of an emergency.

**Eye/Face Protection (Non-Emergency):** None required for product use. For handling of large quantities of liquid material, safety glasses with side shields/goggles are recommended.

**Skin Protection (Non-Emergency):** Gloves should be worn when mixing kit components and applying mixture. For handling large quantities of material, such as in product manufacturing, nitrile or vinyl gloves should be considered for use. Tyvek clothing may also be suitable for handling large quantities of material in the manufacturing environment.

**Respiratory Protection (Non-Emergency):** Respiratory protection is not required for product use. For manufacturing of product, respiratory protection may be considered. Ensure that the respirator meets current local occupational health and safety standards. Organic vapor/acid gas cartridges should be utilized with filtering respiratory protection.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **APPEARANCE**: | Liquid |
| **ODOR:** | Not Available |
| **ODOR THRESHOLD:** | Not Available |
| **pH:** | 9.0 – 10.0 |
| **MELTING/FREEZING POINT:** | **F:** N/A **C:** N/A |
| **BOILING POINT:** | **F:** Not Available **C:** Not Available |
| **FLASH POINT:** | **F:** >212 **C:** >100 **METHOD USED:** Closed cup |
| **EVAPORATION RATE:** | < 1 **(Butyl acetate = 1)** |
| **FLAMMABILITY:** | Not Applicable to Liquids |
| **FLAMMABLE LIMITS IN AIR:** | ETHANOLAMINE: 23.5% UEL; 3.0% LEL |
| **VAPOR PRESSURE (mmHg):** | @ 70F: Not Available @ 21 C: Not Available |
| **VAPOR DENSITY (AIR = 1):** | @ 70F: >1 @ 21 C: > 1 |
| **RELATIVE DENSITY (H2O = 1):** | Not Available |
| **SOLUBILITY IN WATER:** | Not Available |
| **PARTITION COEFFICIENT:** | Not Available |
| **AUTOIGNITION TEMPERATURE:** | Not Available |
| **DECOMPOSITION TEMPERATURE:** | Not Available |
| **VISCOSITY:** | Not Available |

## SECTION 10: STABILITY AND REACTIVITY

**REACTIVITY:** Material is not considered reactive under typical handling and storage conditions.

**STABILITY:** Product is stable.

**POSSIBILITY OF HAZARDOUS REACTIONS:** None known. Hazardous polymerization is not expected to occur.

**CONDITIONS TO AVOID:** Heat, fire, flame and other sources of ignition.

**INCOMPATIBILITY (MATERIAL TO AVOID):** Oxidizers, strong acids and organic compounds.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Oxides of carbon, hydrocarbons, and/or derivatives.

## SECTION 11: TOXICOLOGICAL INFORMATION

**Where information is not listed specifically for constituents, published information was not available.**

**POTENTIAL HEALTH EFFECTS**

**ACUTE HEALTH EFFECTS:**
**SKIN CORROSION/IRRITATION**: Causes skin irritation.
**SERIOUS EYE DAMAGE/IRRITATION**: Causes serious eye damage
**RESPIRATORY/SKIN SENSITIZATION**: May cause allergic skin reaction.
**INGESTION**: Harmful if swallowed.
**INHALATION**: Over-exposure may cause respiratory irritation.

**ROUTES OF EXPOSURE**: Eyes, skin, inhalation

**SYMPTOMS**: Causes serious eye damage. May cause allergic skin reaction. Causes skin irritation. Harmful if swallowed. Over-exposure may cause respiratory irritation.

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE**: None known.

**ACUTE TOXICOLOGY DATA FOR COMPONENTS**

| Material | Route | Species | Test Results |
|---|---|---|---|
| Deceth-3 (analogy) | Oral $LD_{50}$ | Rat | >2,000 mg/kg bw |
| Deceth-3 (analogy) | Dermal $LD_{50}$ | Rat | >2,000 mg/kg bw |
| Laureth-12 | Oral $LD_{50}$ | Rat (OECD 401) | >2,000 mg/kg bw |
| Laureth-12 | Inh. $LC_{50}$ (4hr) | Rat (OECD 403) | >1.6 mg/L air (nominal) |
| Laureth-12 | Dermal $LD_{50}$ | Rat (OECD 402) | >2,000 mg/kg bw |
| Ethanolamine | Oral $LD_{50}$ | Rat (OECD 401 eq) | 1,510 mg/kg bw |
| Ethanolamine | Dermal $LD_{50}$ | Rat (OECD 402 eq) | 2,504 mg/kg bw |
| Ethanolamine | Inh. $LC_{50}$ (6hr) | Rat | >1,300 $mg/m^3$ air |
| Toluene-2,5-Diamine | Oral $LD_{50}$ | Rat | 100 mg/kg bw |
| p-Phenylenediamine | Oral $LD_{50}$ | Rat (OECD 420) | 75 mg/kg bw |
| p-Phenylenediamine | Inh. $LC_{50}$ (4hr) | Rat (OECD 403) | 0.92 mg/L |
| p-Phenylenediamine | Dermal $LD_{50}$ | Rabbit | >7,940 mg/kg bw |
| Sodium Metabisulfite | Oral $LD_{50}$ | Rat (OECD 401) | 1,540 mg/kg bw |
| Sodium Metabisulfite | Inh. $LC_{50}$ (4hr) | Rat OECD 403 | >5.5 mg/L air |
| p-Aminophenol | Oral $LD_{50}$ | Rat (EPA OPPTS 870.1100) | 671 mg/kg bw |
| p-Aminophenol | Inh. $LC_{50}$ (4hr) | Rat OECD 403 | >3.42 mg/L air |
| p-Aminophenol | Dermal $LD_{50}$ | Rabbit EPA OPPTS 870.1200 | >8,000 mg/kg bw |
| Resorcinol | Oral $LD_{50}$ | Rat (OECD 401) | 510 mg/kg bw |
| m-Aminophenol | Oral $LD_{50}$ | Rat (OECD 402) | >500 mg/kg bw |
| m-Aminophenol | Dermal $LD_{50}$ | Species unspecified | 6,400 mg/kg |
| m-Aminophenol | Inh. $LC_{50}$ | Rat | 1,162 $mg/m^3$ |
| Pentasodium Pentetate | Oral $LD_0$ | Rat (OECD 401) | >5000 mg/kg bw |
| Pentasodium Pentetate | Dermal $LD_{50}$ | Rat (OECD 402) | >2000 mg/kg bw |

**Skin Corrosion/Irritation:**
*Deceth-3* Slightly Irritating (analogy)

| | |
|---|---|
| *Laureth-12* | Not Irritating (Rabbit, OECD 404) |
| *Ethanolamine:* | Corrosive (Rabbit, OECD 404) |
| *Toluene-2,5-Diamine* | Not Irritating |
| *p-Phenylenediamine* | Not Irritating (Rabbit) |
| *Sodium Metabisulfite* | Not Irritating (Rabbit, OECD 404) |
| *p-Aminophenol* | Not Irritating (Rabbit, OECD 404) |
| *Resorcinol* | Not Irritating (Rabbit, OECD 404) |
| *m-Aminophenol* | Not Irritating (Rabbit, OECD 404) |
| *Pentasodium Pentetate* | Not Irritating (Rabbit, OECD 404) |

**Serious Eye Damage/Irritation:**

| | |
|---|---|
| *Deceth-3:* | Corrosive |
| *Laureth-12* | Irritating (Rabbit, OECD 405) |
| *Ethanolamine:* | Corrosive (Rabbit, OECD 405) |
| *Toluene-2,5-Diamine* | Irritating (Rabbit) |
| *p-Phenylenediamine* | Irritating (Rabbit, OECD 405) |
| *Sodium Metabisulfite* | Irritating (Rabbit, OECD 405) |
| *p-Aminophenol* | Not Irritating (Rabbit, OECD 405) |
| *Resorcinol* | Not Irritating (Rabbit, OECD 405) |
| *m-Aminophenol* | Not Irritating (Rabbit, OECD 405) |
| *Pentasodium Pentetate* | Not Irritating (Rabbit, OECD 405) |

**Respiratory Irritation:**
No Data

**Skin Sensitization:**

| | |
|---|---|
| *Deceth-3* | Not Sensitizing (Guinea Pig) (analogy) |
| *Laureth-12* | Not sensitizing (Guinea Pig) (OECD 406) |
| *Ethanolamine:* | Not sensitizing (Guinea Pig) |
| *Toluene-2,5-Diamine* | *S*ensitizing (Guinea Pig) (OECD 406) |
| *p-Phenylenediamine* | Sensitizing *(*Mouse) (OECD 429) |
| *Sodium Metabisulfite* | *S*ensitizing *(*Mouse) (OECD 429) |
| *p-Aminophenol* | *S*ensitizing (Guinea Pig) (OECD 406) |
| *Resorcinol* | *S*ensitizing *(*Mouse) (OECD 429) |
| *m-Aminophenol* | *S*ensitizing *(*Mouse) (OECD 429) |
| *Pentasodium Pentetate* | *S*ensitizing (Guinea Pig) (OECD 406) |

**CHRONIC HEALTH HAZARDS**:

**REPEAT DOSE TOXICITY:**
NOAEL (Deceth-3 (analogy), oral): 80-400 mg/kg/day (Rat, OECD 408)
NOAEL (Deceth-3 (analogy), dermal): 80 mg/kg/day (Rat, OECD 411)
NOAEL (Laureth-12, oral): > 500 mg/kg bw (Rat, OECD 408)
NOAEL (Ethanolamine, oral): 300 mg/kg bw/day (Rat, OECD 416)
NOAEL (p-Phenylenediamine, oral):16 mg/kg/day (Rat, OECD 408)
NOAEL (Sodium Metabisulfite, oral): 217 mg/kg bw/day (Rat)
NOEL (p-Aminophenol, oral): 10 mg/kg bw/day (Rat, OECD 408)
NOAEL (Resorcinol, oral): 80 mg/kg/day (Rat, OECD 408)
NOEL (m-Aminophenol, oral): 20 mg/kg bw/day
NOAEL (Pentasodium Pentetate, oral): ca. 75 mg/kg bw/day (nominal)

**CARCINOGENICITY:**

| Component Name (CAS-No.) | OSHA | ACGIH | NTP | IARC |
|---|---|---|---|---|
| Toluene-2,5-diamine (95-70-5) | -- | -- | -- | IARC-3 |
| p-Phenylenediamine (106-50-3) | -- | TLV-A4 | -- | IARC-3 |
| Sodium Metabisulfite (7681-57-4) | -- | TLV-A4 | -- | -- |

| | | | | |
|---|---|---|---|---|
| Resorcinol (108-46-3) | -- | TLV-A4 | -- | IARC-3 |

**Notes:**

*ACGIH TLV*-A4 – This reference indicates that the material is "Not Classifiable as a Human Carcinogen".
*IARC-3* – This reference indicated that the material is "Unclassifiable as Carcinogenicity in Humans"

**MUTAGENICITY:**

| | |
|---|---|
| *Deceth-3* | A variety of *in vitro* tests have produced negative results. (analogy) |
| *Laureth-12* | A variety of *in vitro* (OECD 471) and *in vivo* (OECD 475) have produced negative results. |
| *Ethanolamine:* | A variety of *in vitro* and *in vivo* tests have produced negative results. |
| *Toluene-2,5-Diamine* | A variety of *in vitro* tests have produced negative results |
| *p-Phenylenediamine* | A variety of vitro tests (OECD 471) has produced positive results with metabolic activation and in vivo tests (OECD 474) has produced negative results. |
| *Sodium Metabisulfite* | A variety of *in vitro* tests have produced negative results (OECD 471) |
| *Resorcinol* | *In vitro tests (OECD 476)* has produced positive results and *in vivo (OECD 474)* tests have produced negative results. |
| *m-Aminophenol* | A variety of *in vitro* tests have produced negative results (OECD 473) |
| *Pentasodium Pentetate* | A variety of in vitro tests have produced negative results (OECD 471) |

**REPRODUCTIVE TOXICITY:**

| | |
|---|---|
| *Deceth-3* | NOAEL: >250 mg/kg (Rat, OECD 416) (analogy) |
| *Laureth-12* | NOAEL: >250 mg/kg bw/day (Rat, OECD 416) |
| *Ethanolamine:* | NOAEL: 300 mg/kg bw/day (Rat, OECD 416) |
| *Sodium Metabisulfite* | NOAEL: 942 mg/kg bw/ day (Rat) |
| *p-Aminophenol* | NOAEL: 100 mg/kg/bw day (Rat, OECD 421) |
| *Resorcinol* | NOAEL: >3000 mg/kg bw/day (Rat, OECD 416) |
| *m-Aminophenol* | NOAEL: 10 mg/kg bw/day |

**DEVELOPMENTAL TOXICITY/TERATOGENICITY:**

| | |
|---|---|
| *Deceth-3:* | NOAEL: >250 mg/kg (Rat, OECD 416) (analogy) |
| *Laureth-12* | NOAEL: >250 mg/kg bw/day (Rat, OECD 416) |
| *Ethanolamine:* | NOAEL: 450 mg/kg bw/day (Rat, OECD 414) |
| *p-Phenylenediamine* | NOEL: 10 mg/kg/day |
| *Sodium Metabisulfite* | NOAEL: 123 mg/kg bw/day (Rat, OECD 414) |
| *p-Aminophenol* | NOAEL: 100 mg/kg bw/day (Rat, OECD 421) |
| *Resorcinol* | NOAEL: 250 mg/kg/day (Rat, OECD 414) |
| *Pentasodium Pentetate* | NOAEL: 100 mg/kg bw/day (nominal) |

## SECTION 12: ECOLOGICAL INFORMATION

Contact with the environment should be avoided. Spills and leaks should be immediately cleaned up and removed. All precautions should be taken to prevent contact with the environment. Published information regarding ingredients listed on this document area found below; where data is not listed, documentation was unavailable.

