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. • Do not spray on an open flame or other ignition source. • 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. • Wear eye protection appropriate for the manufacturing operation being performed (goggles or face shield). • 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% 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)