

# SAFETY DATA SHEET

## BIS-(CHLOROMETHYL) ETHER

### 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY

**Product name** BIS-(CHLOROMETHYL) ETHER  
**In-house No.** 1480  
**Supplier** AB GÖTEBORGS TERMOMETERFABRIK  
Södra Långebergsgatan 30  
SE-421 32 Västra Frölunda  
Tel: 031-680490  
Fax: 031-680717

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Name	EC No.	CAS No.	Content	Symbol	R-phrases
BIS-(CHLOROMETHYL) ETHER	208-832-8	542-88-1	97 %	-	

See section 16 for explanations to R-phrases

**EU index No.** 603-046-00-5  
**EC No.** 208-832-8  
**Gross formula** C<sub>2</sub>H<sub>4</sub>Cl<sub>2</sub>O  
**CAS No.** 542-88-1

### 3. HAZARDS IDENTIFICATION

EYE CONTACT: can irritate the eyes. SKIN CONTACT: Harmful in contact with skin.  
INGESTION: harmful if swallowed. INHALATION: Can cause lethal poisoning. May cause cancer. Flammable.

### 4. FIRST AID MEASURES

**Inhalation** Move the exposed person to fresh air at once. Perform artificial respiration if breathing has stopped. Keep the affected person warm and at rest. Get prompt medical attention.

**Ingestion** NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK FLUIDS! Promptly get affected personnel to drink large volumes of water to dilute the swallowed chemical. After the liquid has been swallowed, try to induce vomiting by having affected person touch back of his throat with his finger. Get medical attention immediately! When unconscious, loosen tight clothing and position in secured recovery position . NOTE! Effects may be delayed. Keep affected person under observation. NOTE! Keep affected person away from heat, sparks and flames!

**Skin** Remove affected person from source of contamination. Promptly wash contaminated skin with soap or mild detergent and water. Promptly remove clothing if soaked through and wash as above. Get medical attention promptly if symptoms occur after washing.

**Eyes** Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes and get medical attention.

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## 5. FIRE FIGHTING MEASURES

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<b>Extinguishing media</b>	Water spray, fog or mist. Powder, foam or CO <sub>2</sub> .
<b>Special fire fighting procedures</b>	Use water to keep fire-exposed containers cool and disperse vapours. Move container from fire area if it can be done without risk.
<b>Specific hazards</b>	May develop highly toxic or corrosive fumes if heated. Toxic, irritating or flammable fumes from reaction with water or steam. May form explosive or toxic mixtures with air. May travel considerable distance to source of ignition and flash back.

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## 6. ACCIDENTAL RELEASE MEASURES

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<b>Spill cleanup methods</b>	Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Clean-up personnel should use respiratory and/or liquid contact protection. Collect with absorbent, non-combustible material into suitable containers. Flush area with water.
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## 7. HANDLING AND STORAGE

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<b>Usage precautions</b>	AVOID ALL CONTACT! Do not handle broken packages without protective equipment.
<b>Storage precautions</b>	Flammable/combustible - Keep away from oxidisers, heat and flames. Keep in cool, dry, ventilated storage and closed containers. Keep away from heat, sparks and open flame.
<b>Storage criteria</b>	Toxic storage.

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## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

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<b>Ventilation</b>	Work in a glove box.
<b>Respirators</b>	Gas cartridge (organic substances). Check that mask fits tight and change filter regularly. Suitable respiratory protection must be used at high concentrations.
<b>Protective gloves</b>	Use protective gloves made of: Multi-layer material (eg 4H, Saranex).
<b>Eye protection</b>	Use approved safety goggles or face shield.
<b>Other Protection</b>	AVOID ALL SKIN AND RESPIRATORY CONTACT!
<b>Hygienic work practices</b>	Wash at the end of each work shift and before eating, smoking and using the toilet. Wash promptly with soap & water if skin becomes contaminated. Promptly remove any clothing that becomes contaminated. Eating, smoking and water fountains prohibited in immediate work area.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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<b>Appearance</b>	Liquid. Volatile.
<b>Colour</b>	Colourless.
<b>Odour</b>	Stinging. Suffocating.
<b>Mol. weight</b>	114.96
<b>Boiling point (°C, interval)</b>	104 - 105
	<b>Pressure</b>