**ACUTE AND PROLONGED TOXICITY TO FISH**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Deceth-3 | $LC_{50}$ | 11.5 mg/L | Oncorhynchus mykiss | 96 h |
| Laureth-12 | $LC_{50}$ (OECD 203) | 1.1 mg/L | Oncorhynchus mykiss | 96 h |
| Ethanolamine | $LC_{50}$ (ASTM D1345-70) | 170 mg/L | Carassius auratus | 96 h |
| p-Phenylenediamine | $LC_{50}$ (OECD 203) | 3.9 mg/L | Oncorhynchus mykiss | 96 h |
| Sodium Metabisulfite | $LC_{50}$ (OECD 203) | 681. 2 mg/L | Danio Rerio | 96 h |
| Resorcinol | $LC_{50}$ | 29.5 mg/L | Pimephales promelas | 96 h |
| m-Aminophenol | $LC_{50}$ | 82.64 mg/L | Danio Rerio | 96 h |
| p-Aminophenol | $LC_{50}$ (OECD 203) | 0.82 mg/L | Oryzias latipes | 96 h |
| Pentasodium Pentetate | $LC_{50}$ | 1115 mg/L (OECD 203) | Lepomis macrochirus | 96 h |

## ACUTE TOXICITY TO AQUATIC INVERTEBRATES

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Deceth-3 | $EC_{50}$ | 5.1 mg/L | Daphnia Magna | 48 h |
| Laureth-12 | $EC_{50}$ (OECD 202) | >2 mg/L | Daphnia Magna | 48 h |
| Ethanolamine | $EC_{50}$ (84/449/EEC C.2) | 65 mg/L | Daphnia Magna | 48 h |
| p-Phenylenediamine | $EC_{50}$ (OECD 202) | 0.33 mg/L | Daphnia magna | 48 h |
| Sodium Metabisulfite | $EC_{50}$ | 89 mg/L | Daphnia magna | 48 h |
| p-Aminophenol | $EC_{50}$ (OECD 202) | 0.182 mg/l | Daphnia magna | 48 h |
| Resorcinol | $EC_{50}$ (OECD 202) | 4.7 mg/L | Daphnia Magna | 48 h |
| m-Aminophenol | $EC_{50}$ | 1.1 mg/L | Daphnia magna | 48 h |
| Pentasodium Pentetate | $EC_{50}$ | 245 mg/L (OECD 202) | Daphnia magna | 48 h |

## TOXICITY TO AQUATIC PLANTS

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Laureth-12 | $EC_{50}$ (OECD 201) | 0.41 mg/L | Pseudokirchneriella subcapitata | 72 h |
| Ethanolamine | $EL_{50}$ (92/69/EEC C.3) | 15 mg/L | Green Algae | 72 h |
| p-Phenylenediamine | $EC_{50}$ | 0.27 mg/L | Pseudokirchneriella subcapitata | 72 h |
| Sodium Metabisulfite | $EC_{50}$ (OECD 201) | 43.8 mg/L | Desmodesmus subspicatu | 72 h |
| p-Aminophenol | $EC_{50}$ (OECD 201) | > 0.253 mg/l | Desmodesmus subspicatu | 72 h |
| Resorcinol | $EC_{50}$ (OECD 201) | > 97 mg/L | Pseudokirchneriella subcapitata | 72 h |
| m-Aminophenol | $EC_{50}$ (OECD 201) | 62 mg/L | Pseudokirchneriella subcapitata | 72 h |
| Pentasodium Pentetate | $EC_{50}$ | 2.6 mg/L (OECD 201) | Desmodesmus Subspicatu | 72 h |

## TOXICITY TO MICROORGANISMS

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Laureth-12 | $EC_{50}$ | >10 g/L | Pseudomonas putida | 16.9 h |
| Ethanolamine | $EC_{10}$ (OECD 209) | > 1,000 mg/L | Activated Sludge | 30 min |
| p-Phenylenediamine | $EC_{50}$ | 100 mg/L | Activated Sludge | 3 h |
| Sodium Metabisulfite | $EC_{50}$ (OECD 209) | >1000 mg/L | Activated sludge | 3 h |
| p-Aminophenol | $EC_{50}$ (OECD 209) | 29.9 mg/L | Activated sludge | 3 h |
| Resorcinol | $EC_{50}$ (OECD 209) | 79 mg/L | Activated Sludge | 3 h |
| m-Aminophenol | $EC_{50}$ | 2.55-2.9 mg/L | Tetrahymena thermophila | 48 h |

## PERSISTENCY AND DEGRADABILITY:

*Deceth-3* Readily Biodegradable – OECD 301
*Laureth-12* Readily Biodegradable – OECD 301
*Ethanolamine:* Readily Biodegradable – OECD 301 A – >90% (21 d)
*Toluene-2,5-Diamine* Non-Biodegradable
*p-Phenylenediamine* Readily biodegradable (OECD 301 D)
*Resorcinol* Readily Biodegradable – OECD 301 C
*m-Aminophenol* Readily Biodegradable – Half life: 15 days
*Pentasodium Pentetate* Readily biodegradable (OECD 301 B eq.)

**BIOACCUMULATIVE POTENTIAL:**

| | |
|---|---|
| *Deceth-3* | Not expected to bioaccumulate (analogy) |
| *Ethanolamine* | log Pow: -1.91 @ 25°C (OECD 107) – Not expected to bioaccumulate |
| *p-Phenylenediamine* | BCF = 0.3. Not expected to bioaccumulate |
| *p-Aminophenol* | log koc: 1.96 – Low bioaccumulation potential |
| Resorcinol | BCF: 3.162 – Not expected to bioaccumulate |
| m-Aminophenol | BCF: 3.2 – Not expected to bioaccumulate |

## SECTION 13: DISPOSAL CONSIDERATIONS

**Those responsible for the performance of disposal, recycling or reclamation activities should refer to Section 8 of this document for advice on personal protective equipment and exposure controls.**

**WASTE DISPOSAL CONTAINERS:** Appropriate US DOT containers should be utilized which may include cardboard boxes for products or plastic drums for bulk liquids. These containers should meet the packaging specifications required for DOT compliance.

**WASTE DISPOSAL METHOD:** As manufactured, this product does not exhibit any RCRA characteristics of hazardous waste. Controlled incineration at a licensed waste facility is the recommended technology for treatment and disposal. Material must not be disposed of through sewage.

**RCRA HAZARD CLASS: Not Regulated**

Follow all local governmental requirements intended for disposal.

## SECTION 14: TRANSPORT INFORMATION

**North American Ground Transportation**

- **IN CONSUMER PACKAGING:** Not Regulated
- **OTHER THAN CONSUMER PACKAGING:** Not Regulated

**Transport Via Water**

- **IN CONSUMER PACKAGING:** Not Regulated
- **OTHER THAN CONSUMER PACKAGING:** Not Regulated

**Transport Via Air (Domestic/International)**

- **IN CONSUMER PACKAGING:** Not Regulated
- **OTHER THAN CONSUMER PACKAGING:** Not Regulated

**Please be aware of carrier transport variations before shipping hazardous materials.**

## SECTION 15: REGULATORY INFORMATION

**National Fire Protection Association Codes:** Health: 2 Fire: 1 Reactivity: 0 Other: None

**Workplace Hazardous Materials Identification System:** Class D; Division 2, Subdivision B –Skin Irritation/Sensitizer Class E; Corrosive Material

This regulatory information represents the product, in its consumer packaging.

## SECTION 16: OTHER INFORMATION

**PREPARATION INFORMATION:** This is the first issuance of this document.

Author: Lalita Vedantam (Corporate Regulatory Services)

L'ORÉAL USA

# SAFETY DATA SHEET

**SDS # 15-172**

**ISSUANCE DATE: May 20, 2015**

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

L'Oreal USA Products, Inc.
111 Terminal Avenue
Clark, NJ 07066

L'Oreal Canada
4895 rue Hickmore
Ville St-Laurent, H4Y 1K5
Canada

**Emergency Telephone Number**
1-800-535-5053 US (International: 352-323-3500)
In Canada – 1-613-996-6666 (Canutec) (*666 cellular)

**For further information**:
1-732-499-2741

**Poison Control Number:** 412-390-3326

**Product Name: Permanent Oxidative Hair Colors containing Ammonia & Ethanolamine**

**Recommendations on use:** Personal care product to be mixed with companion product(s) in accordance with instructions and applied to hair to aid in coloring.

**Restrictions on use:** For external use only. Use only as directed. See product packaging/insert for skin allergy test conditions.

## SECTION 2: HAZARDS IDENTIFICATION

### Signal Word: DANGER

| Symbol | Classification | Hazard Statement | Prevention Statements |
|---|---|---|---|
|  | Eye Damage Category 1 | Causes serious eye damage | • Wear eye protection appropriate for the manufacturing operation being performed (goggles or face shield). |
|  | Skin Sensitizer Category 1 | May cause an allergic skin reaction | • Avoid breathing mist/vapors/spray.<br>• Contaminated work clothing must not be allowed out of the workplace.<br>• Wear nitrile or vinyl gloves |
| See symbol above | Skin Irritation Category 2 | Causes skin irritation | • Wash eyes and all skin surfaces contacted thoroughly after handling. |

| | | | |
|---|---|---|---|
| See symbol above | Acute Toxicity Oral Category 4 | Harmful if swallowed | • Do not eat, drink or smoke when using this product |

This material is considered hazardous by the US Occupational Safety and Health Administration Hazard Communication Standard (29 CFR 1910.1200)

General Precautionary Statements: Keep out of reach of children. Read label before use. Causes serious eye damage. May cause an allergic skin reaction. Causes skin irritation. Harmful if swallowed. Over-exposure may cause respiratory irritation.

Hazards Not Otherwise Classified: None

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Only hazardous constituents associated with the product are listed below**

| INGREDIENT: | CAS NO. | % WT |
|---|---|---|
| Ammonium Hydroxide | 1336-21-6 | ≤ 7.0% |
| Ethanolamine | 141-43-5 | ≤ 6.0% |
| Deceth-3 | 66455-15-0 | ≤ 9.0% |
| Laureth-12 | 68439-50-9 | ≤ 7.0% |
| Titanium Dioxide | 13463-67-7 | ≤ 1.0% |
| Resorcinol | 108-46-3 | ≤ 2.0% |
| m-Aminophenol | 591-27-5 | ≤ 2.0% |
| Toluene-2,5-Diamine | 95-70-5 | ≤ 2.0% |
| p-Phenylenediamine | 106-50-3 | ≤ 1.5% |
| Sodium Metabisulfite | 7681-57-4 | ≤ 1.0% |
| p-Aminophenol | 123-30-8 | ≤ 1.0% |

## SECTION 4: FIRST AID MEASURES

### Response Statements:

**IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing for at least 20 minutes or until material is sufficiently removed from the eye. **If eye irritation persists:** Get medical advice/attention if irritation or other symptoms occur.

**IF ON SKIN**: Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. **If skin irritation persists:** Get medical attention. See product packaging/insert for additional information.

**IF INHALED:** Remove person to fresh air and keep in a position comfortable for breathing. Immediately call a Poison Control Center or doctor is person feels unwell.

**IF SWALLOWED:** Rinse mouth. Do not induce vomiting. Never give anything by mouth to an unconscious individual. Immediately call a Poison Control Center or doctor.

**SYMPTOMS/EFFECTS**: Causes serious eye damage. May cause an allergic skin reaction. Causes skin irritation. Harmful if swallowed. Over-exposure may cause respiratory irritation.

**NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:** Consult product labeling. No special advice.

## SECTION 5: FIRE-FIGHTING MEASURES

**Notes for Non-Emergency Personnel:**

**EXTINGUISHING MEDIA:** In case of fire use carbon dioxide, dry chemical, foam and/or water spray for extinction. Selection of a fire extinguisher should also be appropriate to address the location of the fire and equipment involved. Please review the tools available at your location to ensure proper availability of equipment.

**Notes for those trained to participate in an emergency:**

**SPECIAL FIRE FIGHTING PROCEDURES:** Follow National Fire Protection Association Guidelines or local guidelines appropriate for emergency response.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Observe all appropriate precautions for handling hazardous materials.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxides of carbon, hydrocarbons, and/or derivatives.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Notes for non-emergency personnel:**

Consult trained response personnel for clean-up of large spills or locations where providing preliminary control of the chemical release is hazardous. Isolate the area and deny entry to unnecessary and unprotected. Hazardous locations include areas where ignition sources cannot be controlled. Sections 2, 5, 7 and 8 of this document should be consulted upon use of material, to become knowledgeable of the material's hazards and how to control risks associated with handling hazardous liquids.

If the location is not hazardous and only a small amount of material is spilled, control the release using absorbent pads while wearing the protective equipment as noted below. Care should be taken to prevent contact of the material with skin or eyes. Prohibit discharge to drains, soil, surface and ground waters. Dispose in accordance with section 13 of this document.

**PERSONAL PROTECTIVE EQUIPMENT:** Nitrile or Vinyl gloves, safety glasses/goggles, protective clothing (e.g. apron) may be required for clean-up of large spills. Respiratory protection is typically not necessary, but may be used depending upon the size of the spill and occupational exposure limits. Respiratory protection may include the use of organic vapor/acid gas cartridges. Refer to Section 8 for additional information.

**Notes for those trained to participate in an emergency:**

**ACCIDENTAL RELEASE MEASURES:** Dike and contain the free liquid and absorb on vermiculite or spill pillows/pads. Place spent absorbents in UN specification drums for disposal. All precautions associated with controlling hazardous liquids should be employed during clean-up. Prohibit discharge to drains, soil, surface and ground waters. Inspection of all equipment used in response should occur before any re-use is considered.

Recommendations for personal protective equipment selection are noted above. Dispose in accordance with section 13 of this document.

## SECTION 7: HANDLING AND STORAGE

**PRECAUTIONS FOR SAFE HANDLING:**
Do not eat, drink or smoke while working with hazardous materials. Avoid contact with skin, eyes, and clothing. Employees should be advised to wear appropriate protective equipment in the manufacturing environment. Refer to Section 8 for protective equipment selection. All manufacturing should be performed indoors, in an enclosed environment. Employees should be advised not to handle hazardous products in close proximity to incompatible materials.

**Storage precautions for unpackaged product (manufacturing environment):** Store in a well-ventilated place. Keep cool. Minimize inventory. Keep container tightly closed. It is suggested that this material be "locked up" or stored in an area where production inventory may be controlled by authorized personnel. Appropriate fire suppression and detection equipment should be utilized. Store on spill pallets or other locations where spill containment will be easily accessible.

Maintain a clean work environment which includes use of properly functioning containers, proper housekeeping practices.

**CONDITIONS FOR SAFE STORAGE:**

**Storage precautions for unpackaged product (manufacturing environment):** Store in a cool and well-ventilated area. Store in original/compatible containers. Keep containers closed when not in use. This material should be "locked up" or stored in an area where production inventory may be controlled by authorized personnel. Appropriate fire suppression and detection equipment should be utilized. Store on spill pallets or in other locations where spill containment will be easily accessible and releases can be contained.

**Storage precautions for packaged product** – see consumer packaging.

Keep away from open drains and access to the environment.

**Incompatible materials**: Oxidizers, strong acids and organic compounds. Store away from incompatible materials.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**CONTROL PARAMETERS:** These criteria have been published by the referenced authority to establish exposure limits in the work environment. Employee work areas should be monitored to ensure that permissible limits are not exceeded during the work day. These references do not coincide with product use. These references are meant to be in association with the manufacturing environment.

**OCCUPATIONAL EXPOSURE VALUES:**

| Component Name (CAS-No.) | Reference | TWA | | STEL/CEILING | |
|---|---|---|---|---|---|
| | | ppm | $mg/m^3$ | ppm | $mg/m^3$ |
| Ethanolamine (141-43-5) | OSHA PEL | 3 | 6 | -- | -- |
| | ACGIH TLV | 3 | 7.5 | 6 | 15 |
| | NIOSH REL | 3 | 8 | 6 | 15 |
| Titanium Dioxide (13463-67-7) | OSHA PEL | -- | 15º | -- | -- |
| | ACGIH TLV | -- | 10 | -- | -- |
| | NIOSH REL | -- | -- | -- | -- |
| Resorcinol (108-46-3) | OSHA PEL | -- | -- | -- | -- |
| | ACGIH TLV | 10 | 45 | 20 | 90 |
| | NIOSH REL | 10 | 45 | 20 | 90 |
| p-Phenylenediamine (106-50-3) | OSHA PEL | -- | 0.1 (skin) | -- | -- |
| | ACGIH TLV | -- | 0.1 | -- | -- |
| | NIOSH REL | -- | 0.1 (skin) | -- | -- |
| Sodium Metabisulfite (7681-57-4) | OSHA PEL | -- | -- | -- | -- |
| | ACGIH TLV | -- | 5 | -- | -- |
| | NIOSH REL | -- | -- | -- | -- |

Notes: º (OSHA) – Total Dust

No occupational exposure values have been published for other constituents noted in Section 3.

