



## 1. CHEMICAL IDENTIFICATION AND COMPANY INFORMATION

PRODUCT NAME: 2-Mercaptoethanol

PRODUCT NUMBER: M649

COMPANY INFO: PhytoTech Labs Inc.  
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EMERGENCY PHONE NUMBER 1-800-535-5053 - US Only  
(INFOTRAC): 1-352-323-3500 - International

RECOMMENDED USE: For Research Use Only

RESTRICTIONS ON USE: Products sold by PhytoTech Labs Inc. are intended for research and laboratory use only.  
Products are not to be used as human or animal therapeutics, cosmetics, agricultural or pesticidal products, food additives, in vitro diagnostics, or as household chemicals.

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture:

GHS Classification:

- H227 – Flammable liquids (Category 4)
- H301 – Acute toxicity, Oral (Category 3)
- H310 – Acute toxicity, Dermal (Category 2)
- H315 – Skin irritation (Category 2)
- H318 – Serious eye damage (Category 1)
- H331 – Acute toxicity, Inhalation (Category 3)
- H373 – Specific target organ toxicity - repeated exposure, Oral – Liver and Heart (Category 2)
- H410 – Chronic aquatic toxicity (Category 1)

### GHS Label elements, including hazard and precautionary statements:

Pictogram  
:



Signal Word: **Danger**

Hazard Statements:

- H227 – Combustible liquid.
- H301 + H331 – Toxic if swallowed or if inhaled
- H310 – Fatal in contact with skin.
- H318 – Causes serious eye damage.
- H373 – May cause damage to organs (Liver, Heart) through prolonged or repeated exposure if swallowed.
- H410 – Very toxic to aquatic life with long lasting effects.

Precautionary Statements:

- P210 – Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- P260 – Do not breathe fume/gas/ mist/ vapors/spray.
- P273 – Avoid release to the environment.
- P280 – Wear protective gloves/protective clothing/eye protection/face protection.
- P302 + P350 + P310 – IF ON SKIN: Gently wash with plenty of soap and water. Immediately call a POISON CENTER or doctor/ physician.
- P305 + P351 + P338 + P310 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.
- P314 – Get medical advice/ attention if you feel unwell.

**Hazards not otherwise classified (HNOC) or not covered by GHS: - none**

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms: Thioethylene glycol; 2-Hydroxyethylmercaptan; BME;  $\beta$ -Mercaptoethanol  
CAS No: 60-24-2  
Formula:  $C_2H_6OS$   
Molecular Weight: 78.13 g/mol  
EC No.: 200-464-6

Ingredient	CAS Number	Percent	Hazardous
2-Mercapthoethanol	60-24-2	~100%	Workplace Environmental Exposure Levels – TWA: 0.2 ppm

### 4. FIRST AID MEASURES

General Advice: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

Route of Entry	Symptoms	First Aid Procedures
Ingestion	May cause irritation if swallowed	If swallowed, wash out mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. <b>Get medical attention.</b>
Inhalation	May cause irritation to respiratory tract	Safely remove victim to fresh air. If not breathing, institute cardiopulmonary resuscitation (CPR). If breathing is difficult, ensure clear airway and give oxygen. <b>Get medical attention.</b>
Eye Contact	Direct contact may cause irritation. May cause redness, tearing, or blurred vision.	Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. <b>Get medical attention if irritation persists.</b>
Skin Contact	Irritating. May cause reddening, itching or inflammation.	Wash area thoroughly with soap and water. Remove and wash contaminated clothing. <b>Get medical attention if irritation persists.</b>

Most Important Symptoms or Effects, Both Acute and Delayed:

See section 2 and/or section 11

Recommendation for Immediate Medical Care and Special Treatment Needed:

No data available

### 5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media:	Water spray, carbon dioxide, dry chemical powder, or appropriate foam. Use extinguishing media suitable for surrounding fire.
Special Protective Equipment and Precaution for Firefighters:	In the event of a fire, wear full protective clothing and NIOSH approved self-contained breathing apparatus. Evacuate the area and fight fire from a safe distance.
Hazardous Combustion Products:	No data available

### 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures:

Use personal protection recommended in Section 8. Avoid breathing vapors, mist or gas. Remove all sources of ignition. Ensure adequate ventilation, especially in confined areas. Remove from source of ignition Evacuate personnel to safe areas. Beware of vapor accumulating to form explosive concentrations.

Environmental Precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Method of Containment and Cleanup: Wear suitable protective clothing. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulation. Contact local regulation for disposal. Do not let products enter drains.

## 7. HANDLING AND STORAGE

Precaution for Safe Handling: Avoid contact with skin and eyes. Avoid breathing vapors or mist. Avoid incompatible substances. Keep away from sources of ignition. Wash thoroughly after use.

Conditions for Safe Storage: Keep in a tightly closed container and store in a cool, dry, and well-ventilated area.

Incompatibilities: Strong oxidizing agents and metals

Recommended Storage Temperature: Room Temperature

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OSHA's Permissible Exposure Limits (PELs): No data available

Threshold Limit Values (TLVs): No data available

Engineering Controls: Handle in accordance to general industrial hygiene and safety practice.

Personal Protective Equipment (PPE):

Eye/Face Protection: Chemical safety glasses or goggles. Have eye-washing facilities readily available where eye contact can occur.

