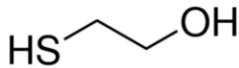


### MATERIAL SAFETY DATA SHEET (MSDS)

#### SECTION 1: Identification of the substance/mixture and of the company/undertaking

##### 1.1. Product identifier

Product form	: Substance
	:
CAS No	: 60-24-2
Product code	: 04566
Chemical structure	:
	
Synonyms	: Thioethylene glycol / 2-Hydroxyethylmercaptan / BME / β-Mercaptoethano

##### 1.2. Relevant identified uses of the substance or mixture and uses advised against

###### 1.2.1. Relevant identified uses

Use of the substance/mixture : Laboratory chemicals, Manufacture of substances

###### 1.2.2. Uses advised against

No additional information available

##### 1.3. Details of the supplier of the safety data sheet

SPAN LAB  
UNIT NO. 14, SKY INDUSTRIAL ESTATE, WALIV, VASAI (E)  
401208 Mumbai - INDIA  
PH: +91 9820509929  
[info@spanlab.in](mailto:info@spanlab.in) [www.spanlab.in](http://www.spanlab.in)

#### SECTION 2: Hazards identification

##### 2.1. Classification of the substance or mixture

###### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute toxicity (oral), Category 3	H301
Acute toxicity (dermal), Category 1	H310
Acute toxicity (inhalation:vapour), Category 1	H330
Skin corrosion/irritation, Category 2	H315
Serious eye damage/eye irritation, Category 1	H318
Sensitisation — Skin, category 1	H317
Hazardous to the aquatic environment — Chronic	H410

# 2-MERCAPTOETHANOL AR/MOLECULAR BIOLOGY

## Safety Data Sheet

Hazard, Category 1

Full text of classification categories and H statements : see section 16

### Classification according to Directive 67/548/EEC or 1999/45/EC

T; R23/24/25

Xi; R41

Xi; R38

R43

N; R50/53

Full text of R-phrases: see section 16

### Adverse physicochemical, human health and environmental effects

No additional information available

## 2.2. Label elements

### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS05

GHS06

GHS09

Signal word (CLP) : Danger

Hazard statements (CLP) : H301 - Toxic if swallowed  
H310+H330 - Fatal in contact with skin or if inhaled  
H315 - Causes skin irritation  
H317 - May cause an allergic skin reaction  
H318 - Causes serious eye damage  
H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements (CLP) : P260 - Do not breathe dust/fume/gas/mist/vapours/spray  
P273 - Avoid release to the environment  
P280 - Wear protective gloves/protective clothing/eye protection/face protection  
P284 - [In case of inadequate ventilation] wear respiratory protection  
P301+P310 - IF SWALLOWED: immediately call a POISON CENTER or doctor/physician  
P302+P352 - IF ON SKIN: Wash with plenty of soap and water

## 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Name : 2-MERCAPTOETHANOL AR/MOLECULAR BIOLOGY

CAS No : 60-24-2

# 2-MERCAPTOETHANOL AR/MOLECULAR BIOLOGY

## Safety Data Sheet

Full text of R- and H-phrases: see section 16

### 3.2. Mixture

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Give oxygen or artificial respiration if necessary. If you feel unwell, seek medical advice.
First-aid measures after skin contact	: If skin irritation occurs: Get medical advice/attention. Gently wash with plenty of soap and water. Remove/Take off immediately all contaminated clothing.
First-aid measures after eye contact	: Remove contact lenses, if present and easy to do. Continue rinsing. Rinse cautiously with water for several minutes. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Rinse mouth out with water. If you feel unwell, seek medical advice.

### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation	: May cause an allergic skin reaction.
Symptoms/injuries after skin contact	: Repeated exposure to this material can result in absorption through skin causing significant health hazard. Toxic in contact with skin. Causes skin irritation.
Symptoms/injuries after eye contact	: Causes serious eye damage.
Symptoms/injuries after ingestion	: Toxic if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	: dry chemical powder, alcohol-resistant foam, carbon dioxide (CO <sub>2</sub> ).
Unsuitable extinguishing media	: Do not use a heavy water stream.

### 5.2. Special hazards arising from the substance or mixture

No additional information available

### 5.3. Advice for firefighters

Protection during firefighting	: Do not attempt to take action without suitable protective equipment.
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## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

Emergency procedures	: Evacuate unnecessary personnel.
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#### 6.1.2. For emergency responders

Protective equipment	: Use personal protective equipment as required.
Emergency procedures	: Stop release.

### 6.2. Environmental precautions

Very toxic to aquatic life with long lasting effects.

### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up	: Collect spillage. On land, sweep or shovel into suitable containers. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible.
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# 2-MERCAPTOETHANOL AR/MOLECULAR BIOLOGY

## Safety Data Sheet

### 6.4. Reference to other sections

No additional information available

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Avoid breathing dust/fume/gas/mist/vapours/spray.  
Hygiene measures : Do not eat, drink or smoke when using this product. Wash ... thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in original container. Keep container tightly closed. Store in a dry place.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

No additional information available

### 8.2. Exposure controls

Hand protection : protective gloves  
Eye protection : Chemical goggles or safety glasses  
Skin and body protection : Wear suitable protective clothing  
Respiratory protection : Wear appropriate mask

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state : Liquid  
Molecular mass : 78.13 g/mol  
Colour : Pale pinkish colour.  
Odour : disagreeable odor.  
Odour threshold : No data available  
pH : 4.5 - 6 at 500 g/l at 20 °C  
Relative evaporation rate (butylacetate=1) : No data available  
Melting point : < -50 °C  
Freezing point : No data available  
Boiling point : 157 °C  
Flash point : 68 °C  
Auto-ignition temperature : 295 °C

# 2-MERCAPTOETHANOL AR/MOLECULAR BIOLOGY

## Safety Data Sheet

Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: 0.76 hPa at 20 °C
Relative vapour density at 20 °C	: 2.7
Relative density	: No data available
Density	: 1.114 g/cm <sup>3</sup>
Solubility	: Water: Soluble in water
Log Pow	: 0.056
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: 0.023 - 0.18 vol %

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

Direct sunlight. Overheating. Open flame. Heat. Sparks.

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

No additional information available

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity	: Oral: Toxic if swallowed. Dermal: Fatal in contact with skin. Inhalation:vapour: Fatal if inhaled.
Skin corrosion/irritation	: Causes skin irritation. pH: 4.5 - 6 at 500 g/l at 20 °C
Serious eye damage/irritation	: Causes serious eye damage. pH: 4.5 - 6 at 500 g/l at 20 °C
Respiratory or skin sensitisation	: May cause an allergic skin reaction.

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## Safety Data Sheet

Germ cell mutagenicity : Not classified  
Carcinogenicity : Not classified

Reproductive toxicity : Not classified  
Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

Potential adverse human health effects and symptoms : Toxic if swallowed. Toxic in contact with skin.

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - water : Very toxic to aquatic life with long lasting effects.

#### 12.2. Persistence and degradability

##### 2-MERCAPTOETHANOL AR/MOLECULAR BIOLOGY (60-24-2)

Persistence and degradability	May cause long-term adverse effects in the environment.
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#### 12.3. Bioaccumulative potential

##### 2-MERCAPTOETHANOL AR/MOLECULAR BIOLOGY (60-24-2)

Log Pow	0.056
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#### 12.4. Mobility in soil

No additional information available

#### 12.5. Results of PBT and vPvB assessment

No additional information available

#### 12.6. Other adverse effects

No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose of contents/container to ...  
Ecology - waste materials : Hazardous waste due to toxicity.

# 2-MERCAPTOETHANOL AR/MOLECULAR BIOLOGY

## Safety Data Sheet

### SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

#### 14.1. UN number

UN-No. (ADR)	: 2966
UN-No. (IMDG)	: 2966
UN-No.(IATA)	: 2966
UN-No.(ADN)	: 2966
UN-No. (RID)	: 2966

#### 14.2. UN proper shipping name

Proper Shipping Name (ADR)	: THIOGLYCOL
Proper Shipping Name (IMDG)	: THIOGLYCOL
Proper Shipping Name (IATA)	: THIOGLYCOL
Proper Shipping Name (ADN)	: THIOGLYCOL
Proper Shipping Name (RID)	: THIOGLYCOL
Transport document description (ADR)	: UN 2966 THIOGLYCOL, 6.1, II, (D/E), ENVIRONMENTALLY HAZARDOUS
Transport document description (IMDG)	: UN 2966 THIOGLYCOL, 6.1, II, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS
Transport document description (IATA)	: UN 2966 THIOGLYCOL, 6.1, II, ENVIRONMENTALLY HAZARDOUS
Transport document description (ADN)	: UN 2966 THIOGLYCOL, 6.1, II, ENVIRONMENTALLY HAZARDOUS
Transport document description (RID)	: UN 2966 THIOGLYCOL, 6.1, II, ENVIRONMENTALLY HAZARDOUS

#### 14.3. Transport hazard class(es)

##### ADR

Transport hazard class(es) (ADR)	: 6.1
Danger labels (ADR)	: 6.1



##### IMDG

Transport hazard class(es) (IMDG)	: 6.1
Danger labels (IMDG)	: 6.1



##### IATA

Transport hazard class(es) (IATA)	: 6.1
Hazard labels (IATA)	: 6.1



##### ADN

# 2-MERCAPTOETHANOL AR/MOLECULAR BIOLOGY

## Safety Data Sheet

Transport hazard class(es) (ADN) : 6.1  
Danger labels (ADN) : 6.1



### RID

Transport hazard class(es) (RID) : 6.1  
Danger labels (RID) : 6.1



### 14.4. Packing group

Packing group (ADR) : II  
Packing group (IMDG) : II  
Packing group (IATA) : II  
Packing group (ADN) : II  
Packing group (RID) : II