**WORK HYGIENIC PRACTICES:** Ensure all work surfaces are maintained, to prevent contamination.

**ENGINEERING CONTROLS:** None required for product use. For handling large quantities of material, such as in the manufacturing of product, ventilation should be utilized. This ventilation should be compatible with the control of hazardous materials. Exhaust ventilation should be utilized to maintain air concentrations of material below the occupational exposure guidelines noted above.

Local exhaust ventilation is not typically required for product use. For handling large quantities of material, such as in the manufacturing of product **--** Local Exhaust: Explosion proof. Mechanical (general): Explosion proof.

**PERSONAL PROTECTIVE EQUIPMENT:** Consistent with good hygiene practices, personal protective equipment (PPE) should be used in conjunction with other control measures including engineering controls, ventilation and isolation. See also Section 5 of this document for PPE advice, in the event of an emergency.

**Eye/Face Protection (Non-Emergency):** None required for product use. For handling of large quantities of liquid material, safety glasses with side shields/goggles are recommended.

**Skin Protection (Non-Emergency):** Gloves should be worn when mixing kit components and applying mixture. For handling large quantities of material, such as in product manufacturing, nitrile or vinyl gloves should be considered for use. Tyvek clothing may also be suitable for handling large quantities of material in the manufacturing environment.

**Respiratory Protection (Non-Emergency):** Respiratory protection is not required for product use. For manufacturing of product, respiratory protection may be considered. Ensure that the respirator meets current local occupational health and safety standards. Organic vapor/acid gas cartridges should be utilized with filtering respiratory protection.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| **APPEARANCE**: | Clear to yellow liquid/cream |
| **ODOR:** | Not Available |
| **ODOR THRESHOLD:** | Not Available |
| **pH:** | 9.0 – 10.0 |
| **MELTING/FREEZING POINT:** | **F:** N/A **C:** N/A |
| **BOILING POINT:** | **F:** Not Available **C:** Not Available |
| **FLASH POINT:** | **F:** >212 **C:** >100 **METHOD USED:** Closed cup |
| **EVAPORATION RATE:** | > 1 **(Butyl acetate = 1)** |
| **FLAMMABILITY:** | Not Applicable to Liquids |
| **FLAMMABLE LIMITS IN AIR:** | AMMONIA: 28% UEL; 15% LEL<br>ETHANOLAMINE: 23.5% UEL; 3.0% LEL |
| **VAPOR PRESSURE (mmHg):** | @ 70F: Not Available @ 21 C: Not Available |
| **VAPOR DENSITY (AIR = 1):** | @ 70F: >1 @ 21 C: > 1 |
| **RELATIVE DENSITY (H2O = 1):** | Not Available |
| **SOLUBILITY IN WATER:** | Not Available |
| **PARTITION COEFFICIENT:** | Not Available |
| **AUTOIGNITION TEMPERATURE:** | Not Available |
| **DECOMPOSITION TEMPERATURE:** | Not Available |
| **VISCOSITY:** | Not Available |

## SECTION 10: STABILITY AND REACTIVITY

**REACTIVITY:** Material is not considered reactive under typical handling and storage conditions.

**STABILITY:** Product is stable.

**POSSIBILITY OF HAZARDOUS REACTIONS:** None known. Hazardous polymerization is not expected to occur.

**CONDITIONS TO AVOID:** Heat, fire, flame and other sources of ignition.

**INCOMPATIBILITY (MATERIAL TO AVOID):** Oxidizers, strong acids and organic compounds.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Oxides of carbon, hydrocarbons, and/or derivatives.

## SECTION 11: TOXICOLOGICAL INFORMATION

**Where information is not listed specifically for constituents, published information was not available.**

**POTENTIAL HEALTH EFFECTS**

**ACUTE HEALTH EFFECTS:**
**SKIN CORROSION/IRRITATION**: Causes skin irritation
**SERIOUS EYE DAMAGE/IRRITATION**: Causes serious eye damage
**RESPIRATORY/SKIN SENSITIZATION**: May cause an allergic skin reaction.
**INGESTION**: Harmful if swallowed.
**INHALATION**: Over-exposure may cause respiratory irritation.

**ROUTES OF EXPOSURE**: Eyes, skin

**SYMPTOMS**: Causes serious eye damage. May cause an allergic skin reaction. Causes skin irritation. Harmful if swallowed. Over-exposure may cause respiratory irritation.

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE**: None known.

**ACUTE TOXICOLOGY DATA FOR COMPONENTS**

| Material | Route | Species | Test Results |
|---|---|---|---|
| Ammonium Hydroxide | Oral $LD_{50}$ | Rat (OECD 401) | 350 mg/kg |
| Ammonium Hydroxide | Inh. $LC_{50}$ (1h) | Rat | 11,590 mg/L air |
| Ethanolamine | Oral $LD_{50}$ | Rat (OECD 401 eq) | 1,510 mg/kg bw |
| Ethanolamine | Dermal $LD_{50}$ | Rat (OECD 402 eq) | 2,504 mg/kg bw |
| Ethanolamine | Inh. $LC_{50}$ (6hr) | Rat | >1,300 $mg/m^3$ air |
| Deceth-3 (analogy) | Oral $LD_{50}$ | Rat | >2,000 mg/kg bw |
| Deceth-3 (analogy) | Dermal $LD_{50}$ | Rat | >2,000 mg/kg bw |
| Laureth-12 | Oral $LD_{50}$ | Rat (OECD 401) | >2,000 mg/kg bw |
| Laureth-12 | Inh. $LC_{50}$ (4hr) | Rat (OECD 403) | >1.6 mg/L air (nominal) |
| Laureth-12 | Dermal $LD_{50}$ | Rat (OECD 402) | >2,000 mg/kg bw |
| Titanium Dioxide | Oral $LD_{50}$ | Rat | >5,000 mg/kg bw |
| Resorcinol | Oral $LD_{50}$ | Rat (OECD 401) | 510 mg/kg bw |
| m-Aminophenol | Oral $LD_{50}$ | Rat (OECD 402) | >500 mg/kg bw |
| m-Aminophenol | Dermal $LD_{50}$ | Species unspecified | 6,400 mg/kg |
| m-Aminophenol | Inh. $LC_{50}$ | Rat | 1,162 $mg/m^3$ |
| p-Phenylenediamine | Oral $LD_{50}$ | Rat (OECD 420) | 75 mg/kg bw |
| p-Phenylenediamine | Inh. $LC_{50}$ (4hr) | Rat (OECD 403) | 0.92 mg/L |
| p-Phenylenediamine | Dermal $LD_{50}$ | Rabbit | >7,940 mg/kg bw |

| | | | |
|---|---|---|---|
| Sodium Metabisulfite | Oral $LD_{50}$ | Rat (OECD 401) | 1,540 mg/kg bw |
| Sodium Metabisulfite | Inh. $LC_{50}$ (4hr) | Rat OECD 403 | >5.5 mg/L air |
| p-Aminophenol | Oral $LD_{50}$ | Rat (EPA OPPTS 870.1100) | 671 mg/kg bw |
| p-Aminophenol | Inh. $LC_{50}$ (4hr) | Rat OECD 403 | >3.42 mg/L air |
| p-Aminophenol | Dermal $LD_{50}$ | Rabbit EPA OPPTS 870.1200 | >8,000 mg/kg bw |

**Skin Corrosion/Irritation:**

| | |
|---|---|
| *Ammonium Hydroxide* | Irritating (5-10%); Corrosive (≥ 10%) |
| *Ethanolamine:* | Corrosive (Rabbit, OECD 404) |
| *Deceth-3* | Slightly Irritating (analogy) |
| *Laureth-12* | Not Irritating (Rabbit, OECD 404) |
| *Titanium Dioxide* | Not Irritating (Rabbit) |
| *Resorcinol* | Not Irritating (Rabbit, OECD 404) |
| *m-Aminophenol* | Not Irritating (Rabbit, OECD 404) |
| *Toluene-2,5-Diamine* | Not Irritating |
| *p-Phenylenediamine* | Not Irritating (Rabbit) |
| *Sodium Metabisulfite* | Not Irritating (Rabbit, OECD 404) |
| *p-Aminophenol* | Not Irritating (Rabbit, OECD 404) |

**Serious Eye Damage/Irritation:**

| | |
|---|---|
| *Ammonium Hydroxide* | Corrosive (Rabbit) |
| *Ethanolamine:* | Corrosive (Rabbit, OECD 405) |
| *Deceth-3:* | Corrosive |
| *Laureth-12* | Irritating (Rabbit, OECD 405) |
| *Titanium Dioxide* | Not Irritating (Rabbit) |
| *Resorcinol* | Not Irritating (Rabbit, OECD 405) |
| *m-Aminophenol* | Not Irritating (Rabbit, OECD 405) |
| *Toluene-2,5-Diamine* | Irritating (Rabbit) |
| *p-Phenylenediamine* | Irritating (Rabbit, OECD 405) |
| *Sodium Metabisulfite* | Irritating (Rabbit, OECD 405) |
| *p-Aminophenol* | Not Irritating (Rabbit, OECD 405) |

**Respiratory Irritation:**

| | |
|---|---|
| *Ammonium Hydroxide* | Highly Irritating (>50 ppm) (Human) |

**Skin Sensitization:**

| | |
|---|---|
| *Ammonium Hydroxide* | Not Sensitizing (Guinea Pig) |
| *Ethanolamine:* | Not sensitizing (Guinea Pig) |
| *Deceth-3* | Not Sensitizing (Guinea Pig) (analogy) |
| *Laureth-12* | Not sensitizing (Guinea Pig) (OECD 406) |
| *Resorcinol* | *S*ensitizing *(*Mouse) (OECD 429) |
| *m-Aminophenol* | *S*ensitizing *(*Mouse) (OECD 429) |
| *Toluene-2,5-Diamine* | *S*ensitizing (Guinea Pig) (OECD SIDS) |
| *p-Phenylenediamine* | Sensitizing *(*Mouse) (OECD 429) |
| *Sodium Metabisulfite* | *S*ensitizing *(*Mouse) (OECD 429) |
| *p-Aminophenol* | *S*ensitizing (Guinea Pig) (OECD 406) |

**CHRONIC HEALTH HAZARDS**:

**REPEAT DOSE TOXICITY:**

NOAEL (Ethanolamine, oral): 300 mg/kg bw/day (Rat, OECD 416)
NOAEL (Deceth-3 (analogy), oral): 80-400 mg/kg/day (Rat, OECD 408)
NOAEL (Deceth-3 (analogy), dermal): 80 mg/kg/day (Rat, OECD 411)
NOAEL (Laureth-12, oral): > 500 mg/kg bw (Rat, OECD 408)
NOAEL (Titanium Dioxide, oral, rat): 24,000 mg/kg
NOAEL (Resorcinol, oral): 80 mg/kg/day (Rat, OECD 408)
NOAEL (m-Aminophenol, oral): 20 mg/kg bw/day

NOAEL (p-Phenylenediamine, oral):16 mg/kg/day (Rat, OECD 408)
NOAEL (Sodium Metabisulfite, oral): 217 mg/kg bw/day (Rat)
NOAEL (m-Aminophenol, oral): 300 mg/kg bw/day (Rat, OECD 416)

**CARCINOGENICITY:**

| Component Name (CAS-No.) | OSHA | ACGIH | NTP | IARC |
|---|---|---|---|---|
| Titanium Dioxide (13463-67-7) | -- | TLV-A4 | -- | IARC-2B |
| Resorcinol (108-46-3) | -- | TLV-A4 | -- | IARC-3 |
| Toluene-2,5-diamine (95-70-5) | -- | -- | -- | IARC-3 |
| p-Phenylenediamine (106-50-3) | -- | TLV-A4 | -- | IARC-3 |
| Sodium Metabisulfite (7681-57-4) | -- | TLV-A4 | -- | -- |

**Notes:**

*ACGIH TLV*-A4 – This reference indicates that the material is "Not Classifiable as a Human Carcinogen".
*IARC-2B* – This reference indicates that the material is "Possibly Carcinogenic to Humans"
*IARC-3* – This reference indicated that the material is "Unclassifiable as Carcinogenicity in Humans"

**MUTAGENICITY:**

| | |
|---|---|
| *Ammonium Hydroxide* | A variety of *in vitro* test have produced negative results. |
| *Ethanolamine:* | A variety of *in vitro* and *in vivo* tests have produced negative results. |
| *Deceth-3* | A variety of *in vitro* tests have produced negative results. (analogy) |
| *Laureth-12* | A variety of *in vitro* (OECD 471) and *in vivo* (OECD 475) have produced negative results. |
| *Titanium Dioxide* | A variety of *in vitro* tests have produced negative results. |
| *Resorcinol* | *In vitro tests (OECD 476)* has produced positive results and *in vivo (OECD 474)* tests have produced negative results. |
| *m-Aminophenol* | A variety of *in vitro* tests have produced negative results (OECD 473) |
| *Toluene-2,5-Diamine* | A variety of *in vitro* tests have produced negative results |
| *p-Phenylenediamine* | A variety of vitro tests (OECD 471) has produced positive results with metabolic activation and in vivo tests (OECD 474) has produced negative results. |
| *Sodium Metabisulfite* | A variety of *in vitro* tests have produced negative results (OECD 471) |

**REPRODUCTIVE TOXICITY:**

| | |
|---|---|
| *Ethanolamine:* | NOAEL: 300 mg/kg bw/day (Rat, OECD 416) |
| *Deceth-3* | NOAEL: >250 mg/kg (Rat, OECD 416) (analogy) |
| *Laureth-12* | NOAEL: >250 mg/kg bw/day (Rat, OECD 416) |
| *Resorcinol* | NOAEL: >3000 mg/kg bw/day (Rat, OECD 416) |
| *m-Aminophenol* | NOAEL: 10 mg/kg bw/day |
| *Sodium Metabisulfite* | NOAEL: 942 mg/kg bw/ day (Rat) |
| *p-Aminophenol* | NOAEL: 100 mg/kg/bw day (Rat, OECD 421) |

**DEVELOPMENTAL TOXICITY/TERATOGENICITY:**

| | |
|---|---|
| *Ethanolamine:* | NOAEL: 450 mg/kg bw/day (Rat, OECD 414) |
| *Deceth-3:* | NOAEL: >250 mg/kg (Rat, OECD 416) (analogy) |
| *Laureth-12* | NOAEL: >250 mg/kg bw/day (Rat, OECD 416) |
| *Resorcinol* | NOAEL: 250 mg/kg/day (Rat, OECD 414) |
| *p-Phenylenediamine* | NOEL: 10 mg/kg/day |
| *Sodium Metabisulfite* | NOAEL: 123 mg/kg bw/day (Rat, OECD 414) |
| *p-Aminophenol* | NOAEL: 100 mg/kg bw/day (Rat, OECD 421) |

## SECTION 12: ECOLOGICAL INFORMATION

Contact with the environment should be avoided. Spills and leaks should be immediately cleaned up and removed. All precautions should be taken to prevent contact with the environment. Published information regarding ingredients listed on this document area found below; where data is not listed, documentation was unavailable.

