

SAFETY DATA SHEET

ISSUANCE DATE: November 8, 2017

SDS # 38-21-002-0

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, H4T 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 Color Gels Hair Colors 8AB, 9GB, 9NA, 10N, 10NA

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	<ul style="list-style-type: none"> • Keep away from heat, sparks, open flames and hot surfaces. No smoking. • Keep container tightly closed. • Ground/bond container and receiving equipment. • Use explosion-proof electrical, ventilating, lighting, manufacturing and packaging equipment. • Use only non-sparking tools. • Take precautionary measures against static discharge.
	Skin Corrosion Category 1B	Causes severe skin burns and eye damage	<ul style="list-style-type: none"> • Do not breathe dust or mists. • Wash hands thoroughly after handling. • Wear nitrile or vinyl protective gloves.

See Symbol Above	Eye Damage Category 1	Causes serious eye damage	<ul style="list-style-type: none"> Wear eye protection appropriate for the manufacturing operation being performed (goggles or face shield).
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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

<u>INGREDIENT:</u>	<u>CAS NO.</u>	<u>% WT</u>
Ethanol	64-17-5	≤ 8.2%
PEG-4 Rapeseedamide	85536-23-8	≤ 8.1%
Glyceryl Lauryl Ether	9022-75-7	≤ 7.0%
Deceth-3	66455-15-0	≤ 6.9%
Ethanolamine	141-43-5	≤ 5.6%
Laureth-5 Carboxylic Acid	27306-90-7	≤ 4.5%
Hexylene Glycol	107-41-5	≤ 3.0%
Ammonium Hydroxide	1336-21-6	≤ 2.1%
Toluene-2,5-Diamine	95-70-5	≤ 1.9%

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 severe skin burns and eye damage. Causes serious eye damage.

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
Resorcinol (108-46-3)	OSHA PEL	--	--	--	--
	ACGIH TLV	10	45	20	90
	NIOSH REL	10	45	20	90

p-aminophenol (123-30-8)	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. 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:	10.5		
MELTING/FREEZING POINT:	F: Not Available	C: Not Available	
BOILING POINT:	F: > 212	C: > 100	
FLASH POINT:	F: 105.8	C: 41	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
	Ethanolamine:	23.5% UEL;	3.0% LEL

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: None expected

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.

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
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
Toluene-2,5-diamine	Oral LD ₅₀	Rat	102 mg/kg bw
1-Hydroxyethyl 4,5-Diamino Pyrazole Sulfate	Oral LD ₅₀	Rat (OECD 401)	>2,000 mg/kg bw
1-Hydroxyethyl 4,5-Diamino Pyrazole Sulfate	Inh. LD ₅₀ (4hr)	Rat (OECD 403)	>5.24 g/m ³ (Aerosol)
4-Amino-2-Hydroxytoluene	Oral LD ₅₀	Rat	3,600 mg/kg bw
4-Amino-2-Hydroxytoluene	Dermal LD ₅₀	Rabbit	>5,000 mg/kg bw
Resorcinol	Oral LD ₅₀	Rat (OECD 401)	510 mg/kg bw
N,N-Bis(2-Hydroxyethyl)-p-Phenylenediamine Sulfate	Oral LD ₅₀	Rat	264 mg/kg bw
p-Aminophenol	Oral LD ₅₀	Rat (EPA OPPTS 870.1100)	671 mg/kg bw
p-Aminophenol	Dermal LD ₅₀	Rabbit (EPA OPPTS 870.1200)	> 8,000 mg/kg bw
p-Aminophenol	Inh. LC ₅₀ (4hr)	Rat (OECD 403)	> 3.42 mg/L air
m-Aminophenol	Oral LD ₅₀	Rat (OECD 420)	> 500 mg/kg bw
m-Aminophenol	Dermal LD ₅₀	Rabbit (QSAR)	8,115 mg/kg bw
m-Aminophenol	Inh. LC ₅₀	Rat	1,162 mg/m ³ air
6-Hydroxyindole	Oral LD ₅₀	Rat	>600 & <1,200 mg/kg bw
6-Hydroxyindole	Dermal LD ₅₀	Rat (OECD 402)	>2,000 mg/kg bw
6-Hydroxyindole	Inh. LC ₅₀	Rat (OECD 403 - Aerosol)	>2,000 mg/m ³ air (4h)