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<b>Melt./Freez. point (°C, interval)</b>	-42		
<b>Density/specific gravity (g/ml)</b>	1.30	<b>Temperature (°C)</b>	20
<b>Vapour density (air=1)</b>	4		
<b>Solubility description</b>	Decomposes in water.		
<b>Flash point (°C)</b>	42	<b>Method</b>	

## 10. STABILITY AND REACTIVITY

<b>Stability</b>	Avoid: Heat, sparks, flames. Moisture. Contact with acids. Normally stable.
<b>Materials to avoid</b>	Strong oxidising agents. Water, steam, water mixtures. Strong acids.
<b>Hazardous decomp. products</b>	High temperatures generate: Very toxic gases/vapours/fumes of: Carbon monoxide (CO). Carbon dioxide (CO <sub>2</sub> ). Chlorides. Irritating gases/vapours/fumes of: Hydrogen chloride (HCl).

## 11. TOXICOLOGICAL INFORMATION

<b>Toxic dose - LD 50:</b>	210.00 mg/kg (oral rat)
<b>Toxic conc. - LC 50:</b>	7.00 ppm/-- (inhalation rat)
<b>Carcinogenicity</b>	IARC Int. Agency for Cancer Research. Danish carcinogen list. Norwegian carcinogen list. Swedish carcinogen list.
<b>Health warnings</b>	Exposure; This chemical has poor warning properties! Irritating to eyes. Known or suspected carcinogen for humans. Pulmonary cancer. Liver and/or kidney damage.
<b>Other health effects</b>	IARC Int. Agency for Cancer Research. Danish carcinogen list. Norwegian carcinogen list. Swedish carcinogen list.
<b>Route of entry</b>	Inhalation. Skin absorption. Ingestion.
<b>Target organs</b>	Central nervous system. Eyes. Gastrointestinal tract. Kidneys. Liver. Respiratory system, lungs. Skin. Brain. Mucous membranes.
<b>Medical symptoms</b>	Upper respiratory irritation. Reddening of lips, nose, throat and conjunctiva. Ingestion may cause: Nausea, vomiting. Severe abdominal pain. Inhalation may cause: Coughing, chest tightness, feeling of chest pressure. Pulmonary oedema, frothy sputum. Headache. Dizziness. Unconsciousness, possibly death.
<b>Medical considerations</b>	Chronic respiratory and obstructive airway diseases. Skin disorders and allergies. Liver and/or kidney problems.

## 12. ECOLOGICAL INFORMATION

## 13. DISPOSAL CONSIDERATIONS

<b>Disposal methods</b>	Confirm disposal procedures with environmental engineer and local regulations.
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## 14. TRANSPORT INFORMATION

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### ROAD TRANSPORT:

UN No. road	2249
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## 15. REGULATORY INFORMATION

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EC No.	208-832-8
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Other information	EC label
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## 16. OTHER INFORMATION

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### Explanations to R-phrases in section 2

\* Information revised since the previous version of the SDS

Information sources	Registry of Toxic Effects of Chemical Substances (RTECS). The Condensed Chemical Dictionary, Hawley, 11th. edition, 1987. The Merck Index, 11. edition, 1989. Dangerous Properties of Industrial Chemicals, 7th edition, Sax & Lewis, 1988. Hazards in the Chemical Laboratory, 4th edition, L.Bretherick, 1986. Handling Chemicals Safely, Stuurgroep-Kemikaarten, 1980. Handbook of Poisoning, R.E.Dreisbach, 12th edition, 1987.
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