## ACUTE AND PROLONGED TOXICITY TO FISH

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Ammonium Hydroxide | $LC_{50}$ | 1.73 mg/L | Lepomis cyanellus | 96 h |
| Ethanolamine | $LC_{50}$ (ASTM D1345-70) | 170 mg/L | Carassius auratus | 96 h |
| Deceth-3 | $LC_{50}$ | 11.5 mg/L | Oncorhynchus mykiss | 96 h |
| Laureth-12 | $LC_{50}$ | 1.1 mg/L (OECD 203) | Oncorhynchus mykiss | 96 h |
| Titanium Dioxide | $LC_{50}$ | >1,000 mg/L | Leuciscusidus idus | 48 h |
| Resorcinol | $LC_{50}$ | 29.5 mg/L | Pimephales promelas | 96 h |
| m-Aminophenol | $LC_{50}$ | 82.64 mg/L | Danio Rerio | 96 h |
| p-Phenylenediamine | $LC_{50}$ | 3.9 mg/L (OECD 203) | Oncorhynchus mykiss | 96 h |
| Sodium Metabisulfite | $LC_{50}$ | 681. 2 mg/L (OECD 203) | Danio Rerio | 96 h |
| p-Aminophenol | $LC_{50}$ | 0.82 mg/L (OECD 203) | Oryzias latipes | 96 h |

## ACUTE TOXICITY TO AQUATIC INVERTEBRATES

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Ammonium Hydroxide | $EC_{50}$(ASTM E729-80) | 101 mg/L | Daphnia Magna | 48 h |
| Ethanolamine | $EC_{50}$ (84/449/EEC C.2) | 65 mg/L | Daphnia Magna | 48 h |
| Deceth-3 | $EC_{50}$ | 5.1 mg/L | Daphnia Magna | 48 h |
| Laureth-12 | $EC_{50}$ | >2 mg/L (OECD 202) | Daphnia Magna | 48 h |
| Resorcinol | $EC_{50}$ | 4.7 mg/L (OECD 202) | Daphnia Magna | 48 h |
| m-Aminophenol | $EC_{50}$ | 1.1 mg/L | Daphnia magna | 48 h |
| p-Phenylenediamine | $EC_{50}$ | 0.33 mg/L (OECD 202) | Daphnia magna | 48 h |
| Sodium Metabisulfite | $EC_{50}$ | 89 mg/L | Daphnia magna | 48 h |
| p-Aminophenol | $EC_{50}$ | 0.182 mg/l OECD Guideline 202 | Daphnia magna | 48 h |

## TOXICITY TO AQUATIC PLANTS

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Ethanolamine | $EL_{50}$ (92/69/EEC C.3) | 15 mg/L | Green Algae | 72 h |
| Laureth-12 | $EC_{50}$ | 0.41 mg/L (OECD 102) | Pseudokirchneriella Subcapitata | 72 h |
| Titanium Dioxide | $EC_{50}$ | 61 mg/L | Pseudokirchneriella Subcapitata | 72 h |
| Resorcinol | $EC_{50}$ | > 97 mg/L (OECD 201) | Pseudokirchneriella Subcapitata | 72 h |
| m-Aminophenol | $EC_{50}$ | 62 mg/L (OECD 201) | Pseudokirchnerella Subcapitata | 72 h |
| p-Phenylenediamine | $EC_{50}$ | 0.27 mg/L | Pseudokirchnerella Subcapitata | 72 h |
| Sodium Metabisulfite | $EC_{50}$ | 43.8 mg/L (OECD 201) | Desmodesmus subspicatu | 72 h |
| p-Aminophenol | $EC_{50}$ | > 0.253 mg/l (OECD 201) | Desmodesmus Subspicatu | 72 h |

**TOXICITY TO MICROORGANISMS**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Ethanolamine | $EC_{10}$ (OECD 209) | > 1,000 mg/L | Activated Sludge | 30 min |
| Laureth-12 | $EC_{50}$ | >10 g/L | Pseudomonas putida | 16.9 h |
| Titanium Dioxide | $EC_{50}$ | 5-30 mg/L | Activated Sludge | 3 h |
| Resorcinol | $EC_{50}$ | 79 mg/L (OECD 209) | Activated Sludge | 3 h |
| m-Aminophenol | $EC_{50}$ | 2.55-2.9 mg/L | Tetrahymena thermophila | 48 h |
| p-Phenylenediamine | $EC_{50}$ | 100 mg/L | Activated Sludge | 3 h |
| Sodium Metabisulfite | $EC_{50}$ | >1000 mg/L(OECD 209) | Activated sludge | 3 h |
| p-Aminophenol | $EC_{50}$ | 29.9 mg/L (OECD 209) | Activated sludge | 3 h |

**PERSISTENCY AND DEGRADABILITY:**

| | |
|---|---|
| *Ammonium Hydroxide* | Expected to be Readily Biodegradable (Converts to nitrates) |
| *Ethanolamine:* | Readily Biodegradable – OECD 301 A – >90% (21 d) |
| *Deceth-3* | Readily Biodegradable – OECD 301 |
| *Laureth-12* | Readily Biodegradable – OECD 301 |
| *Resorcinol* | Readily Biodegradable – OECD 301 C |
| *m-Aminophenol* | Readily Biodegradable – Half life: 15 days |
| *Toluene-2,5-Diamine* | Non-Biodegradable |
| *p-Phenylenediamine* | Readily biodegradable (OECD 301 D) |

**BIOACCUMULATIVE POTENTIAL:**

| | |
|---|---|
| *Ammonium Hydroxide* | Not Applicable |
| *Ethanolamine* | log Pow: -1.91 @ 25°C (OECD 107) – Not expected to bioaccumulate |
| *Deceth-3* | Not expected to bioaccumulate (analogy) |
| *Resorcinol* | BCF: 3.162 – Not expected to bioaccumulate |
| m-Aminophenol | BCF: 3.2 – Not expected to bioaccumulate |
| *p-Phenylenediamine* | BCF = 0.3. Not expected to bioaccumulate |
| *p-Aminophenol* | log koc: 1.96 – Low bioaccumulation potential |

## SECTION 13: DISPOSAL CONSIDERATIONS

**Those responsible for the performance of disposal, recycling or reclamation activities should refer to Section 8 of this document for advice on personal protective equipment and exposure controls.**

**WASTE DISPOSAL CONTAINERS:** Appropriate US DOT containers should be utilized which may include cardboard boxes for products or plastic drums for bulk liquids. These containers should meet the packaging specifications required for DOT compliance.

**WASTE DISPOSAL METHOD:** As manufactured, this product does not exhibit any RCRA characteristics of hazardous waste. Controlled incineration at a licensed waste facility is the recommended technology for treatment and disposal. Material must not be disposed of through sewage.

**RCRA HAZARD CLASS: Not Regulated**

Follow all local governmental requirements intended for disposal.

## SECTION 14: TRANSPORT INFORMATION

**North American Ground Transportation**

- **IN CONSUMER PACKAGING:** Not Regulated
- **OTHER THAN CONSUMER PACKAGING:** Not Regulated

**Transport Via Water**

- **IN CONSUMER PACKAGING:** Not Regulated
- **OTHER THAN CONSUMER PACKAGING:** Not Regulated

**Transport Via Air (Domestic/International)**

- **IN CONSUMER PACKAGING:** Not Regulated
- **OTHER THAN CONSUMER PACKAGING:** Not Regulated

**Please be aware of carrier transport variations before shipping hazardous materials.**

## SECTION 15: REGULATORY INFORMATION

**National Fire Protection Association Codes:** Health: 3 Fire: 2 Reactivity: 0 Other: None

**Workplace Hazardous Materials Identification System:** Class E; Corrosive Material (Eye); Class D; Division 2, Subdivision B – Skin Irritation/Skin sensitization

This regulatory information represents the product, in its consumer packaging.

## SECTION 16: OTHER INFORMATION

**PREPARATION INFORMATION:** This is the first issuance of this document.

Author: Lalita Vedantam (Corporate Regulatory Services)

L'ORÉAL USA

# SAFETY DATA SHEET

**SDS # 15-141**

**ISSUANCE DATE: March 26, 2015**

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

L'Oreal USA Products, Inc.
111 Terminal Avenue
Clark, NJ 07066

L'Oreal Canada
4895 rue Hickmore
Ville St-Laurent, H4Y 1K5
Canada

**Emergency Telephone Number:**
1-800-535-5053 (International: 352-323-3500)
In Canada – 1-613-996-6666 (Canutec) (*666 cellular)

**For further information**:
1-732-499-2741

**Poison Control Number:** 412-390-3326

**Product Name: Aerosol Hair Shine Sprays – NFPA Level 2 Aerosols**

**Recommendations on use:** Personal care aerosol-packaged product used as to create a sheen on the hair.

**Restrictions on use:** Avoid fire, flame, heat and other sources of ignition. For external use only. Avoid spraying into eyes. Use only as directed. Liquid dispensed from the container is considered flammable until dry.

**This document is written for the packaged product (aerosol can containing propellants) with references to the dispensed or unpackaged product (liquid) to identify hazards as necessary.**

## SECTION 2: HAZARDS IDENTIFICATION

### Signal Word: DANGER

| Symbol | Classification | Hazard Statement | Prevention Statements |
|---|---|---|---|
|  | Aerosols Category 1 | Extremely flammable aerosol | • Keep away from heat/sparks/open flames/hot surfaces. No smoking.<br>• Do not spray on an open flame or other ignition source.<br>• Pressurized container: Do not pierce or burn, even after use. |
|  | Eye Irritation Category 2A | Causes serious eye irritation | • Wash hands and face thoroughly after handling.<br>• Wear eye protection appropriate for the manufacturing operation being performed (goggles or face shield).<br>• Do not spray into eyes. |

This material is considered hazardous by the U.S. Occupational Safety and Health Administration Hazard Communication Standard (29 CFR 1910.1200)

General Precautionary Statements: Keep out of reach of children. Read label before use. Possible skin dryness/irritation if over-exposed.

Hazards Not Otherwise Classified: None

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Only hazardous constituents associated with the product are listed below**

| INGREDIENT: | CAS NO. | % WT |
|---|---|---|
| Difluoroethane | 75-37-6 | ≤ 40.0% |
| Ethyl Alcohol | 64-17-5 | ≤ 52.0% |

## SECTION 4: FIRST AID MEASURES

### Response Statements:

**IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing until material is sufficiently removed from the eye. **If eye irritation persists:** Get medical advice/attention.

**IF ON SKIN**: If skin irritation occurs: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. **If skin irritation persists:** Get medical advice/attention.

**IF INHALED:** Remove person to fresh air and keep in a position comfortable for breathing. Call a Poison Control Center or doctor if you feel unwell.

**IF SWALLOWED:** Do not induce vomiting. Never give anything by mouth to an unconscious individual. Consult a physician or Poison Control Center immediately

**SYMPTOMS/EFFECTS**: Causes serious eye irritation. Possible skin dryness/irritation if over-exposed.

**NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:** Consult product labeling. No special advice.

## SECTION 5: FIRE-FIGHTING MEASURES

**Notes for Non-Emergency Personnel:**

**EXTINGUISHING MEDIA:** In case of fire use carbon dioxide, dry chemical and/or foam for extinction. Water spray may be used to soak other materials surrounding the product, to prevent the spread of the fire. Selection of a fire extinguisher should also be appropriate to address the location of the fire and equipment involved. Please review the tools available at your location to ensure proper availability of equipment.

**Notes for those trained to participate in an emergency:**

**SPECIAL FIRE FIGHTING PROCEDURES:** Treat as an NFPA Level 2 Aerosol. Contents are under pressure. Follow National Fire Protection Association Guidelines or local guidelines appropriate for emergency response.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** The final product is offered under pressure. Observe all appropriate precautions for handling aerosol containers. The propellants are flammable liquefied gases. The dispensed liquid product is a flammable liquid.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxides of carbon and/or derivatives.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Notes for non-emergency personnel:**

Consult trained response personnel for clean-up of large spills or locations where providing preliminary control of the chemical release is hazardous. Hazardous locations include areas where ignition sources cannot be controlled. Isolate the area and deny entry to unnecessary and unprotected personnel. Sections 2, 5, 7 and 8 of this document should be consulted upon use of material, to become knowledgeable of the material's hazards and how to control risks associated with handling aerosols and flammable liquids.

If the location is not hazardous and only a small amount of material is released, control the spill using absorbent pads while wearing the protective equipment as noted below. Clean the area with detergent and water. Prohibit discharge to drains, soil, surface and ground waters. Dispose in accordance with Section 13 of this document.

**PERSONAL PROTECTIVE EQUIPMENT:** Nitrile or vinyl gloves, safety glasses/goggles, protective clothing (e.g. apron) may be required for clean-up of large spills. Respiratory protection is typically not necessary, but may used depending upon the size of the spill and occupational exposure limits. Respiratory protection may include the use of organic vapor cartridges. Refer to Section 8 for additional information.

**Notes for those trained to participate in an emergency:**

**ACCIDENTAL RELEASE MEASURES:** Since this product is a sealed aerosol, accidental discharge of contents is unlikely unless the can is punctured. Should can puncture occur, eliminate all sources of ignition, then dike and contain the free liquid and absorb on vermiculite or spill pillows/pads. Place spent absorbents in UN specification containers for disposal. All precautions associated with controlling a flammable liquid should be employed during clean-up. Prohibit discharge to drains, soil, surface and ground waters.

Recommendations for personal protective equipment selection are noted above. Non-sparking tools should be utilized in all clean-up associated with flammable liquids. Dispose in accordance with section 13 of this document.

## SECTION 7: HANDLING AND STORAGE

**PRECAUTIONS FOR SAFE HANDLING:**
Aerosols should be handled in a manner that minimizes the risk of puncture – caps should be replaced after use. Containers should be held in an upright position during use. Do not eat, drink or smoke while working with hazardous materials. Employees should be advised to wear appropriate protective equipment in the manufacturing environment. See section 8 of this document for protective equipment selection. Do not expose to heat or flame. All manufacturing should be performed indoors, in an enclosed environment free from uncontrolled ignition sources. Employees should be advised not to handle flammable products in close proximity to incompatible materials. Use only non-sparking tools when handling non-packaged product. Use explosion-proof electrical/ventilating/lighting equipment. Take precautionary measures against static discharge.

Maintain a clean work environment which includes use of properly functioning containers, proper housekeeping practices.

**CONDITIONS FOR SAFE STORAGE:**

**Storage precautions for unpackaged product (manufacturing environment):** Store in a well-ventilated place and keep cool. Keep containers closed when not in use. Minimize inventory. Use only non-sparking tools. Use explosion-proof electrical/ventilating/lighting equipment. Take precautionary measures against static discharge. Appropriate fire suppression and detection equipment should be utilized. Store on spill pallets or other locations where spill containment will be easily accessible.

**Storage precautions for aerosol packaged product:** Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. Use of an enclosed storage area with easy access is recommended for aerosol containers. Fire suppression and detection equipment compliant with NFPA 30B should be utilized. All aerosols should be stored in an upright position. Refer to consumer packaging for additional storage conditions.

Keep away from open drains and access to the environment.

**Incompatible materials**: Oxidizers, acids, bases. Store away from incompatible materials.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**CONTROL PARAMETERS:** These criteria have been published by the referenced authority to establish exposure limits in the work environment. Employee work areas should be monitored to ensure that permissible limits are not exceeded during the work day. These references do not coincide with product use. These references are meant to be in association with the manufacturing environment.