Skin Corrosion/Irritation:

<i>Ethyl Alcohol:</i>	Not Irritating (Rabbit, OECD 404)
<i>PEG-4 Rapeseedamide:</i>	Severely Irritating (Rabbit, OECD 404)
<i>Glyceryl Lauryl Ether:</i>	Corrosive (Rabbit, OECD 404)
<i>Deceth-3:</i>	Slightly Irritating (Rabbit, OECD 404)
<i>Laureth-5 Carboxylic Acid:</i>	Slightly Irritating (Rabbit, OECD 404)
<i>Ethanolamine:</i>	Corrosive (Rabbit, OECD 404)
<i>Hexylene Glycol:</i>	Slightly Irritating (Rabbit, OECD 404)
<i>Ammonium Hydroxide</i>	Irritating (5 - 10%); Corrosive (>10%) (Rat, OECD 404)
<i>Toluene-2,5-Diamine:</i>	Not Irritating (Rabbit, OECD 404)
<i>1-Hydroxyethyl 4, 5-</i>	

<i>Diamino Pyrazole Sulfate</i>	Slightly Irritating (Rabbit, OECD 404)
<i>4-Amino-2-Hydroxytoluene</i>	Irritating (Rabbit)
<i>Resorcinol</i>	Not Irritating (Rabbit, OECD 404)
<i>N,N-Bis(2-Hydroxyethyl)- p-Phenylenediamine Sulfate</i>	Not Irritating (Rabbit)
<i>p-Aminophenol</i>	Not Irritating (Rabbit, OECD 404)
<i>m-Aminophenol</i>	Not Irritating (Rabbit, OECD 404)
<i>6-Hydroxyindole</i>	Not Irritating (Rabbit, OECD 404)

Serious Eye Damage/Irritation:

<i>Ethyl Alcohol:</i>	25% - Not Irritating / 50% - Mildly Irritating / 100% - Irritating (Rabbit, OECD 405)
<i>PEG-4 Rapeseedamide:</i>	Slightly Irritating (Rabbit, OECD 405)
<i>Glyceryl Lauryl Ether:</i>	Corrosive
<i>Deceth-3:</i>	Corrosive (Rabbit, OECD 405)
<i>Laureth-5 Carboxylic Acid:</i>	Corrosive (Rabbit, OECD 405)
<i>Ethanolamine:</i>	Corrosive (Rabbit, OECD 405)
<i>Hexylene Glycol:</i>	Slightly Irritating (Rabbit, OECD 405); Irritating (Human, Vapors)
<i>Ammonium Hydroxide</i>	Corrosive (Rabbit)
<i>Toluene-2,5-Diamine:</i>	Irritating (Rabbit, OECD 405)
<i>1-Hydroxyethyl 4, 5- Diamino Pyrazole Sulfate</i>	Corrosive (Rabbit, OECD 405)
<i>4-Amino-2-Hydroxytoluene</i>	Irritating (Rabbit)
<i>Resorcinol</i>	Not Irritating (Rabbit, OECD 405)
<i>N,N-Bis(2-Hydroxyethyl)- p-Phenylenediamine</i>	Irritating (Rabbit)
<i>p-Aminophenol</i>	Not Irritating (Rabbit, OECD 404)
<i>m-Aminophenol</i>	Not Irritating (Rabbit, OECD 405)
<i>6-Hydroxyindole</i>	Severely Irritating (Rabbit, OECD 405)

Respiratory Irritation:

<i>Hexylene Glycol:</i>	May cause irritation (Human)
<i>Ammonium Hydroxide</i>	Highly Irritating (>50 ppm) (Human)
<i>4-Amino-2-Hydroxytoluene</i>	Irritating

Skin Sensitization:

<i>Ethyl Alcohol:</i>	Not Sensitizing (Guinea Pig)
<i>PEG-4 Rapeseedamide:</i>	Not Sensitizing (Guinea Pig, OECD 406)
<i>Glyceryl Lauryl Ether:</i>	Not Sensitizing (Guinea Pig, OECD 406)
<i>Deceth-3:</i>	Not Sensitizing (Guinea Pig)
<i>Laureth-5 Carboxylic Acid:</i>	Not Sensitizing (Guinea Pig, OECD 406)
<i>Ethanolamine:</i>	Not Sensitizing (Guinea Pig)
<i>Hexylene Glycol:</i>	Not Sensitizing (Guinea Pig, OECD 406)
<i>Ammonium Hydroxide</i>	Not Sensitizing (Guinea Pig)
<i>Toluene-2,5-Diamine:</i>	Sensitizing (Mouse, OECD 406)
<i>1-Hydroxyethyl 4,5- Diamino Pyrazole Sulfate</i>	Sensitizing (Guinea Pig) (EU Method B.6 – Cat. 1)
<i>4-Amino-2-Hydroxytoluene</i>	Sensitizing (Mouse, OECD 429)
<i>Resorcinol</i>	Sensitizing (Mouse, OECD 429)
<i>N,N-Bis(2-Hydroxyethyl)- p-Phenylenediamine</i>	Sensitizing (Mouse)
<i>p-Aminophenol</i>	Sensitizing (Guinea Pig, OECD 406)
<i>m-Aminophenol</i>	Sensitizing (Mouse, OECD 429)
<i>6-Hydroxyindole</i>	Sensitizing (Mouse, TG 429)

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 (Ethanalamine, oral): 300 mg/kg bw/d (Rat, OECD 416)
 NOEL (Hexylene Glycol, oral): 450 mg/kg bw/d (90d) (Rat, OECD 408)
 NOAEL (Toluene-2,5-diamine, oral): 1.4 mg/kg bw/d (90d) (Rat, OECD 408)
 NOAEL: (1-Hydroxyethyl 4,5-Diamino Pyrazole Sulfate, oral): 250 mg/kg bw/d (90d) (Rat, OECD 408)
 NOAEL: (4-Amino-2-Hydroxytoluene, oral): 180 mg/kg bw/d (90d) (Rat)
 NOAEL: (Resorcinol, oral): 80 mg/kg bw/d (Rat, OECD 408)
 NOAEL: (N, N-Bis (2-Hydroxyethyl)-p-Phenylenediamine, oral): 20 mg/kg bw/d (90d) (Rat)
 NOEL: (p-Aminophenol, oral): 10 mg/kg bw/day (90d) (Rat, OECD 408)
 NOEL: (m-Aminophenol, oral): 20 mg/kg bw/day (90d) (Rat)
 NOAEL: (6-Hydroxyindole, oral): 100 mg/kg bw/d (90d) (Rat, OECD 408)

CARCINOGENICITY:

Component Name (CAS-No.)	OSHA	ACGIH	NTP	IARC
Ethyl Alcohol (64-17-5)	--	TLV-A3	--	--
Toluene-2,5-diamine	--	--	--	IARC-3
Resorcinol (108-46-3)	--	TLV-A4	--	IARC-3

Notes: ACGIH TLV-A3 – Confirmed Animal Carcinogen with Unknown Relevance to Humans
 IARC-3 – This reference indicated that the material is "Unclassifiable as Carcinogenicity in Humans"
 ACGIH TLV-A4 – This reference indicates that the material is "Not Classifiable as a Human Carcinogen".

MUTAGENICITY:

<i>Ethyl Alcohol:</i>	A variety of <i>in vitro</i> and <i>in vivo</i> tests have produced negative results.
<i>PEG-4 Rapeseedamide:</i>	A variety of <i>in vitro</i> and <i>in vivo</i> tests have produced negative results.
<i>Glyceryl Lauryl Ether:</i>	A variety of <i>in vitro</i> tests have produced negative results.
<i>Deceth-3:</i>	A variety of <i>in vitro</i> tests have produced negative results.
<i>Laureth-5 Carboxylic Acid:</i>	A variety of <i>in vitro</i> tests have produced negative results.
<i>Ethanalamine:</i>	A variety of <i>in vitro</i> and <i>in vivo</i> tests have produced negative results.
<i>Hexylene Glycol:</i>	A variety of <i>in vitro</i> tests have produced negative results.
<i>Ammonium Hydroxide:</i>	A variety of <i>in vitro</i> tests have produced negative results.
<i>Toluene-2,5-Diamine:</i>	A variety of <i>in vitro</i> tests have produced varied results and <i>in vivo</i> tests negative results.
<i>1-Hydroxyethyl 4,5-Diamino Pyrazole Sulfate:</i>	A variety of <i>in vitro</i> tests have produced varied results and <i>in vivo</i> tests have produced negative results.
<i>4-Amino-2-Hydroxytoluene:</i>	A variety of <i>in vitro</i> tests have produced varied results and <i>in vivo</i> tests have produced negative results.
<i>N,N-Bis(2-Hydroxyethyl)-p-Phenylenediamine</i>	A variety of <i>in vitro</i> tests have produced ambiguous results and <i>in vivo</i> tests have produced negative results.
<i>p-Aminophenol:</i>	A variety of <i>in vitro</i> tests and <i>in vivo</i> tests have produced varied results.
<i>m-Aminophenol</i>	A variety of <i>in vitro</i> tests have produced varied results and <i>in vivo</i> tests have produced negative results.
<i>6-Hydroxyindole</i>	A variety of <i>in vitro</i> tests have produced varied results and <i>in vivo</i> tests have produced negative results.

REPRODUCTIVE TOXICITY:

<i>Ethyl Alcohol:</i>	NOAEL: 20.7 g/kg/day (15%) (Mouse, OECD 416 eq.) – No effects on fertility
<i>PEG-4 Rapeseedamide:</i>	NOEL: 500 mg/kg bw/d (Rat, OECD 421) – No effects on fertility
<i>Glyceryl Lauryl Ether:</i>	NOEL: 600 mg/kg bw/d (Rat, OECD 421)
<i>Deceth-3:</i>	NOAEL: > 250 mg/kg bw/d (Rat, OECD 416)
<i>Ethanolamine:</i>	NOAEL: 300 mg/kg bw/day (Rat, OECD 416)
<i>Hexylene Glycol:</i>	NOAEL: 1,000 mg/kg bw/d (Rat, OECD 421)
<i>Toluene-2,5-diamine:</i>	NOAEL: 45 mg/kg bw/d (Rat, OECD 416)
<i>1-Hydroxyethyl 4,5-</i>	
<i>Diamino Pyrazole Sulfate:</i>	NOAEL: 300 mg/kg bw/d (Rat, OECD 415)
<i>4-Amino-2-Hydroxytoluene:</i>	NOAEL: 200 mg/kg bw/d (Rat, OECD 415)
<i>Resorcinol:</i>	NOAEL: > 3,000 mg/kg bw/day (Rat, OECD 416)
<i>p-Aminophenol:</i>	NOAEL: 100 mg/kg/bw day (Rat, OECD 421)
<i>m-Aminophenol:</i>	NOAEL: 10 mg/kg bw/day (Rat)

DEVELOPMENTAL TOXICITY/TERATOGENICITY:

<i>Ethyl Alcohol:</i>	NOAEL: ≥ 20,000 ppm (Rat, OECD 414 eq.) – Incident of malformations
<i>PEG-4 Rapeseedamide:</i>	NOEL: 500 mg/kg bw/d (Rat, OECD 421) – No effects on development
<i>Glyceryl Lauryl Ether:</i>	NOEL: 600 mg/kg bw/d (Rat, OECD 421)
<i>Deceth-3:</i>	NOAEL: > 250 mg/kg bw/d (Rat, OECD 416)
<i>Ethanolamine:</i>	NOAEL: 450 mg/kg bw/day (Rat, OECD 414)
<i>Hexylene Glycol:</i>	NOAEL: 300 mg/kg bw/d (Rat, OECD 414)
<i>Ammonium Hydroxide:</i>	NOAEL: 1,000 mg/kg bw/d (Mouse)
<i>Toluene-2,5-Diamine</i>	NOAEL: 50 mg/kg bw/d (Rat)
<i>1-Hydroxyethyl 4 5-</i>	
<i>Diamino Pyrazole Sulfate</i>	NOAEL: 300 mg/kg bw/d (Rat, OECD 414)
<i>4-Amino-2-Hydroxytoluene</i>	NOAEL: 180 mg/kg bw/d (Rat)
<i>Resorcinol</i>	NOAEL: 250 mg/kg/day (Rat, OECD 414)
<i>N,N-Bis (2-Hydroxyethyl)-P</i>	
<i>Phenylenediamine</i>	NOAEL: 50 mg/kg bw/d (Rat, OECD 414 – No eff
<i>P-Aminophenol</i>	NOAEL: 100 mg/kg bw/d (Rat, OECD 421)
<i>m-Aminophenol</i>	NOEL: 100 mg/kg bw/d (Rat, OECD 414) – No effects on development.
<i>6-Hydroxyindole</i>	NOAEL: 50 mg/kg bw/d (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
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
1-Hydroxyethyl 4,5-Diamino Pyrazole Sulfate	LC ₅₀ (EU C.1)	86.2 mg/L	Danio rerio	96 h

