

*Hazardous according to criteria of Australian Safety and Compensation Council*

## 1 Identification

- **Product identifier**
- **Trade name:** 2-Mercaptoethanol
- **Article number:** 806443, 806444, 806445
- **CAS Number:**  
60-24-2
- **EC number:**  
200-464-6
- **Relevant identified uses of the substance or mixture and uses advised against**  
*No further relevant information available.*
- **Application of the substance / the mixture** *Research use only.*
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
MP Biomedicals Australia Pty Limited  
2/29 Bearing Road  
Seven Hills, NSW 2147 Aust.  
Telephone Number: (02) 9838 7422  
Fax Number: (02) 9838 7390  
[www.mpbio.com](http://www.mpbio.com)  
MP Biomedicals Australia Pty Limited  
2/29 Bearing Road  
Seven Hills, NSW 2147 Aust.  
Telephone Number: (02) 9838 7422  
Fax Number: (02) 9838 7390  
[www.mpbio.com](http://www.mpbio.com)
- **Further information obtainable from:** *Quality Control Department*
- **Emergency telephone number:** *CHEMTREC: 1-800-424-9300 (1-703-527-3887)*

## 2 Hazard Identification

- **Classification of the substance or mixture**



GHS06 skull and crossbones

*Acute Tox. 3 H301 Toxic if swallowed.*

*Acute Tox. 2 H310 Fatal in contact with skin.*

*Acute Tox. 3 H331 Toxic if inhaled.*



GHS08 health hazard

*STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.*



GHS05 corrosion

*Eye Dam. 1 H318 Causes serious eye damage.*

(Contd. on page 2)

## Safety data sheet according to WHS Regulations

Printing date 07.09.2016

Revision: 07.09.2016

**Trade name: 2-Mercaptoethanol**

(Contd. of page 1)



GHS07

*Skin Irrit. 2 H315 Causes skin irritation.**Skin Sens. 1 H317 May cause an allergic skin reaction.**Flam. Liq. 4 H227 Combustible liquid.*· **Label elements**· **GHS label elements***The substance is classified and labelled according to the Globally Harmonised System (GHS).*· **Hazard pictograms**

GHS05

GHS06

GHS07

GHS08

· **Signal word** *Danger*· **Hazard-determining components of labelling:***2-mercaptoethanol*· **Hazard statements***Combustible liquid.**Toxic if swallowed or if inhaled.**Fatal in contact with skin.**Causes skin irritation.**Causes serious eye damage.**May cause an allergic skin reaction.**May cause damage to organs through prolonged or repeated exposure.*· **Precautionary statements***Wear protective gloves / eye protection / face protection.**Keep away from flames and hot surfaces. – No smoking.**Do not breathe dust/fume/gas/mist/vapours/spray.**Wear protective gloves / protective clothing.**Do not get in eyes, on skin, or on clothing.**Wash thoroughly after handling.**Do not eat, drink or smoke when using this product.**Use only outdoors or in a well-ventilated area.**Contaminated work clothing should not be allowed out of the workplace.**IF SWALLOWED: Immediately call a POISON CENTER/ doctor.**IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.**Continue rinsing.**Specific treatment (see on this label).**Call a POISON CENTER/doctor.**IF INHALED: Remove person to fresh air and keep comfortable for breathing.**If skin irritation or rash occurs: Get medical advice/attention.**Get medical advice/attention if you feel unwell.**Rinse mouth.**In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.**IF ON SKIN: Wash with plenty of water.**Take off immediately all contaminated clothing and wash it before reuse.**Store locked up.**Store in a well-ventilated place. Keep container tightly closed.*

(Contd. on page 3)

## Safety data sheet according to WHS Regulations

Printing date 07.09.2016

Revision: 07.09.2016

**Trade name: 2-Mercaptoethanol**

(Contd. of page 2)

- Store in a well-ventilated place. Keep cool.
- Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

### 3 Composition and information on ingredients

- **Chemical characterisation: Substances**
- **CAS No. Description**  
60-24-2 2-mercaptoethanol
- **Identification number(s)**
- **EC number:** 200-464-6

### 4 First Aid Measures

- **Description of first aid measures**
- **General information:**  
Immediately remove any clothing soiled by the product.  
Remove breathing equipment only after contaminated clothing have been completely removed.  
In case of irregular breathing or respiratory arrest provide artificial respiration.
- **After inhalation:**  
Supply fresh air or oxygen; call for doctor.  
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** Do not induce vomiting; call for medical help immediately.
- **Information for doctor:**  
· **Most important symptoms and effects, both acute and delayed** No further relevant information available.  
· **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire Fighting Measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture**  
During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Mount respiratory protective device.  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.