**OCCUPATIONAL EXPOSURE VALUES:**

| Component Name (CAS-No.) | Reference | TWA | | STEL/CEILING | |
|---|---|---|---|---|---|
| | | ppm | mg/m$^3$ | ppm | mg/m$^3$ |
| Ethyl Alcohol (64-17-5) | OSHA PEL | 1000 | 1900 | -- | -- |
| | ACGIH TLV | -- | -- | 1000 | 1880 |
| | NIOSH REL | 1000 | 1900 | -- | -- |

No occupational exposure values have been published for other constituents noted in Section 3.

**WORK HYGIENIC PRACTICES:** Ensure all work surfaces are maintained, to prevent contamination.

**ENGINEERING CONTROLS:** None required for product use. For handling large quantities of material, such as in the manufacturing of product, ventilation should be utilized. This ventilation should be compatible with the control of flammable materials. Exhaust ventilation should be utilized to maintain air concentrations of materials consistent with local industrial hygiene standards. Testing of aerosol cans should only be performed when appropriate equipment is available.

Local exhaust ventilation is not typically required for product use. For handling large quantities of material, such as in the manufacturing of product **--** Local Exhaust: Explosion proof. Mechanical (general): Explosion proof.

**PERSONAL PROTECTIVE EQUIPMENT:** Consistent with good hygiene practices, personal protective equipment (PPE) should be used in conjunction with other control measures including engineering controls, ventilation and isolation. See also Section 5 of this document for PPE advice, in the event of an emergency.

**Eye/Face Protection (Non-Emergency):** None required for product use. For handling of large quantities of liquid material, safety glasses with side shields/goggles are recommended. For testing of pressurized cans, face shields or other equipment that protects the eyes/face should be considered for use.

**Skin Protection (Non-Emergency):** None required for product use. For handling large quantities of material, such as in product manufacturing, nitrile or vinyl gloves should be considered for use. Tyvek clothing may also be suitable for handling large quantities of material in the manufacturing environment.

**Respiratory Protection (Non-Emergency):** Respiratory protection is not required for product use. For manufacturing of product, respiratory protection may be considered. Ensure that the respirator meets current local occupational health and safety standards. Organic vapor cartridges should be utilized with filtering respiratory protection.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

**APPEARANCE**: Aerosol can dispensing liquid material

**ODOR:** Lightly fragranced

**ODOR THRESHOLD:** Not Available

**pH:** Not Applicable

**MELTING/FREEZING POINT:** **F:** Not Available **C:** Not Available

**BOILING POINT:** **F:** Not Available **C:** Not Available

**FLASH POINT:** **F:** < 0 (Propellant); ~55 (Contained Bulk) **METHOD USED:** Closed cup

**EVAPORATION RATE:** < 1 for dispensed product **(Butyl acetate = 1)**

**FLAMMABILITY:** Propellant: Flammable

**FLAMMABLE LIMITS IN AIR:** Difluoroethane – Upper: 16.9%; Lower: 3.9%

**VAPOR PRESSURE (mmHg):** @ 70F: 2500 – 5500 @ 21 C: 2500 – 5500

**VAPOR DENSITY (AIR = 1):** @ 70F: >1 @ 21 C: >1

**RELATIVE DENSITY (H2O = 1):** ~ 0.84 (contained liquid)

**SOLUBILITY IN WATER:** Not Available

**PARTITION COEFFICIENT:** Not Available

**AUTOIGNITION TEMPERATURE:** Not Available

**DECOMPOSITION TEMPERATURE:** Not Available

**VISCOSITY:** Not Available

## SECTION 10: STABILITY AND REACTIVITY

**REACTIVITY:** Material is not considered reactive under typical handling and storage conditions.

**STABILITY:** Product is stable.

**POSSIBILITY OF HAZARDOUS REACTIONS:** None known. Hazardous polymerization is not expected to occur.

**CONDITIONS TO AVOID:** Direct sunlight, temperatures exceeding 50°C/122°F, fire, flame and other sources of heat.

**INCOMPATIBILITY (MATERIAL TO AVOID):** Oxidizers, acids, bases.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxides of carbon and/or derivatives.

## SECTION 11: TOXICOLOGICAL INFORMATION

**Where information is not listed specifically for constituents, published information was not available.**

**POTENTIAL HEALTH EFFECTS**

**ACUTE HEALTH EFFECTS:**
**SKIN CORROSION/IRRITATION**: Overexposure may cause skin irritation or dryness
**SERIOUS EYE DAMAGE/IRRITATION**: Causes serious eye irritation.
**RESPIRATORY/SKIN SENSITIZATION**: None expected
**INGESTION**: Harmful if swallowed
**INHALATION**: Deliberately concentrating and inhaling the contents can be harmful or fatal.

**ROUTES OF EXPOSURE**: Inhalation, eyes, skin

**SYMPTOMS**: Causes serious eye irritation. Over-exposure may cause skin dryness or slight irritation.

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE**: None known.

**ACUTE TOXICOLOGY DATA FOR COMPONENTS**

| Material | Route | Species | Test Results |
|---|---|---|---|
| Difluoroethane | $LC_{50}$ (4 hr) | Rat | > 437,500 ppm |
| Ethyl Alcohol | Oral $LD_{50}$ | Rat | > 6,200 mg/kg bw |
| Ethyl Alcohol | Dermal $LD_{Lo}$ | Rabbit | > 20,000 mg/kg bw |
| Ethyl Alcohol | $LC_{50}$ (4 hr) | Rat | > 8,000 mg/L bw |

**Skin Corrosion/Irritation:**
*Difluoroethane:* Liquefied Gas can Cause Frostbite
*Ethyl Alcohol:* Not Irritating (Rabbit, OECD 404)

**Serious Eye Damage/Irritation:**
*Difluoroethane:* Liquefied Gas can Cause Frostbite
*Ethyl Alcohol:* 25% - Not Irritating / 50% - Mildly Irritating / 100% - Irritating (Rabbit, OECD 405)

**Respiratory Irritation:**
*Ethyl Alcohol:* 27,314 ppm (mouse) Highly Irritating

**Skin Sensitization:**
*Ethyl Alcohol:* Not sensitizing

**CHRONIC HEALTH HAZARDS:**

**REPEAT DOSE TOXICITY:**
NOAEC (Difluoroethane, inhalation, rat): 25,000 ppm (OECD 453)
NOAEL (Ethyl Alcohol, oral): >2% (2400 mg/kg); Rat
LOAEL (Ethyl Alcohol, oral): 3% (3600 mg/kg); Rat)

**CARCINOGENICITY:**

| Component Name (CAS-No.) | OSHA | ACGIH | NTP | IARC |
|---|---|---|---|---|
| Ethyl Alcohol | -- | TLV-A3 | -- | -- |

Notes:
*ACGIH TLV-A3* – Confirmed Animal Carcinogen with Unknown Relevance to Humans

**MUTAGENICITY:**
*Difluoroethane:* A variety of *in vitro* and *in vivo* tests have produced negative results.
*Ethanol*: Ethanol has been classified as mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast. May affect genetic material (mutagenic).

**REPRODUCTIVE TOXICITY:**
*Difluoroethane:* NOAEL: 25,000 ppm (Rat)
*Ethanol*: Effects on the female reproductive system can include menstrual problems, altered sexual behavior, infertility, altered puberty onset, altered length of pregnancy, lactation problems, altered menopause onset and pregnancy outcome. Effects on the male reproductive system can include altered sexual behavior, altered fertility and problems with sperm shape or count.

**DEVELOPMENTAL TOXICITY/TERATOGENICITY:**
*Difluoroethane:* NOAEL: 50,000 ppm (Rat) (OECD 414)
*Ethanol*: Ethanol has been connected to adverse reproductive effects and birth defects (teratogenic), based on moderate to heavy consumption. Human: passes through the placenta, excreted in maternal milk. Repeated ingestion of ethanol by pregnant mothers has been shown to adversely affect the central nervous system of the fetus, producing a collection of effects which together constitute fetal alcohol syndrome. These include mental and physical retardation, disturbances of learning, motor and language deficiencies, behavioral disorders and small size head.

## SECTION 12: ECOLOGICAL INFORMATION

Contact with the environment should be avoided. Spills and leaks should be immediately cleaned up and removed. All precautions should be taken to prevent contact with the environment. Published information regarding ingredients listed on this document area found below; where data is not listed, documentation was unavailable.

**ACUTE AND PROLONGED TOXICITY TO FISH**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Difluoroethane | $LC_{50}$ (QSAR Calculation) | 295.783 mg/L | Not Specified | 96 h |
| Ethanol | $LC_{50}$ | 12. 9 - 15.3g/L | Pimephales promelas | 96 h |

**ACUTE TOXICITY TO AQUATIC INVERTEBRATES**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Difluoroethane | $EC_{50}$ (QSAR Calculation) | 146.695 mg/L | Daphnid | 48 h |
| Ethanol | $EC_{50}$ | 5,012 mg/L | Ceriodaphnia Dubia | 48 h |

**TOXICITY TO AQUATIC PLANTS**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Difluoroethane | $EC_{50}$ (QSAR Calculation) | 47.755 mg/L | Algae | 96 h |
| Ethanol | $EC_{50}$ | 675 mg/L | Chlorella Vulgaris | 96 h |

**TOXICITY TO MICROORGANISMS**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Ethanol | $EC_{50}$ | 32.1 g/L | Photobacterium Phosphoreum | 15 min |

**PERSISTENCY AND DEGRADABILITY:**
*Ethyl Alcohol:* Readily Biodegradable – 97% (28d) – OECD 301 B
*Butane:* Readily Biodegradable – 65.7% (35d)

**BIOACCUMULATIVE POTENTIAL:**
*Difluoroethane:* $BCF_{(estimated)}$: 2 – Low expectation for bioaccumulation
*Ethanol:* $logBCF_{(calculated)}$ = 0.5 (BCFWIN v2.15) – Not likely to bioaccumulate

The product ingredients are expected to be safe for the environment at the concentrations predicted under normal use and accidental spill scenarios.

## SECTION 13: DISPOSAL CONSIDERATIONS

**Those responsible for the performance of disposal, recycling or reclamation activities should refer to Section 8 of this document for advice on personal protective equipment and exposure controls.**

**WASTE DISPOSAL CONTAINERS:** Cans should have caps in place during waste consolidation or dispenser buttons/actuators removed. Appropriate U.S. DOT containers should be utilized which may include fiberboard boxes for products and metal or plastic drums for liquids. These containers should meet the packaging specifications required for DOT compliance.

**WASTE DISPOSAL METHOD:** This product is ignitable (D001) RCRA hazardous wastes when intended for disposal. State specific guidance regarding aerosols should also be consulted. Controlled incineration at a licensed waste facility is the recommended technology for treatment and disposal. This material must not be disposed through sewage.

**RCRA HAZARD CLASS:** D001

Follow all local governmental requirements intended for disposal.

## SECTION 14: TRANSPORT INFORMATION

**North American Ground Transportation**

- **IN CONSUMER PACKAGING:** Limited Quantity/Consumer Commodity
  **UN ID Number:** UN 1950
  **Proper Shipping Name:** Aerosols
  **Hazard Class:** 2.1
  **Packing Group:** N/A
  **Label Statements:** Exempt – Limited Quantity Marking Only

- **LIQUID WITHOUT PROPELLANT:**
  **UN ID Number:** UN 1170
  **Proper Shipping Name:** Ethanol solutions
  **Hazard Class:** 3
  **Packing Group:** II
  **Label Statements:** Flammable Liquid (Class 3)

**Transport Via Water**

- **IN CONSUMER PACKAGING:** Limited Quantity
  **UN ID Number:** UN 1950
  **Proper Shipping Name:** Aerosols
  **Hazard Class:** 2.1
  **Packing Group:** N/A
  **Label Statements:** Exempt – Limited Quantity Marking Only

- **LIQUID WITHOUT PROPELLANT:**
  **UN ID Number:** UN 1170
  **Proper Shipping Name:** Ethanol solutions
  **Hazard Class:** 3
  **Packing Group:** II
  **Label Statements:** Flammable Liquid (Class 3)

**Transport Via Air (Domestic/International)**

- **IN CONSUMER PACKAGING:** Limited Quantity – ID 8000, Consumer Commodity
  **UN ID Number:** ID 8000
  **Proper Shipping Name:** Consumer Commodity
  **Hazard Class:** 9
  **Packing Group:** N/A
  **Label Statements:** Miscellaneous – Dangerous Goods & Limited Quantity Marking

- **LIQUID WITHOUT PROPELLANT:**
  **UN ID Number:** UN 1170
  **Proper Shipping Name:** Ethanol solutions
  **Hazard Class:** 3
  **Packing Group:** II
  **Label Statements:** Flammable Liquid (Class 3)

**Please be aware of carrier transport variations before shipping hazardous materials.**

## SECTION 15: REGULATORY INFORMATION

**National Fire Protection Association Codes:** Health: 2 Fire: 4 Reactivity: 0 Other: None

**Workplace Hazardous Materials Identification System:** Class B Division 5 Flammable Aerosol; Class D; Division 2, Subdivision B – Eye Irritation

This regulatory information represents the product, in its consumer packaging.

## SECTION 16: OTHER INFORMATION

**PREPARATION INFORMATION:** This is the first issuance of this document.

Author: Ronald Weslosky (Corporate Regulatory Services)

L'ORÉAL USA

# SAFETY DATA SHEET

**SDS # 15-140**

**ISSUANCE DATE: March 18, 2015**

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

L'Oreal USA Products, Inc.
111 Terminal Avenue
Clark, NJ 07066

L'Oreal Canada
4895 rue Hickmore
Ville St-Laurent, H4Y 1K5
Canada

**Emergency Telephone Number:**
1-800-535-5053 (International: 352-323-3500)
In Canada – 1-613-996-6666 (Canutec) (*666 cellular)

**For further information**:
1-732-499-2741

**Poison Control Number:** 412-390-3326

**Product Name: Aerosol Hair Fixatives/Texturizers – NFPA Level 2 Aerosols**

**Recommendations on use:** Personal care aerosol-packaged product used as a hair fixative.

**Restrictions on use:** Avoid fire, flame, heat and other sources of ignition. For external use only. Avoid spraying into eyes. Use only as directed. Liquid dispensed from the container is considered flammable until dry.

**This document is written for the packaged product (aerosol can containing propellants) with references to the dispensed or unpackaged product (liquid) to identify hazards as necessary.**

## SECTION 2: HAZARDS IDENTIFICATION

### Signal Word: DANGER

| Symbol | Classification | Hazard Statement | Prevention Statements |
|---|---|---|---|
|  | Aerosols Category 1 | Extremely flammable aerosol | • Keep away from heat/sparks/open flames/hot surfaces. No smoking.<br>• Do not spray on an open flame or other ignition source.<br>• Pressurized container: Do not pierce or burn, even after use. |
|  | Eye Irritation Category 2A | Causes serious eye irritation | • Wash hands and face thoroughly after handling.<br>• Wear eye protection appropriate for the manufacturing operation being performed (goggles or face shield).<br>• Do not spray into eyes. |

This material is considered hazardous by the U.S. Occupational Safety and Health Administration Hazard Communication Standard (29 CFR 1910.1200)

General Precautionary Statements: Keep out of reach of children. Read label before use. Possible skin dryness/irritation if over-exposed.

Hazards Not Otherwise Classified: None

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Only hazardous constituents associated with the product are listed below**

| INGREDIENT: | CAS NO. | % WT |
|---|---|---|
| Difluoroethane | 75-37-6 | ≤ 38.0% |
| Ethyl Alcohol | 64-17-5 | ≤ 32.0% |
| Butane | 106-97-8 | ≤ 22.0% |
| Polyvinylcaprolactam | 25189-83-7 | ≤ 3.0% |

## SECTION 4: FIRST AID MEASURES

### Response Statements:

**IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing until material is sufficiently removed from the eye. **If eye irritation persists:** Get medical advice/attention.