Resorcinol	LC ₅₀	29.5 mg/L	Pimephales promelas	96 h
p-Aminophenol	LC ₅₀ (OECD 203)	0.82 mg/L	Oryzias latipes	96 h
m-Aminophenol	LC ₅₀ (OECD 203)	82.64 mg/L	Danio rerio	96 h
6-Hydroxyindole	LC ₅₀	21.7 mg/L	Danio rerio	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
1-Hydroxyethyl 4,5-Diamino Pyrazole Sulfate	EC ₅₀	11.12 mg/L	Daphnia magna	48 h
Resorcinol	EC ₅₀ (OECD 202)	4.7 mg/L	Daphnia magna	48 h
p-Aminophenol	EC ₅₀ (OECD 202)	0.182 mg/L	Daphnia magna	48 h
m-Aminophenol	EC ₅₀ (DIN 38412, Pt.2)	1.1 mg/L	Daphnia magna	48 h
6-Hydroxyindole	EC ₅₀	1.74 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
1-Hydroxyethyl 4,5-Diamino Pyrazole Sulfate	EC ₅₀ (EU C.3)	5.33 mg/L	Pseudokirchneriella subcapitata	72 h
Resorcinol	EC ₅₀ (OECD 201)	> 97 mg/L	Pseudokirchneriella subcapitata	72 h
p-Aminophenol	EC ₅₀ (OECD 201)	> 0.253 mg/L	Desmodesmus subspicatus	72 h
m-Aminophenol	EC ₅₀ (OECD 201)	62 – 160 mg/L	Pseudokirchneriella Subcapitata	72 h
6-Hydroxyindole	EC ₅₀	9.1 mg/L	Desmodesmus subspicatus	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
Resorcinol	EC ₅₀ (OECD 209)	79 mg/L	Activated Sludge	3 h
p-Aminophenol	EC ₅₀ (OECD 209)	29.9 mg/L	Activated sludge	3 h
m-Aminophenol	IC ₅₀	361 mg/L	Tetrahymena thermophila	40 h
6-Hydroxyindole	IC ₅₀	≥ 0.9 mg/L	Activated sludge	3 d

PERSISTENCY AND DEGRADABILITY:

<i>Ethyl Alcohol:</i>	Readily Biodegradable – OECD 301 B – 97% (28d)
<i>PEG-4 Rapeseedamide:</i>	Readily Biodegradable – OECD 301 B – 96% (28d)
<i>Glyceryl Lauryl Ether:</i>	Readily Biodegradable – OECD 301 B – 88% (28d)
<i>Deceth-3:</i>	Readily Biodegradable
<i>Laureth-5 Carboxylic Acid:</i>	Readily Biodegradable – OECD 301 B – 78% (28d)
<i>Ethanolamine:</i>	Readily Biodegradable – OECD 301 A – >90% (21d)
<i>Hexylene Glycol:</i>	Readily Biodegradable – OECD 301 F – 81% (28d)
<i>Ammonium Hydroxide</i>	Readily Biodegradable – Converts to nitrates
<i>Toluene-2,5-diamine</i>	Not Readily Biodegradable
<i>1-Hydroxyethyl 4, 5-Diamino Pyrazole Sulfate:</i>	Not Readily Biodegradable – EU C.4-E -- > 33.3% (28d)
<i>Resorcinol</i>	Readily Biodegradable – OECD 301 C
<i>N,N-Bis(2-Hydroxyethyl)-p-Phenylenediamine</i>	Not Readily Biodegradable – 23% (28d)
<i>p-Aminophenol:</i>	Not Readily Biodegradable – OECD 301 C eq. – 6% (28d)
<i>m-Aminophenol:</i>	Readily Biodegradable – 90% (5d)
<i>6-Hydroxyindole</i>	Not Readily Biodegradable