(Contd. on page 4)

## Safety data sheet according to WHS Regulations

Printing date 07.09.2016

Revision: 07.09.2016

**Trade name: 2-Mercaptoethanol**

(Contd. of page 3)

- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Use neutralising agent.  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Open and handle receptacle with care.  
Prevent formation of aerosols.
- **Information about fire - and explosion protection:**  
Keep ignition sources away - Do not smoke.  
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:** 15-30 °C
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Further information about storage conditions:** Keep container tightly sealed.
- **Specific end use(s)** No further relevant information available.

### 8 Exposure controls and personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists valid during the making were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing  
Wash hands before breaks and at the end of work.  
Store protective clothing separately.  
Avoid contact with the skin.  
Avoid contact with the eyes and skin.
- **Respiratory protection:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**



Protective gloves

(Contd. on page 5)

## Safety data sheet according to WHS Regulations

Printing date 07.09.2016

Revision: 07.09.2016

**Trade name: 2-Mercaptoethanol**

(Contd. of page 4)

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**



Tightly sealed goggles

### 9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

<b>Form:</b>	Liquid
<b>Colour:</b>	Colourless
<b>Odour:</b>	Indeterminate
<b>Odour threshold:</b>	Not determined.

- **pH-value at 20 °C:** 4.5 - 6

- **Change in condition**

<b>Melting point/Melting range:</b>	-50 °C
<b>Boiling point/Boiling range:</b>	157 °C

- **Flash point:** 68 °C

- **Flammability (solid, gaseous):** Not applicable.

- **Ignition temperature:** 295 °C

- **Decomposition temperature:** Not determined.

- **Self-igniting:** Not determined.

- **Danger of explosion:** Not determined.

- **Explosion limits:**

<b>Lower:</b>	18 Vol %
<b>Upper:</b>	2.3 Vol %

- **Vapour pressure at 20 °C:** 0.76 hPa

<b>Density at 20 °C:</b>	1.114 g/cm <sup>3</sup>
<b>Relative density</b>	Not determined.
<b>Vapour density</b>	Not determined.
<b>Evaporation rate</b>	Not determined.

- **Solubility in / Miscibility with water:** -  
Soluble.

(Contd. on page 6)

## Safety data sheet according to WHS Regulations

Printing date 07.09.2016

Revision: 07.09.2016

Trade name: 2-Mercaptoethanol

(Contd. of page 5)

- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
  - Dynamic:** Not determined.
  - Kinematic:** Not determined.
- **Solvent content:**
  - Organic solvents:** 0.0 %
  - VOC (EC)** 0.00 %
- **Other information** No further relevant information available.

### 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

### 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity**

- **LD/LC50 values relevant for classification:**

#### 60-24-2 2-mercaptoethanol

Oral	LD50	190 mg/kg (mouse) 162 mg/kg (rat)
Dermal	LD50	112 mg/kg (rabbit)
Inhalative	LC50/4 h	13200 mg/L (mouse) 2 mg/L (rat)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Irritant to skin and mucous membranes.
- **Serious eye damage/irritation** Strong irritant with the danger of severe eye injury.
- **Respiratory or skin sensitisation** Sensitisation possible through skin contact.

### 12 Ecological information

- **Toxicity**

- **Aquatic toxicity:**

#### 60-24-2 2-mercaptoethanol

Oral	LC50 / 96 h	46 - 100 mg/L (Leuciscus idus)
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- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.

(Contd. on page 7)

## Safety data sheet according to WHS Regulations

Printing date 07.09.2016

Revision: 07.09.2016

Trade name: 2-Mercaptoethanol




(Contd. of page 6)

- **Additional ecological information:**
- **General notes:**  
*Water hazard class 3 (German Regulation) (Assessment by list): extremely hazardous for water  
 Do not allow product to reach ground water, water course or sewage system, even in small quantities.  
 Must not reach sewage water or drainage ditch undiluted or unneutralised.  
 Danger to drinking water if even extremely small quantities leak into the ground.*
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**  
*Must not be disposed together with household garbage. Do not allow product to reach sewage system.*
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

### 14 Transport information

<ul style="list-style-type: none"> <li>· <b>UN-Number</b></li> <li>· <b>ADG, IMDG, IATA</b></li> </ul>	UN2966
<ul style="list-style-type: none"> <li>· <b>UN proper shipping name</b></li> <li>· <b>ADG</b></li> <li>· <b>IMDG, IATA</b></li> </ul>	2966 THIOGLYCOL, ENVIRONMENTALLY HAZARDOUS THIOGLYCOL
<ul style="list-style-type: none"> <li>· <b>Transport hazard class(es)</b></li> <li>· <b>ADG</b></li> </ul>	<div style="display: flex; align-items: center; gap: 10px;">   </div>
<ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>	6.1 Toxic substances. 6.1
<ul style="list-style-type: none"> <li>· <b>IMDG, IATA</b></li> </ul>	<div style="display: flex; align-items: center; gap: 10px;">  </div>
<ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>	6.1 Toxic substances. 6.1
<ul style="list-style-type: none"> <li>· <b>Packing group</b></li> <li>· <b>ADG, IMDG, IATA</b></li> </ul>	II
<ul style="list-style-type: none"> <li>· <b>Environmental hazards:</b></li> <li>· <b>Marine pollutant:</b></li> </ul>	No