**IF ON SKIN**: If skin irritation occurs: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. **If skin irritation persists:** Get medical advice/attention.

**IF INHALED:** Remove person to fresh air and keep in a position comfortable for breathing. Call a Poison Control Center or doctor if you feel unwell.

**IF SWALLOWED:** Do not induce vomiting. Never give anything by mouth to an unconscious individual. Consult a physician or Poison Control Center immediately

**SYMPTOMS/EFFECTS**: Causes serious eye irritation. Possible skin dryness/irritation if over-exposed.

**NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:** Consult product labeling. No special advice.

## SECTION 5: FIRE-FIGHTING MEASURES

**Notes for Non-Emergency Personnel:**

**EXTINGUISHING MEDIA:** In case of fire use carbon dioxide, dry chemical and/or foam for extinction. Water spray may be used to soak other materials surrounding the product, to prevent the spread of the fire. Selection of a fire extinguisher should also be appropriate to address the location of the fire and equipment involved. Please review the tools available at your location to ensure proper availability of equipment.

**Notes for those trained to participate in an emergency:**

**SPECIAL FIRE FIGHTING PROCEDURES:** Treat as an NFPA Level 2 Aerosol. Contents are under pressure. Follow National Fire Protection Association Guidelines or local guidelines appropriate for emergency response.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** The final product is offered under pressure. Observe all appropriate precautions for handling aerosol containers. The propellants are flammable liquefied gases. The dispensed liquid product is a flammable liquid.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxides of carbon and/or derivatives.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Notes for non-emergency personnel:**

Consult trained response personnel for clean-up of large spills or locations where providing preliminary control of the chemical release is hazardous. Hazardous locations include areas where ignition sources cannot be controlled. Isolate the area and deny entry to unnecessary and unprotected personnel. Sections 2, 5, 7 and 8 of this document should be consulted upon use of material, to become knowledgeable of the material's hazards and how to control risks associated with handling aerosols and flammable liquids.

If the location is not hazardous and only a small amount of material is released, control the spill using absorbent pads while wearing the protective equipment as noted below. Clean the area with detergent and water. Prohibit discharge to drains, soil, surface and ground waters. Dispose in accordance with Section 13 of this document.

**PERSONAL PROTECTIVE EQUIPMENT:** Nitrile or vinyl gloves, safety glasses/goggles, protective clothing (e.g. apron) may be required for clean-up of large spills. Respiratory protection is typically not necessary, but may used depending upon the size of the spill and occupational exposure limits. Respiratory protection may include the use of organic vapor cartridges. Refer to Section 8 for additional information.

**Notes for those trained to participate in an emergency:**

**ACCIDENTAL RELEASE MEASURES:** Since this product is a sealed aerosol, accidental discharge of contents is unlikely unless the can is punctured. Should can puncture occur, eliminate all sources of ignition, then dike and contain the free liquid and absorb on vermiculite or spill pillows/pads. Place spent absorbents in UN specification containers for disposal. All precautions associated with controlling a flammable liquid should be employed during clean-up. Prohibit discharge to drains, soil, surface and ground waters.

Recommendations for personal protective equipment selection are noted above. Non-sparking tools should be utilized in all clean-up associated with flammable liquids. Dispose in accordance with section 13 of this document.

## SECTION 7: HANDLING AND STORAGE

**PRECAUTIONS FOR SAFE HANDLING:**
Aerosols should be handled in a manner that minimizes the risk of puncture – caps should be replaced after use. Containers should be held in an upright position during use. Do not eat, drink or smoke while working with hazardous materials. Employees should be advised to wear appropriate protective equipment in the manufacturing environment. See section 8 of this document for protective equipment selection. Do not expose to heat or flame. All manufacturing should be performed indoors, in an enclosed environment free from uncontrolled ignition sources. Employees should be advised not to handle flammable products in close proximity to incompatible materials. Use only non-sparking tools when handling non-packaged product. Use explosion-proof electrical/ventilating/lighting equipment. Take precautionary measures against static discharge.

Maintain a clean work environment which includes use of properly functioning containers, proper housekeeping practices.

**CONDITIONS FOR SAFE STORAGE:**

**Storage precautions for unpackaged product (manufacturing environment):** Store in a well-ventilated place and keep cool. Keep containers closed when not in use. Minimize inventory. Use only non-sparking tools. Use explosion-proof electrical/ventilating/lighting equipment. Take precautionary measures against static discharge. Appropriate fire suppression and detection equipment should be utilized. Store on spill pallets or other locations where spill containment will be easily accessible.

**Storage precautions for aerosol packaged product:** Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. Use of an enclosed storage area with easy access is recommended for aerosol containers. Fire suppression and detection equipment compliant with NFPA 30B should be utilized. All aerosols should be stored in an upright position. Refer to consumer packaging for additional storage conditions.

Keep away from open drains and access to the environment.

**Incompatible materials**: Oxidizers, acids, bases. Store away from incompatible materials.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**CONTROL PARAMETERS:** These criteria have been published by the referenced authority to establish exposure limits in the work environment. Employee work areas should be monitored to ensure that permissible limits are not exceeded during the work day. These references do not coincide with product use. These references are meant to be in association with the manufacturing environment.

**OCCUPATIONAL EXPOSURE VALUES:**

| Component Name (CAS-No.) | Reference | TWA | | STEL/CEILING | |
|---|---|---|---|---|---|
| | | ppm | $mg/m^3$ | ppm | $mg/m^3$ |
| Ethyl Alcohol (64-17-5) | OSHA PEL | 1000 | 1900 | -- | -- |
| | ACGIH TLV | -- | -- | 1000 | 1880 |
| | NIOSH REL | 1000 | 1900 | -- | -- |
| Butane (106-97-8) | OSHA PEL | -- | -- | -- | -- |
| | ACGIH TLV | -- | -- | 1000 | 2370 |
| | NIOSH REL | 800 | 1900 | -- | -- |

No occupational exposure values have been published for other constituents noted in Section 3.

**WORK HYGIENIC PRACTICES:** Ensure all work surfaces are maintained, to prevent contamination.

**ENGINEERING CONTROLS:** None required for product use. For handling large quantities of material, such as in the manufacturing of product, ventilation should be utilized. This ventilation should be compatible with the control of flammable materials. Exhaust ventilation should be utilized to maintain air concentrations of materials consistent with local industrial hygiene standards. Testing of aerosol cans should only be performed when appropriate equipment is available.

Local exhaust ventilation is not typically required for product use. For handling large quantities of material, such as in the manufacturing of product **--** Local Exhaust: Explosion proof. Mechanical (general): Explosion proof.

**PERSONAL PROTECTIVE EQUIPMENT:** Consistent with good hygiene practices, personal protective equipment (PPE) should be used in conjunction with other control measures including engineering controls, ventilation and isolation. See also Section 5 of this document for PPE advice, in the event of an emergency.

**Eye/Face Protection (Non-Emergency):** None required for product use. For handling of large quantities of liquid material, safety glasses with side shields/goggles are recommended. For testing of pressurized cans, face shields or other equipment that protects the eyes/face should be considered for use.

**Skin Protection (Non-Emergency):** None required for product use. For handling large quantities of material, such as in product manufacturing, nitrile or vinyl gloves should be considered for use. Tyvek clothing may also be suitable for handling large quantities of material in the manufacturing environment.

**Respiratory Protection (Non-Emergency):** Respiratory protection is not required for product use. For manufacturing of product, respiratory protection may be considered. Ensure that the respirator meets current local occupational health and safety standards. Organic vapor cartridges should be utilized with filtering respiratory protection.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

**APPEARANCE**: Aerosol can dispensing liquid material which dries soon after contact

**ODOR:** Lightly fragranced

**ODOR THRESHOLD:** Not Available

| | |
|---|---|
| **pH:** | Not Available |
| **MELTING/FREEZING POINT:** | **F:** Not Available **C:** Not Available |
| **BOILING POINT:** | **F:** Not Available **C:** Not Available |
| **FLASH POINT:** | **F:** < 0 (Propellant); ~55 (Contained Bulk) **METHOD USED:** Closed cup |
| **EVAPORATION RATE:** | < 1 for dispensed product **(Butyl acetate = 1)** |
| **FLAMMABILITY:** | Propellant: Flammable |
| **FLAMMABLE LIMITS IN AIR:** | Difluoroethane – Upper: 16.9%; Lower: 3.9%<br>Butane – Upper: 8.4%; Lower: 1.6% |
| **VAPOR PRESSURE (mmHg):** | @ 70F: 2500 – 5500 @ 21 C: 2500 – 5500 |
| **VAPOR DENSITY (AIR = 1):** | @ 70F: >1 @ 21 C: >1 |
| **RELATIVE DENSITY (H2O = 1):** | ~ 0.80 (contained liquid) |
| **SOLUBILITY IN WATER:** | Not Available |
| **PARTITION COEFFICIENT:** | Not Available |
| **AUTOIGNITION TEMPERATURE:** | Not Available |
| **DECOMPOSITION TEMPERATURE:** | Not Available |
| **VISCOSITY:** | Not Available |

## SECTION 10: STABILITY AND REACTIVITY

**REACTIVITY:** Material is not considered reactive under typical handling and storage conditions.

**STABILITY:** Product is stable.

**POSSIBILITY OF HAZARDOUS REACTIONS:** None known. Hazardous polymerization is not expected to occur.

**CONDITIONS TO AVOID:** Direct sunlight, temperatures exceeding 50°C/122°F, fire, flame and other sources of heat.

**INCOMPATIBILITY (MATERIAL TO AVOID):** Oxidizers, acids, bases.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxides of carbon and/or derivatives.

## SECTION 11: TOXICOLOGICAL INFORMATION

**Where information is not listed specifically for constituents, published information was not available.**

**POTENTIAL HEALTH EFFECTS**

**ACUTE HEALTH EFFECTS:**
**SKIN CORROSION/IRRITATION**: Overexposure may cause skin irritation or dryness
**SERIOUS EYE DAMAGE/IRRITATION**: Causes serious eye irritation.
**RESPIRATORY/SKIN SENSITIZATION**: None expected
**INGESTION**: Harmful if swallowed
**INHALATION**: May cause drowsiness/dizziness

**ROUTES OF EXPOSURE**: Inhalation, eyes, skin

**SYMPTOMS**: Causes serious eye irritation. Harmful if inhaled. Over-exposure may cause skin dryness or slight irritation.

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE**: None known.

**ACUTE TOXICOLOGY DATA FOR COMPONENTS**

| Material | Route | Species | Test Results |
|---|---|---|---|
| Difluoroethane | $LC_{50}$ (4 hr) | Rat | > 437,500 ppm |
| Ethyl Alcohol | Oral $LD_{50}$ | Rat | > 6,200 mg/kg bw |
| Ethyl Alcohol | Dermal $LD_{Lo}$ | Rabbit | > 20,000 mg/kg bw |
| Ethyl Alcohol | $LC_{50}$ (4 hr) | Rat | > 8,000 mg/L bw |
| Butane | $LC_{50}$ (4 hr) | Rat | 658 mg/L |
| Polyvinylcaprolactam | Oral $LD_{50}$ | Rat (OECD 401) | > 2,000 mg/kg bw |
| Polyvinylcaprolactam | $LC_{50}$ (4 hr) | Rat (OECD 403) | > 3.58 mg/L air |

**Skin Corrosion/Irritation:**
*Difluoroethane:* Liquefied Gas can Cause Frostbite
*Ethyl Alcohol:* Not Irritating (Rabbit, OECD 404)
*Butane:* Liquefied Gas can Cause Frostbite
*Polyvinylcaprolactam:* Irritating (Rabbit, OECD 404)

**Serious Eye Damage/Irritation:**
*Difluoroethane:* Liquefied Gas can Cause Frostbite
*Ethyl Alcohol:* 25% - Not Irritating / 50% - Mildly Irritating / 100% - Irritating (Rabbit, OECD 405)
*Butane:* Liquefied Gas can Cause Frostbite
*Polyvinylcaprolactam:* Corrosive (Rat, OECD 405)

**Respiratory Irritation:**
*Ethyl Alcohol:* 27,314 ppm (mouse) Highly Irritating

**Skin Sensitization:**
*Ethyl Alcohol:* Not sensitizing
*Polyvinylcaprolactam:* Not sensitizing (Guinea Pig, OECD 406)

**CHRONIC HEALTH HAZARDS**:

**REPEAT DOSE TOXICITY:**
NOAEC (Difluoroethane, inhalation, rat): 25,000 ppm (OECD 453)
NOAEL (Ethyl Alcohol, oral): >2% (2400 mg/kg); Rat
LOAEL (Ethyl Alcohol, oral): 3% (3600 mg/kg); Rat)
NOAEC (Butane, inh, rat): 21,394 mg/$m^3$ air

**CARCINOGENICITY:**

| Component Name (CAS-No.) | OSHA | ACGIH | NTP | IARC |
|---|---|---|---|---|
| Ethyl Alcohol | -- | **TLV-A3** | -- | -- |

Notes:
*ACGIH TLV-A3* – Confirmed Animal Carcinogen with Unknown Relevance to Humans

**MUTAGENICITY:**

*Difluoroethane:* A variety of *in vitro* and *in vivo* tests have produced negative results.

*Ethanol*: Ethanol has been classified as mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast. May affect genetic material (mutagenic).

*Butane* A variety of *in vitro* and *in vivo* tests have produced negative results.

*Polyvinylcaprolactam:* A variety of *in vitro* tests have produced negative results.

**REPRODUCTIVE TOXICITY:**

*Difluoroethane:* NOAEL: 25,000 ppm (Rat)

*Ethanol*: Effects on the female reproductive system can include menstrual problems, altered sexual behavior, infertility, altered puberty onset, altered length of pregnancy, lactation problems, altered menopause onset and pregnancy outcome. Effects on the male reproductive system can include altered sexual behavior, altered fertility and problems with sperm shape or count.

*Butane* NOAEC: 21,394 mg/m$^3$ air (OECD 422) – No indications of reproductive toxicity in studies

**DEVELOPMENTAL TOXICITY/TERATOGENICITY:**

*Difluoroethane:* NOAEL: 50,000 ppm (Rat) (OECD 414)

*Ethanol*: Ethanol has been connected to adverse reproductive effects and birth defects (teratogenic), based on moderate to heavy consumption. Human: passes through the placenta, excreted in maternal milk. Repeated ingestion of ethanol by pregnant mothers has been shown to adversely affect the central nervous system of the fetus, producing a collection of effects which together constitute fetal alcohol syndrome. These include mental and physical retardation, disturbances of learning, motor and language deficiencies, behavioral disorders and small size head.

*Butane* NOAEC: 21,394 mg/m$^3$ air (OECD 422) – No indications of developmental toxicity in studies

## SECTION 12: ECOLOGICAL INFORMATION

Contact with the environment should be avoided. Spills and leaks should be immediately cleaned up and removed. All precautions should be taken to prevent contact with the environment. Published information regarding ingredients listed on this document area found below; where data is not listed, documentation was unavailable.