### 14.5. Environmental hazards

Dangerous for the environment : Yes  
Marine pollutant : Yes  
Other information : No supplementary information available

### 14.6. Special precautions for user

#### - Overland transport

Classification code (ADR) : T1  
Limited quantities (ADR) : 100ml  
Excepted quantities (ADR) : E4  
Packing instructions (ADR) : P001, IBC02  
Mixed packing provisions (ADR) : MP15  
Portable tank and bulk container instructions (ADR) : T7  
Portable tank and bulk container special provisions (ADR) : TP2  
Tank code (ADR) : L4BH  
Tank special provisions (ADR) : TU15, TE19  
Vehicle for tank carriage : AT  
Transport category (ADR) : 2  
Special provisions for carriage - Loading, unloading and handling (ADR) : CV13, CV28  
Special provisions for carriage - Operation (ADR) : S9, S19  
Hazard identification number (Kemler No.) : 60  
Orange plates :





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## Safety Data Sheet

Tunnel restriction code (ADR) : D/E  
EAC code : 2X

### - Transport by sea

Limited quantities (IMDG) : 100 ml  
Excepted quantities (IMDG) : E4  
Packing instructions (IMDG) : P001  
IBC packing instructions (IMDG) : IBC02  
Tank instructions (IMDG) : T7  
Tank special provisions (IMDG) : TP2  
EmS-No. (Fire) : F-A  
EmS-No. (Spillage) : S-A  
Stowage category (IMDG) : A  
MFAG-No : 153

### - Air transport

PCA Excepted quantities (IATA) : E4  
PCA Limited quantities (IATA) : Y641  
PCA limited quantity max net quantity (IATA) : 1L  
PCA packing instructions (IATA) : 654  
PCA max net quantity (IATA) : 5L  
CAO packing instructions (IATA) : 662  
CAO max net quantity (IATA) : 60L  
ERG code (IATA) : 6L

### - Inland waterway transport

Classification code (ADN) : T1  
Special provisions (ADN) : 802  
Limited quantities (ADN) : 100 ml  
Excepted quantities (ADN) : E4  
Carriage permitted (ADN) : T  
Equipment required (ADN) : PP, EP, TOX, A  
Ventilation (ADN) : VE02  
Number of blue cones/lights (ADN) : 2

### - Rail transport

Classification code (RID) : T1  
Limited quantities (RID) : 100ml  
Excepted quantities (RID) : E4  
Packing instructions (RID) : P001, IBC02  
Mixed packing provisions (RID) : MP15  
Portable tank and bulk container instructions (RID) : T7  
Portable tank and bulk container special provisions (RID) : TP2  
Tank codes for RID tanks (RID) : L4BH  
Special provisions for RID tanks (RID) : TU15  
Transport category (RID) : 2  
Special provisions for carriage – Loading and unloading (RID) : CW13, CW28, CW31  
Colis express (express parcels) (RID) : CE5  
Hazard identification number (RID) : 60

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

# 2-MERCAPTOETHANOL AR/MOLECULAR BIOLOGY

## Safety Data Sheet

### SECTION 15: Regulatory information

#### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

##### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

2-MERCAPTOETHANOL AR/MOLECULAR BIOLOGY is not on the REACH Candidate List

2-MERCAPTOETHANOL AR/MOLECULAR BIOLOGY is not on the REACH Annex XIV List

##### 15.1.2. National regulations

###### Germany

AwSV/VwVwS Annex reference : Water hazard class (WGK) 3, strongly hazardous to water (Classification according to VwVwS, Annex 2; WGK No 884)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

###### Denmark

Class for fire hazard : Class III-1

Store unit : 50 liter

Classification remarks : Flammable according to the Danish Ministry of Justice; Emergency management guidelines for the storage of flammable liquids must be followed

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product  
Pregnant/breastfeeding women working with the product must not be in direct contact with the product

#### 15.2. Chemical safety assessment

No additional information available

### SECTION 16: Other information

Full text of R-, H- and EUH-phrases:

Acute Tox. 1 (Dermal)	Acute toxicity (dermal), Category 1
Acute Tox. 1 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) Category 1
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Sensitisation — Skin, category 1
H301	Toxic if swallowed
H310	Fatal in contact with skin

# 2-MERCAPTOETHANOL AR/MOLECULAR BIOLOGY

## Safety Data Sheet

H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H330	Fatal if inhaled
H410	Very toxic to aquatic life with long lasting effects
R23/24/25	Toxic by inhalation, in contact with skin and if swallowed
R38	Irritating to skin
R41	Risk of serious damage to eyes
R43	May cause sensitisation by skin contact
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
N	Dangerous for the environment
T	Toxic
Xi	Irritant

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*