Skin Protection: Protective gloves

Body Protection: Lab coat

Respiratory Protection: A NIOSH/MSHA approved air purifying respirator.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Colorless liquid

pH: No data available

Solubility: Miscible with water

Melting Point:  $< -49.99\text{ }^{\circ}\text{C}$  ( $< -57.98\text{ }^{\circ}\text{F}$ )

Vapor Density: 2.70 - (Air = 1.0)

Vapor Pressure: 0.76 hPa (0.57 mmHg) at  $20\text{ }^{\circ}\text{C}$  ( $68\text{ }^{\circ}\text{F}$ )  
4.67 hPa (3.50 mmHg) at  $40\text{ }^{\circ}\text{C}$  ( $104\text{ }^{\circ}\text{F}$ )

Specific Gravity: No data available

Odor: Pungent/Stench odor

Odor Threshold: No data available

Viscosity: No data available

Relative Density:  $1.114\text{ g/cm}^3$  at  $25\text{ }^{\circ}\text{C}$  ( $77\text{ }^{\circ}\text{F}$ )

Evaporation Rate: No data available

Initial Boiling Point and Boiling Range:  $157\text{ }^{\circ}\text{C}$  ( $315\text{ }^{\circ}\text{F}$ )

Flammability (solid, gas): No data available

Partition coefficient:  
n-octanol/water): log Pow: -0.326 log Pow: -0.056 at  $25\text{ }^{\circ}\text{C}$  ( $77\text{ }^{\circ}\text{F}$ )

Auto-ignition Temperature: No data available

Decomposition Temperature: No data available

Flash Point (Closed Cup):  $68\text{ }^{\circ}\text{C}$  ( $154\text{ }^{\circ}\text{F}$ )

Flammable Limits: Upper (%) – 18% (V) Lower (%) – 2.3% (V)

## 10. STABILITY AND REACTIVITY

Reactivity:	No data available
Chemical Stability:	Stable under normal conditions of use
Possibility of Hazard Reactions:	Will not occur
Conditions to Avoid:	Heat, flames and sparks
Incompatibles Materials:	Strong oxidizing agents and metals
Hazardous Decomposition Products:	Carbon oxides, sulphur oxides

## 11. TOXICOLOGICAL INFORMATION

Toxicity:	LD <sub>50</sub> (Oral-Rat)(mg/Kg)	162
	LD <sub>50</sub> (IPR-Mouse)(mg/Kg)	2 mg/L – 4 hr
	LD <sub>50</sub> (Dermal-Rat)(mg/Kg)	112
Carcinogenicity:	NTP:	No
	IARC:	No
	OSHA Reg:	No
Reproductive Toxicity:	No data available	
Specific Target Organ Toxicity:	Single Exposure:	No data available
	Repeated Exposure:	No data available
Target Organs:	No data available	
Routes of Entry:	Inhalation, Ingestion	
NIOSH/RTECS NO:	KL5600000	

***The toxicological properties of this product have not been thoroughly investigated***

## 12. ECOLOGICAL INFORMATION

Ecotoxicity:	Toxicity to fish – LC50 – golden orfe – 100 mg/L – 96 hr
Persistence and Degradability:	No data available
Bioaccumulative Potential:	No data available
Mobility in Soil:	No data available
Other Adverse Effects:	No data available

## 13. DISPOSAL CONSIDERATION

Disposal Procedure:	Dispose in accordance with all applicable federal, state, and local environmental regulations.
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## 14. TRANSPORT INFORMATION

Domestic (D.O.T.):	Proper Shipping Name:	Thioglycol
	Hazard Class:	6.1
	Reportable Quantity:	N/A
	UN/NA:	2966
	Labels:	N/A
International:		
IMDG:	Proper Shipping Name:	Thioglycol

Hazard Class: 6.1

UN/NA: 2966

Labels: N/A

IATA: Proper Shipping Name: Thioglycol

Hazard Class: 6.1

UN/NA: 2966

Labels: N/A

## 15. REGULATORY INFORMATION

**TSCA:** Yes

### SARA TITLE III:

Section 302 (EHS) Ingredients: No

Section 313 Ingredients: No

Section 304 (EHS/CERCLA) Ingredients: No

Section 311/312 Hazard: Acute Health Hazard, Chronic Health Hazard

**Massachusetts Right to Know Components:** CAS No.: 60-24-2 2-Mercaptoethanol

**Pennsylvania Right to Know Components:** CAS No.: 60-24-2 2-Mercaptoethanol

**New Jersey Right to Know Components:** CAS No.: 60-24-2 2-Mercaptoethanol

**California Prop. 65 Components:** This product is not known to the State of California to cause cancer or reproductive toxicity.

## 16. OTHER INFORMATION

HMIS Rating:

Health Hazard	Flammability	Physical Hazard	Personal Protection
4	0	2	B
Health Hazard	Fire Hazard	Instability	Special Hazard
3	2	0	

NFPA Rating:

PhytoTech Labs Inc. provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. The above information is intended to be used only as a guide to the appropriate precautionary handling of this material by a properly trained person. PhytoTech Labs Inc. shall not be held liable for any damage resulting from handling or from contact with the above product. This product is intended for **LABORATORY USE ONLY**. Our products may **NOT BE USED** as drugs, cosmetics, agricultural or pesticidal products, food additives or as household chemicals.

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