**ACUTE AND PROLONGED TOXICITY TO FISH**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Difluoroethane | $LC_{50}$ (QSAR Calculation) | 295.783 mg/L | Fish | 96 h |
| Ethanol | $LC_{50}$ | 12. 9 - 15.3g/L | Pimephales promelas | 96 h |
| Butane | $LC_{50}$ (QSAR Calculation) | 24.11 mg/L | Fish | 96 h |

**ACUTE TOXICITY TO AQUATIC INVERTEBRATES**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Difluoroethane | $EC_{50}$ (QSAR Calculation) | 146.695 mg/L | Daphnid | 48 h |
| Ethanol | $EC_{50}$ | 5,012 mg/L | Ceriodaphnia Dubia | 48 h |
| Butane | $EC_{50}$ (QSAR Calculation) | 14.22 mg/L | Daphnid | 48 h |
| Polyvinylcaprolactam | $EC_{50}$ (OECD 202) | > 100 mg/l | Daphnia Magna | 48 h |

**TOXICITY TO AQUATIC PLANTS**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Difluoroethane | $EC_{50}$ (QSAR Calculation) | 47.755 mg/L | Algae | 96 h |
| Ethanol | $EC_{50}$ | 675 mg/L | Chlorella Vulgaris | 96 h |
| Butane | $EC_{50}$ (QSAR Calculation) | 7.71 mg/L | Green Algae | 96 h |

**TOXICITY TO MICROORGANISMS**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Ethanol | $EC_{50}$ | 32.1 g/L | Photobacterium Phosphoreum | 15 min |
| Polyvinylcaprolactam | $EC_{50}$ (OECD 209) | > 1,000 mg/L | Activated Sludge | 30 min |

**PERSISTENCY AND DEGRADABILITY:**

| | |
|---|---|
| *Ethyl Alcohol:* | Readily Biodegradable – 97% (28d) – OECD 301 B |
| *Butane:* | Readily Biodegradable – 65.7% (35d) |
| *Polyvinylcaprolactam:* | Non Readily Biodegradable – 60-70% (28d) – OECD 301 F |

**BIOACCUMULATIVE POTENTIAL:**

| | |
|---|---|
| *Difluoroethane:* | $BCF_{(estimated)}$: 2 – Low expectation for bioaccumulation |
| *Ethanol:* | $logBCF_{(calculated)}$ = 0.5 (BCFWIN v2.15) – Not likely to bioaccumulate |
| *Butane:* | Log Kow: 2.89 – Not likely to bioaccumulate |

The product ingredients are expected to be safe for the environment at the concentrations predicted under normal use and accidental spill scenarios.

## SECTION 13: DISPOSAL CONSIDERATIONS

**Those responsible for the performance of disposal, recycling or reclamation activities should refer to Section 8 of this document for advice on personal protective equipment and exposure controls.**

**WASTE DISPOSAL CONTAINERS:** Cans should have caps in place during waste consolidation or dispenser buttons/actuators removed. Appropriate U.S. DOT containers should be utilized which may include fiberboard boxes for products and metal or plastic drums for liquids. These containers should meet the packaging specifications required for DOT compliance.

**WASTE DISPOSAL METHOD:** This product is ignitable (D001) RCRA hazardous wastes when intended for disposal. State specific guidance regarding aerosols should also be consulted. Controlled incineration at a licensed waste facility is the recommended technology for treatment and disposal. This material must not be disposed through sewage.

**RCRA HAZARD CLASS:** D001

Follow all local governmental requirements intended for disposal.

## SECTION 14: TRANSPORT INFORMATION

**North American Ground Transportation**

- **IN CONSUMER PACKAGING:** Limited Quantity/Consumer Commodity
  - **UN ID Number:** UN 1950
  - **Proper Shipping Name:** Aerosols
  - **Hazard Class:** 2.1
  - **Packing Group:** N/A
  - **Label Statements:** Exempt – Limited Quantity Marking Only

- **LIQUID WITHOUT PROPELLANT:**
  - **UN ID Number:** UN 1170
  - **Proper Shipping Name:** Ethanol solutions
  - **Hazard Class:** 3
  - **Packing Group:** II
  - **Label Statements:** Flammable Liquid (Class 3)

**Transport Via Water**

- **IN CONSUMER PACKAGING:** Limited Quantity
  - **UN ID Number:** UN 1950
  - **Proper Shipping Name:** Aerosols
  - **Hazard Class:** 2.1
  - **Packing Group:** N/A
  - **Label Statements:** Exempt – Limited Quantity Marking Only

- **LIQUID WITHOUT PROPELLANT:**
  **UN ID Number:** UN 1170
  **Proper Shipping Name:** Ethanol solutions
  **Hazard Class:** 3
  **Packing Group:** II
  **Label Statements:** Flammable Liquid (Class 3)

**Transport Via Air (Domestic/International)**

- **IN CONSUMER PACKAGING:** Limited Quantity – ID 8000, Consumer Commodity
  **UN ID Number:** ID 8000
  **Proper Shipping Name:** Consumer Commodity
  **Hazard Class:** 9
  **Packing Group:** N/A
  **Label Statements:** Miscellaneous – Dangerous Goods & Limited Quantity Marking

- **LIQUID WITHOUT PROPELLANT:**
  **UN ID Number:** UN 1170
  **Proper Shipping Name:** Ethanol solutions
  **Hazard Class:** 3
  **Packing Group:** II
  **Label Statements:** Flammable Liquid (Class 3)

**Please be aware of carrier transport variations before shipping hazardous materials.**

## SECTION 15: REGULATORY INFORMATION

**National Fire Protection Association Codes:** Health: 2 Fire: 4 Reactivity: 0 Other: None

**Workplace Hazardous Materials Identification System:** Class B Division 5 Flammable Aerosol; Class D; Division 2, Subdivision B – Eye Irritation

This regulatory information represents the product, in its consumer packaging.

## SECTION 16: OTHER INFORMATION

**PREPARATION INFORMATION:** This is the first issuance of this document.

Author: Ronald Weslosky (Corporate Regulatory Services)

L'ORÉAL USA

# SAFETY DATA SHEET

**SDS # 14-099**

**ISSUANCE DATE: May 2, 2014**

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

L'Oreal USA Products, Inc.
111 Terminal Avenue
Clark, NJ 07066

**Emergency Telephone Number:**
1-800-535-5053 US (International: 352-323-3500)

**For further information:**
1-732-499-2741

**Poison Control Number:** 1-412-390-3326

**Product Name: Aerosol Hair Fixatives – NFPA Level 2 Aerosols**

**Recommendations on use:** Personal care aerosol-packaged product used as a hair fixative.

**Restrictions on use:** For external use only. Use only as directed.

**This document is written for the packaged product (aerosol can containing propellants) with references to the dispensed or unpackaged product (liquid) to identify hazards as necessary.**

## SECTION 2: HAZARDS IDENTIFICATION

### Signal Word: DANGER

| Symbol | Classification | Hazard Statement | Prevention Statements |
|---|---|---|---|
|  | Aerosols Category 1 | Extremely flammable aerosol | • Keep away from heat/sparks/open flames/hot surfaces. No smoking.<br>• Do not spray on an open flame or other ignition source.<br>• Do not pierce or burn, even after use. |
| No Symbol Required | Eye Irritation Category 2B | Causes eye irritation | • Wash hands and face thoroughly after handling.<br>• Do not spray into eyes. |
|  | Specific Target Organ Toxicity (Single Exposure) Category 3 | May cause drowsiness or dizziness | • Avoid breathing mist/vapors.<br>• Use only in a well-ventilated area. |

This material is considered hazardous by the U.S. Occupational Safety and Health Administration Hazard Communication Standard (29 CFR 1910.1200)

General Precautionary Statements: Keep out of reach of children. Read label before use.

Hazards Not Otherwise Classified: Over-exposure may cause skin dryness or slight irritation.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Only hazardous constituents associated with the product are listed below**

| INGREDIENT: | CAS NO. | % WT |
|---|---|---|
| Ethyl Alcohol | 64-17-5 | ≤ 54.5% |
| **Ingredients listed below may only be contained in some products** | | |
| Difluoroethane | 75-37-6 | ≤ 43.0% |
| Dimethyl Ether | 115-10-6 | ≤ 35.0% |
| Butane | 106-97-8 | ≤ 8.0% |
| Aminomethyl Propanol | 124-68-5 | ≤ 1.2% |

## SECTION 4: FIRST AID MEASURES

### Response Statements:

**IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing for at least 20 minutes or until material is sufficiently removed from the eye. **If eye irritation persists:** Get medical advice/attention if irritation or other symptoms occur.

**IF ON SKIN**: If skin irritation occurs: Get medical attention. Remove all contaminated clothing and launder before reuse.

**IF INHALED:** Remove victim to fresh air and keep in a rest position comfortable for breathing. Call a Poison Control Center if you feel unwell.

**IF SWALLOWED:** Do not induce vomiting. Never give anything by mouth to an unconscious individual. Consult a physician or Poison Control Center immediately.

**SYMPTOMS/EFFECTS**: Eye irritation upon contact. Possible skin dryness/irritation if over-exposed. Drowsiness or dizziness if over-exposed by inhalation.

**NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:** Consult product labeling. No special advice.

## SECTION 5: FIRE-FIGHTING MEASURES

**Notes for Non-Emergency Personnel:**

**EXTINGUISHING MEDIA:** In case of fire use carbon dioxide, dry chemical, and/or foam for extinction. Selection of a fire extinguisher should also be appropriate to address the location of the fire and equipment involved. Please review the tools available at your location to ensure proper availability of equipment.

**Notes for those trained to participate in an emergency:**

**SPECIAL FIRE FIGHTING PROCEDURES:** Treat as an NFPA Level 2 Aerosol. Contents are under pressure. Follow National Fire Protection Association Guidelines or local guidelines appropriate for emergency response.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** The final product is offered under pressure. Observe all appropriate precautions for handling aerosol containers. The propellants are flammable liquefied gases. The dispensed liquid product is a flammable liquid.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxides of carbon and/or derivatives.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Notes for non-emergency personnel:**

Consult trained response personnel for clean-up of large spills or locations where providing preliminary control of the chemical release is hazardous. Hazardous locations include areas where ignition sources cannot be controlled. Isolate the area and deny entry to unnecessary and unprotected personnel. Sections 2, 5, 7 and 8 of this document should be consulted upon use of material, to become knowledgeable of the material's hazards and how to control risks associated with handling aerosols and flammable liquids.

If the location is not hazardous and only a small amount of material is spilled, control the spill using absorbent pads and protective equipment as noted below. Prohibit discharge to drains, soil, surface and ground waters. Dispose in accordance with section 13 of this document.

**PERSONAL PROTECTIVE EQUIPMENT:** Plastic or rubber gloves and apron may be required for clean-up of large spills. Protective goggles or face shield is recommended for the control of liquid. Respiratory protection may need to be utilized, depending upon the size of the spill. Respiratory protection may include the use of organic vapor cartridges. See also section 8 of this document.

**Notes for those trained to participate in an emergency:**

**ACCIDENTAL RELEASE MEASURES:** Since this product is a sealed aerosol, accidental discharge of contents is unlikely unless the can is punctured. Should can puncture occur, eliminate all sources of ignition, then dike and contain the free liquid and absorb on vermiculite or spill pillows/pads. Place spent absorbents in UN specification containers for disposal. All precautions associated with controlling a flammable liquid should be employed during clean-up. Prohibit discharge to drains, soil, surface and ground waters.

Recommendations for personal protective equipment selection are noted above. Dispose in accordance with section 13 of this document.

## SECTION 7: HANDLING AND STORAGE

**PRECAUTIONS FOR SAFE HANDLING:**

Aerosols should be handled in a manner that minimizes the risk of puncture – caps should be replaced after use. Containers should be held in an upright position during use. Employees should not eat, drink or smoke while working with hazardous materials. Employees should be advised to wear appropriate protective equipment in the manufacturing environment. See section 8 of this document for protective equipment selection. All manufacturing should be performed indoors, in an enclosed environment. Employees should be advised not to handle flammable products in close proximity to incompatible materials. Use only non-sparking tools when handling non-packaged product. Use explosion-proof electrical/ventilating/lighting equipment. Take precautionary measures against static discharge.

Maintain a clean work environment which includes use of properly functioning containers, proper housekeeping practices.

**CONDITIONS FOR SAFE STORAGE:**

**Storage precautions for unpackaged product (manufacturing environment):** Store in a well-ventilated place. Keep cool. Keep containers tightly closed. Appropriate fire suppression and detection equipment should be utilized. Store on spill pallets or other locations where spill containment will be easily accessible.

**Storage precautions for aerosol packaged product:** Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. Use of an enclosed storage area with easy access is recommended for aerosol containers. Fire suppression and detection equipment compliant with NFPA 30B should be utilized. All aerosols should be stored in an upright position. Refer to consumer packaging for additional storage conditions.

Keep away from open drains and access to the environment.

**Incompatible materials**: Oxidizers, acids, bases. Store away from incompatible materials.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**CONTROL PARAMETERS:** These criteria have been published by the referenced authority to establish exposure limits in the work environment. Employee work areas should be monitored to ensure that permissible limits are not exceeded during the work day. These references do not coincide with product use. These references are meant to be in association with the manufacturing environment.

**OCCUPATIONAL EXPOSURE VALUES:**

| Component Name (CAS-No.) | Reference | TWA | | STEL/CEILING | |
|---|---|---|---|---|---|
| | | ppm | $mg/m^3$ | ppm | $mg/m^3$ |
| Ethyl Alcohol (64-17-5) | OSHA PEL | 1000 | 1900 | -- | -- |
| | ACGIH TLV | -- | -- | 1000 | 1880 |
| | NIOSH REL | 1000 | 1900 | -- | -- |
| Butane (106-97-8) | OSHA PEL | -- | -- | -- | -- |
| | ACGIH TLV | -- | -- | 1000 | 2370 |
| | NIOSH REL | 800 | 1900 | -- | -- |

No occupational exposure values have been published for other constituents noted in Section 3.

**WORK HYGIENIC PRACTICES:** Ensure all work surfaces are maintained, to prevent contamination.

**ENGINEERING CONTROLS:** None required for product use. For handling large quantities of material, such as in the manufacturing of product, ventilation should be utilized. This ventilation should be compatible with the control of flammable materials. Exhaust ventilation should be utilized to maintain air concentrations of materials consistent with local industrial hygiene standards. Testing of aerosol cans should only be performed when appropriate equipment is available.

Local exhaust ventilation is not typically required for product use. For handling large quantities of material, such as in the manufacturing of product **--** Local Exhaust: Explosion proof. Mechanical (general): Explosion proof.

**PERSONAL PROTECTIVE EQUIPMENT:** Consistent with good hygiene practices, personal protective equipment (PPE) should be used in conjunction with other control measures including engineering controls, ventilation and isolation. See also Section 5 of this document for PPE advice, in the event of an emergency.

**Eye/Face Protection (Non-Emergency):** None required for product use. For handling of large quantities of liquid material, safety glasses with side shields/goggles are recommended. For testing of pressurized cans, face shields or other equipment that protects the eyes/face should be considered for use.

**Skin Protection (Non-Emergency):** None required for product use. For handling large quantities of material, such as in product manufacturing, plastic or rubber gloves should be considered for use. Tyvek clothing may also be suitable for handling large quantities of material in the manufacturing environment.