(Contd. on page 8)

## Safety data sheet according to WHS Regulations

Printing date 07.09.2016

Revision: 07.09.2016

Trade name: 2-Mercaptoethanol

(Contd. of page 7)

· <b>Special marking (ADG):</b>	Symbol (fish and tree)
· <b>Special precautions for user</b>	Warning: Toxic substances.
· <b>Danger code (Kemler):</b>	60
· <b>EMS Number:</b>	F-A,S-A
· <b>Stowage Category</b>	A
· <b>Transport in bulk according to Annex II of Marpol and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
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· <b>ADG</b>	
· <b>Limited quantities (LQ)</b>	100 ml
· <b>Excepted quantities (EQ)</b>	Code: E4
	Maximum net quantity per inner packaging: 1 ml
	Maximum net quantity per outer packaging: 500 ml
· <b>Transport category</b>	2
· <b>Tunnel restriction code</b>	D/E
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· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	100 ml
· <b>Excepted quantities (EQ)</b>	Code: E4
	Maximum net quantity per inner packaging: 1 ml
	Maximum net quantity per outer packaging: 500 ml
· <b>UN "Model Regulation":</b>	UN 2966 THIOGLYCOL, 6.1, II, ENVIRONMENTALLY HAZARDOUS

### 15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **Australian Inventory of Chemical Substances**

Substance is listed.

· **Standard for the Uniform Scheduling of Medicines and Poisons**

60-24-2 | 2-mercaptoethanol

S6

· **GHS label elements**

The substance is classified and labelled according to the Globally Harmonised System (GHS).

· **Hazard pictograms**



GHS05   GHS06   GHS07   GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**

2-mercaptoethanol

· **Hazard statements**

Combustible liquid.

Toxic if swallowed or if inhaled.

Fatal in contact with skin.

Causes skin irritation.

Causes serious eye damage.

(Contd. on page 9)



## Safety data sheet according to WHS Regulations

Printing date 07.09.2016

Revision: 07.09.2016

**Trade name: 2-Mercaptoethanol**

(Contd. of page 8)

*May cause an allergic skin reaction.**May cause damage to organs through prolonged or repeated exposure.***· Precautionary statements***Wear protective gloves / eye protection / face protection.**Keep away from flames and hot surfaces. – No smoking.**Do not breathe dust/fume/gas/mist/vapours/spray.**Wear protective gloves / protective clothing.**Do not get in eyes, on skin, or on clothing.**Wash thoroughly after handling.**Do not eat, drink or smoke when using this product.**Use only outdoors or in a well-ventilated area.**Contaminated work clothing should not be allowed out of the workplace.**IF SWALLOWED: Immediately call a POISON CENTER/ doctor.**IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.**Continue rinsing.**Specific treatment (see on this label).**Call a POISON CENTER/doctor.**IF INHALED: Remove person to fresh air and keep comfortable for breathing.**If skin irritation or rash occurs: Get medical advice/attention.**Get medical advice/attention if you feel unwell.**Rinse mouth.**In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.**IF ON SKIN: Wash with plenty of water.**Take off immediately all contaminated clothing and wash it before reuse.**Store locked up.**Store in a well-ventilated place. Keep container tightly closed.**Store in a well-ventilated place. Keep cool.**Dispose of contents/container in accordance with local/regional/national/international regulations.***· Directive 2012/18/EU****· Named dangerous substances - ANNEX I Substance is not listed.****· Seveso category****H2 ACUTE TOXIC****E1 Hazardous to the Aquatic Environment****· Qualifying quantity (tonnes) for the application of lower-tier requirements 50 t****· Qualifying quantity (tonnes) for the application of upper-tier requirements 200 t****· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.****16 Other information**

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

**· Department issuing SDS: Quality Control Dept.****· Abbreviations and acronyms:***ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)**IMDG: International Maritime Code for Dangerous Goods**IATA: International Air Transport Association**EINECS: European Inventory of Existing Commercial Chemical Substances**CAS: Chemical Abstracts Service (division of the American Chemical Society)**VOC: Volatile Organic Compounds (USA, EU)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**Flam. Liq. 4: Flammable liquids – Category 4*

(Contd. on page 10)

**Safety data sheet**  
**according to WHS Regulations**

Printing date 07.09.2016

Revision: 07.09.2016

**Trade name: 2-Mercaptoethanol**

(Contd. of page 9)

*Acute Tox. 3: Acute toxicity – Category 3**Acute Tox. 2: Acute toxicity – Category 2**Skin Irrit. 2: Skin corrosion/irritation – Category 2**Eye Dam. 1: Serious eye damage/eye irritation – Category 1**Skin Sens. 1: Skin sensitisation – Category 1**STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2*

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