BIOACCUMULATIVE POTENTIAL:

<i>Ethyl Alcohol:</i>	logBCF _(calculated) = 0.5 (BCFWIN v2.15) – Not expected to bioaccumulate
<i>PEG-4 Rapeseedamide:</i>	log Pow: 5 – Potential to bioaccumulate
<i>Glyceryl Lauryl Ether:</i>	log Pow: 3.757; BCF: 311.5 (QSAR) – Not expected to bioaccumulate
<i>Deceth-3:</i>	Not expected to bioaccumulate
<i>Ethanolamine:</i>	log Pow: -1.91 – Not expected to bioaccumulate
<i>Hexylene Glycol:</i>	log Pow: <1; BCF: 3.16 – Not expected to bioaccumulate
<i>Toluene-2,5-diamine:</i>	log Pow: -0.321 (EU Method A.8) – Not expected to bioaccumulate
<i>1-Hydroxyethyl 4, 5-Diamino Pyrazole Sulfate:</i>	log Pow: -1.75 (EU A.8) -- Not expected to bioaccumulate
<i>Resorcinol</i>	BCF: 3.162 – Not expected to bioaccumulate
<i>N,N-Bis(2-Hydroxyethyl)-p-Phenylenediamine</i>	log Pow: -2.8 – Not expected to bioaccumulate
<i>p-Aminophenol</i>	log Pow: 1.96 – Not expected to bioaccumulate
<i>m-Aminophenol</i>	BCF: < 40 – Not expected to bioaccumulate
<i>6-Hydroxyindole</i>	log Pow: 1.46 (EU A.8)

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:** Limited Quantity/Consumer Commodity (≤ 1 L)
UN ID Number: UN 3267
Proper Shipping Name: Corrosive liquid, basic, organic, n.o.s.
Technical Name: Ethanolamine, Ammonium Hydroxide
Hazard Class: 8
Packing Group: II
Label Statements: Exempt – Limited Quantity Marking Only
- **OTHER THAN CONSUMER PACKAGING:**
UN ID Number: UN 3267
Proper Shipping Name: Corrosive liquid, basic, organic, n.o.s.
Technical Name: Ethanolamine, Ammonium Hydroxide
Hazard Class: 8
Packing Group: II
Label Statements: Corrosive (Class 8)

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:** Limited Quantity/Consumer Commodity (≤ 1 L)
UN ID Number: UN 3267
Proper Shipping Name: Corrosive liquid, basic, organic, n.o.s.
Technical Name: Ethanolamine, Ammonium Hydroxide
Hazard Class: 8
Packing Group: II
Label Statements: Exempt – Limited Quantity Marking Only

- **OTHER THAN CONSUMER PACKAGING:**
 - UN ID Number:** UN 3267
 - Proper Shipping Name:** Corrosive liquid, basic, organic, n.o.s.
 - Technical Name:** Ethanolamine, Ammonium Hydroxide
 - Hazard Class:** 8
 - Packing Group:** II
 - Label Statements:** Corrosive (Class 8)

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:** Limited Quantity/Consumer Commodity (≤ 0.1 L)
 - UN ID Number:** UN 3267
 - Proper Shipping Name:** Corrosive liquid, acidic, organic, n.o.s.
 - Technical Name:** Ethanolamine, Ammonium Hydroxide
 - Hazard Class:** 8
 - Packing Group:** II
 - Label Statements:** Exempt – Limited Quantity Marking Only
- **OTHER THAN CONSUMER PACKAGING:**
 - UN ID Number:** UN 3267
 - Proper Shipping Name:** Corrosive liquid, acidic, organic, n.o.s.
 - Technical Name:** Ethanolamine, Ammonium Hydroxide
 - Hazard Class:** 8
 - Packing Group:** II
 - Label Statements:** Corrosive (Class 8)

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.

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