**Respiratory Protection (Non-Emergency):** Respiratory protection is not required for product use. For manufacturing of product, respiratory protection may be considered. Ensure that the respirator meets current local occupational health and safety standards. Organic vapor cartridges should be utilized with filtering respiratory protection.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

**APPEARANCE**: Aerosol can dispensing liquid material which dries soon after contact

**ODOR:** Fragranced product

**ODOR THRESHOLD:** Not Available

**pH:** Not Available

| | |
|---|---|
| **MELTING/FREEZING POINT:** | **F:** Not Available **C:** Not Available |
| **BOILING POINT:** | **F:** Not Available **C:** Not Available |
| **FLASH POINT:** | **F:** < 0 (Propellant); ~55 (Contained Bulk) **METHOD USED:** Closed cup |
| **EVAPORATION RATE:** | < 1 for dispensed product **(Butyl acetate = 1)** |
| **FLAMMABILITY:** | Propellant: Flammable |
| **FLAMMABLE LIMITS IN AIR:** | Butane/Isobutane – Upper: 8.4%; Lower: 1.6%<br>Propane – Upper: 9.5%; Lower: 2.1% |
| **VAPOR PRESSURE (mmHg):** | @ 70F: 2500 – 5500 @ 21 C: 2500 – 5500 |
| **VAPOR DENSITY (AIR = 1):** | @ 70F: >1 @ 21 C: >1 |
| **RELATIVE DENSITY (H2O = 1):** | ~ 1.00 (contained liquid) |
| **SOLUBILITY IN WATER:** | Not Available |
| **PARTITION COEFFICIENT:** | Not Available |
| **AUTOIGNITION TEMPERATURE:** | Not Available |
| **DECOMPOSITION TEMPERATURE:** | Not Available |
| **VISCOSITY:** | Not Available |

## SECTION 10: STABILITY AND REACTIVITY

**REACTIVITY:** Material is not considered reactive under typical handling and storage conditions.

**STABILITY:** Product is stable.

**POSSIBILITY OF HAZARDOUS REACTIONS:** None known. Hazardous polymerization is not expected to occur.

**CONDITIONS TO AVOID:** Direct sunlight, temperatures exceeding 50°C/122°F, fire, flame and other sources of heat.

**INCOMPATIBILITY (MATERIAL TO AVOID):** Oxidizers, acids, bases.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal degradation may produce oxides of carbon and/or derivatives.

## SECTION 11: TOXICOLOGICAL INFORMATION

**Where information is not listed specifically for constituents, published information was not available.**

**POTENTIAL HEALTH EFFECTS**

**ACUTE HEALTH EFFECTS:**
**SKIN CORROSION/IRRITATION**: Overexposure may cause skin irritation or dryness
**SERIOUS EYE DAMAGE/IRRITATION**: Causes eye irritation
**RESPIRATORY/SKIN SENSITIZATION**: None expected
**INGESTION**: Harmful if swallowed
**INHALATION**: May cause drowsiness/dizziness

**ROUTES OF EXPOSURE**: Inhalation, eyes, skin

**SYMPTOMS**: Watering, stinging or itching eyes may occur with direct contact. Skin redness, dryness or itchiness may occur with overexposure to the product. Symptoms may include unsteady gait, nausea, and dizziness.

**MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE**: None known.

**ACUTE TOXICOLOGY DATA FOR COMPONENTS**

| Material | Route | Species | Test Results |
|---|---|---|---|
| Ethyl Alcohol | Oral $LD_{50}$ | Rat | > 6,200 mg/kg |
| Ethyl Alcohol | Dermal $LD_{Lo}$ | Rabbit | > 20,000 mg/kg |
| Ethyl Alcohol | $LC_{50}$ (4 hr) | Rat | > 8,000 mg/L |
| Difluoroethane | $LC_{50}$ (4 hr) | Rat | > 437,500 ppm |
| Dimethyl Ether | $LC_{50}$ (4 hr) | Rat | 164,000 ppm |
| Butane | $LC_{50}$ (4 hr) | Rat | 658 mg/L |
| Aminomethyl Propanol | Oral $LD_{50}$ | Rat | 2,900 mg/kg |
| Aminomethyl Propanol | Dermal $LD_{Lo}$ | Rabbit | > 2,000 mg/kg |

**Skin Corrosion/Irritation:**
*Ethyl Alcohol:* Irritating to Skin (Rabbit)
*Difluoroethane:* Liquefied Gas can Cause Frostbite
*Butane:* Liquefied Gas can Cause Frostbite
*Aminomethyl Propanol:* Highly Irritating (Rabbit)

**Serious Eye Damage/Irritation:**
*Ethyl Alcohol:* Highly Irritating (Rabbit)
*Difluoroethane:* Liquefied Gas can Cause Frostbite
*Butane:* Liquefied Gas can Cause Frostbite
*Aminomethyl Propanol:* Corrosive (Rabbit)

**Respiratory Irritation:**
*Ethyl Alcohol:* 27,314 ppm (mouse) Highly Irritating
*Aminomethyl Propanol:* Heated vapors may be irritating

**Skin Sensitization:**
*Ethyl Alcohol:* Not sensitizing
*Aminomethyl Propanol* Not sensitizing (Guinea Pig)

**CHRONIC HEALTH HAZARDS**:

**REPEAT DOSE TOXICITY:**
NOAEL (Ethanol, oral, rat): >2% (2,400 mg/kg)
LOAEL (Ethanol, oral, rat): 3% (3,600 mg/kg)
NOAEC (Difluoroethane, inhalation, rat): 25,000 ppm (OECD 453)
NOAEL (Dimethyl Ether, oral, rat): 47,106 $mg/m^3$
NOAEC (Butane, inh, rat): 21,394 $mg/m^3$ air
NOAEL (Aminomethyl Propanol, oral,dog): >110 ppm (OECD 452)

**CARCINOGENICITY:**

| Component Name (CAS-No.) | OSHA | ACGIH | NTP | IARC |
|---|---|---|---|---|
| Ethyl Alcohol | -- | TLV-A3 | -- | -- |

Notes:
*ACGIH TLV-A3* - *Ethyl alcohol has been denoted to have a carcinogenicity category of TLV-A3. This reference indicates that the material is "Confirmed Animal Carcinogen with Unknown Relevance to Humans: The agent is carcinogenic in experimental animals at a relatively high dose, by route(s) of administration, at site(s), of histologic type(s), or by mechanism(s) that may not be relevant to worker exposure. Available epidemiologic studies do not confirm an increased risk of cancer in exposed humans. Available evidence does not suggest that the agent is likely to cause cancer in humans except under uncommon or unlikely routes or levels of exposure."

**MUTAGENICITY:**

*Ethanol*: Ethanol has been classified as mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast. May affect genetic material (mutagenic).
*Difluoroethane:* A variety of *in vitro* and *in vivo* tests have produced negative results.
*Dimethyl Ether:* A variety of *in vitro* tests have produced negative results.
*Butane* A variety of *in vitro* and *in vivo* tests have produced negative results.
*Aminomethyl Propanol:* A variety of *in vitro* and *in vivo* tests have produced negative results.

**REPRODUCTIVE TOXICITY:**

*Ethanol*: Effects on the female reproductive system can include menstrual problems, altered sexual behavior, infertility, altered puberty onset, altered length of pregnancy, lactation problems, altered menopause onset and pregnancy outcome. Effects on the male reproductive system can include altered sexual behavior, altered fertility and problems with sperm shape or count.
*Difluoroethane:* NOAEL: 25,000 ppm (Rat)
*Dimethyl Ether:* No observable effects on mating were seen at concentrations 2.5% (highest concentration tested)
*Butane* NOAEC: 21,394 mg/m$^3$ air (OECD 422) – No indications of reproductive toxicity in studies
*Aminomethyl Propanol:* NOEL: 100 mg/kg bw/day (OECD 421)

**DEVELOPMENTAL TOXICITY/TERATOGENICITY:**

*Ethanol*: Ethanol has been connected to adverse reproductive effects and birth defects (teratogenic), based on moderate to heavy consumption. Human: passes through the placenta, excreted in maternal milk. Repeated ingestion of ethanol by pregnant mothers has been shown to adversely affect the central nervous system of the fetus, producing a collection of effects which together constitute fetal alcohol syndrome. These include mental and physical retardation, disturbances of learning, motor and language deficiencies, behavioral disorders and small size head.
*Difluoroethane:* NOAEL: 50,000 ppm (Rat) (OECD 414)
*Dimethyl Ether:* No observable effects on were seen. NOAEL: 40,000 ppm
*Butane* NOAEC: 21,394 mg/m$^3$ air (OECD 422) – No indications of developmental toxicity in studies
*Aminomethyl Propanol:* NOEL: 300 mg/kg bw/day (OECD 414)

## SECTION 12: ECOLOGICAL INFORMATION

Contact with the environment should be avoided. Spills and leaks should be immediately cleaned up and removed. All precautions should be taken to prevent contact with the environment. Published information regarding ingredients listed on this document area found below; where data is not listed, documentation was unavailable.

**ACUTE AND PROLONGED TOXICITY TO FISH**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Ethanol | $LC_{50}$ | 12. 9 - 15.3g/L | Pimephales promelas | 96 h |
| Difluoroethane | $LC_{50}$ (QSAR Calculation) | 295.783 mg/L | Fish | 96 h |
| Dimethyl Ether | $LC_{50}$ | > 4.1 g/L | Fish | 96 h |
| Butane | $LC_{50}$ (QSAR Calculation) | 24.11 mg/L | Not Specified | 96 h |
| Aminomethyl Propanol | $LC_{50}$ | 190 mg/L | Lepomis macrochirus | 96 h |

**ACUTE TOXICITY TO AQUATIC INVERTEBRATES**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Ethanol | $EC_{50}$ | 5,012 mg/L | Ceriodaphnia Dubia | 48 h |
| Difluoroethane | $EC_{50}$ (QSAR Calculation) | 146.695 mg/L | Daphnid | 48 h |
| Dimethyl Ether | $EC_{50}$ | > 4.4 g/L | Daphnia Magna | 48 h |
| Butane | $EC_{50}$ (QSAR Calculation) | 14.22 mg/L | Daphnid | 48 h |
| Aminomethyl Propanol | $EC_{50}$ | 193 mg/L | Daphnia Magna | 48 h |

**TOXICITY TO AQUATIC PLANTS**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Ethanol | $EC_{50}$ | 675 mg/L | Chlorella Vulgaris | 96 h |
| Difluoroethane | $EC_{50}$ (QSAR Calculation) | 47.755 mg/L | Algae | 96 h |
| Dimethyl Ether | $EC_{50}$ | 154.9 mg/L | Green Algae | 96 h |
| Butane | $EC_{50}$ (QSAR Calculation) | 7.71 mg/L | Green Algae | 96 h |
| Aminomethyl Propanol | $EC_{50}$ (OECD 201) | 520 mg/L | Scenedesmus subspicatus | 72 h |

**TOXICITY TO MICROORGANISMS**

| INGREDIENT NAME | TEST | RESULT | SPECIES | EXPOSURE |
|---|---|---|---|---|
| Ethanol | $EC_{50}$ | 32.1 g/L | Photobacterium Phosphoreum | 15 min |
| Dimethyl Ether | $EC_{10}$ | 1,600 mg/L | Pseudomonas putida | -- |
| Aminomethyl Propanol | $EC_{50}$ (OECD 209) | 342.9 mg/L | Activated Sludge | 3 h |

**PERSISTENCY AND DEGRADABILITY:**
*Ethyl Alcohol:* Readily Biodegradable – 97% (28d) – OECD 301 B
*Butane:* Readily Biodegradable – 65.7% (35d)
*Aminomethyl Propanol:* Readily Biodegradable – 89.3% (28d) – OECD 301 F

**BIOACCUMULATIVE POTENTIAL:**
*Ethanol:* $logBCF_{(calculated)}$ = 0.5 (BCFWIN v2.15) – Not likely to bioaccumulate
*Difluoroethane:* $BCF_{(estimated)}$: 2 – Low expectation for bioaccumulation
*Butane:* Log Kow: 2.89 – Not likely to bioaccumulate
*Aminomethyl Propanol:* log Pow: -0.63 (OECD 107) – Not likely to bioaccumulate

The product ingredients are expected to be safe for the environment at the concentrations predicted under normal use and accidental spill scenarios.

## SECTION 13: DISPOSAL CONSIDERATIONS

**Those responsible for the performance of disposal, recycling or reclamation activities should refer to Section 8 of this document for advice on personal protective equipment and exposure controls.**

**WASTE DISPOSAL CONTAINERS:** Cans should have caps in place during waste consolidation or dispenser buttons/actuators removed. Appropriate U.S. DOT containers should be utilized which may include cardboard boxes for products, metal or plastic drums for liquids. These containers should meet the packaging specifications required for DOT compliance.

**WASTE DISPOSAL METHOD:** This product exhibits the RCRA characteristic of ignitability (D001) when intended for disposal. State specific guidance regarding aerosols should also be consulted. Controlled incineration at a licensed waste facility is the recommended technology for treatment and disposal. This material must not be disposed through sewage.

**RCRA HAZARD CLASS:** D001

Follow all local governmental requirements intended for disposal.

## SECTION 14: TRANSPORT INFORMATION

**North American Ground Transportation**

- **IN CONSUMER PACKAGING:** Limited Quantity/Consumer Commodity
  **UN ID Number:** UN 1950
  **Proper Shipping Name:** Aerosols
  **Hazard Class:** 2.1
  **Packing Group:** N/A
  **Label Statements:** Flammable Gas (Division 2.1)

- **LIQUID WITHOUT PROPELLANT:**
  **UN ID Number:** UN 1170
  **Proper Shipping Name:** Ethanol solutions
  **Hazard Class:** 3
  **Packing Group:** II
  **Label Statements:** Flammable Liquid (Class 3)

**Transport Via Water**

- **IN CONSUMER PACKAGING:** Limited Quantity
  **UN ID Number:** UN 1950
  **Proper Shipping Name:** Aerosols
  **Hazard Class:** 2.1
  **Packing Group:** N/A
  **Label Statements:** Flammable Gas (Division 2.1)

- **LIQUID WITHOUT PROPELLANT:**
  **UN ID Number:** UN 1170
  **Proper Shipping Name:** Ethanol solutions
  **Hazard Class:** 3
  **Packing Group:** II
  **Label Statements:** Flammable Liquid (Class 3)

**Transport Via Air (Domestic/International)**

- **IN CONSUMER PACKAGING:** Limited Quantity – ID 8000, Consumer Commodity
  **UN ID Number:** UN 1950
  **Proper Shipping Name:** Aerosols
  **Hazard Class:** 2.1
  **Packing Group:** N/A
  **Label Statements:** Flammable Gas (Division 2.1)

- **LIQUID WITHOUT PROPELLANT:**
  **UN ID Number:** UN 1170
  **Proper Shipping Name:** Ethanol solutions
  **Hazard Class:** 3
  **Packing Group:** II
  **Label Statements:** Flammable Liquid (Class 3)

**Please be aware of carrier transport variations before shipping hazardous materials.**

## SECTION 15: REGULATORY INFORMATION

**National Fire Protection Association Codes:** Health: 2 Fire: 4 Reactivity: 0 Other: None

**Workplace Hazardous Materials Identification System:** Class B Division 5 Flammable Aerosol; Class D; Division 2, Subdivision B – Eye Irritation

This regulatory information represents the product, in its consumer packaging.

## SECTION 16: OTHER INFORMATION

**PREPARATION INFORMATION:** This is the first issuance of this document.

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