



Issuing Date 19-May-2009

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Revision Number 5

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND THE COMPANY/UNDERTAKING

Product Name 2-Mercaptoethanol
Product Code(s) 0482
Recommended Use For Further Manufacturing Use Only
Not for Human or Animal Drug Use
Synonyms EMERY 5791 * 1-ETHANOL-2-THIOL * ETHYLENE GLYCOL, MONOTHIO- *
2-HYDROXY-1-ETHANETHIOL * 2-HYDROXYETHYL MERCAPTAN * 2-ME
*MERCAPTOETHANOL * BETA-MERCAPTOETHANOL *
2-MERCAPTOETHANOL *MONOTHIOETHYLENEGLYCOL * 2-THIOETHANOL *
THIOGLYCOL (DOT) * THIOMONOGLYCOL * UN2966 (DOT) * USAF EK-4196
*

Company
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2. HAZARDS IDENTIFICATION

GHS - Classification

Classification Flammable Liquid 4 Acute Toxicity Oral 3 Acute Toxicity Dermal 2 Acute Toxicity
Inhalation 2 Serious Eye Damage/Irritant 1 Skin Irritant 2 Skin Sensitizer 1 Aquatic
Hazard (acute) 1

Signal Word Danger



Hazard Statements H227 - Combustible liquid H301 - Toxic if swallowed H310 - Fatal in contact with skin H330 - Fatal if inhaled H318 - Causes serious eye damage H315 - Causes skin irritation H317 - May cause an allergic skin reaction H410 - Very toxic to aquatic life with long lasting effects

Precautionary Statements P280 - Wear protective gloves/protective clothing/eye protection/face protection P302+ P352 - IF ON SKIN: Wash with plenty of soap and water P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing P273 - Avoid release to the environment

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	EC No.	REACH Reg. No.	CAS-No	Weight %	Classification
2-Mercaptoethanol	EEC No. 200-464-6	Not available	60-24-2	95-100	Xn;R22 R43

4. FIRST AID MEASURES

Eye Contact Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician

Skin Contact Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.

Inhalation Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Ingestion Clean mouth with water and afterwards drink plenty of water. Never give anything by mouth to an unconscious person.

Notes to Physician Treat symptomatically

5. FIRE-FIGHTING MEASURES

Flammable Properties Combustible.

Flash Point 73.9 °C

Suitable Extinguishing Media Dry chemical, CO₂, water spray or regular foam.

Hazardous Combustion Products Carbon oxides, Sulfur oxides.

Explosion Data

Sensitivity to Mechanical Impact Not sensitive

Sensitivity to Static Discharge Not sensitive

Protective Equipment and Precautions for Firefighters As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Avoid contact with skin, eyes and clothing. Ensure adequate ventilation.
Methods for Containment	Prevent further leakage or spillage if safe to do so
Methods for Cleaning Up	Pick up and transfer to properly labeled containers. Ventilate area and wash spill site after material pickup is complete. Cover with an activated carbon adsorbent

7. HANDLING AND STORAGE

Handling	Handle in accordance with good industrial hygiene and safety practice.
Storage	Keep container tightly closed in a dry and well-ventilated place.
Incompatible Products	Strong oxidizers. Metals.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
2-Mercaptoethanol 60-24-2			

Engineering Measures	Showers Eyewash stations Ventilation systems
Personal Protective Equipment	
Eye/Face Protection	Safety glasses with side-shields.
Skin and Body Protection	Wear protective gloves/clothing.
Respiratory Protection	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations
Hygiene Measures	Handle in accordance with good industrial hygiene and safety practice

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear Colorless	
Odor	This material has a strong objectionable odor	
Odor Threshold	No information available	
Decomposition Temperature °C	No information available	
Freezing Point	No information available	
Initial Boiling Point	No information available	
Physical State	Liquid	
pH	No data available	
Flash Point	73.9 °C	
Flammable Properties	Combustible.	
Autoignition Temperature	563.00 °F / 295 °C /	
Boiling Point/Range	157.2 °C	
Melting Point/Range	-100 deg °C	
Flammability Limits in Air	Upper No data available	Lower No data available
	Upper 2.7	Lower 1.1
Explosive Properties	No information available	
Oxidizing Properties	No information available	
Evaporation Rate	No data available	
MMHG @ 37.8 C	No data available	
Vapor Density	No data available	
Specific Gravity	1.14	
Density	1.14	
Solubility	Soluble	
Water Solubility	Very soluble in water	
Partition Coefficient (n-octanol/water)	No data available	
Viscosity	No information available	
Molecular Weight	78.13	

10. STABILITY AND REACTIVITY

Stability	Stable under recommended storage conditions
Incompatible Products	Strong oxidizers. Metals.
Conditions to Avoid	None known based on information supplied
Hazardous Decomposition Products	Carbon oxides. Sulfur oxides.
Hazardous Polymerization	Hazardous polymerization does not occur

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Product Information Causes skin, eye and respiratory tract irritation. Sensitizer. Toxic.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
2-Mercaptoethanol	244 mg/kg (Rat)	150 µL/kg (Rabbit)	

Chronic Toxicity

Chronic Toxicity No known effect based on information supplied

Target Organ Effects None known.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic organisms.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Microtox	Daphnia Magna (Water Flea)
2-Mercaptoethanol	EC50 = 12 mg/L 72 h	LC50= 46 mg/L Leuciscus idus 96 h	EC50 = 125 mg/L 17 h	EC50 = 1.52 mg/L 48 h

Chemical Name	Log Pow
2-Mercaptoethanol	= -0.056 25 °C

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method Dispose of material in accordance with all federal, state, and local regulations

Contaminated Packaging Dispose of in accordance with all federal, state and local regulations

14. TRANSPORT INFORMATION

IATA Regulated
UN-No 2966
Proper Shipping Name THIOGLYCOL
Hazard Class 6.1
Packing Group II

DOT Regulated
Proper Shipping Name THIOGLYCOL
Hazard Class 6.1
UN-No 2966
Packing Group II

15. REGULATORY INFORMATION

REACH Title VII Restrictions No information available.

Chemical Name	Dangerous Substances	Organic Solvents	Harmful Substances Whose Names Are to be Indicated on the Label	Pollution Release and Transfer Registry (Class II):	Pollution Release and Transfer Registry (Class I):	Poison and Deleterious Substances Control Law:
2-Mercaptoethanol	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

Component	ISHA - Harmful Substances Prohibited for Manufacturing, Importing, Transferring, or Supplying	ISHA - Harmful Substances Requiring Permission	Toxic Chemical Classification Listing (TCCL) - Toxic Chemicals	Toxic Release Inventory (TRI) - Group I	Toxic Release Inventory (TRI) - Group II
2-Mercaptoethanol 60-24-2 (95-100)	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

International Inventories

TSCA	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	Yes
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product does not contain any substances regulated as hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act Amendments of 1990

CERCLA

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
2-Mercaptoethanol	X	X	X		

International Regulations

Mexico - Grade No information available.

Canada

WHMIS Hazard Class

- B3 Combustible liquid
- E Corrosive material
- D1B Toxic materials
- D2B Toxic materials



16. OTHER INFORMATION

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Revision Note
No information available.

Recommended Restrictions No information available

Disclaimer

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End of MSDS