

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 5.0 Revision Date 05.12.2012

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

1.1 Product identifiers

Product name : Bromomethane

Product Number : 295485
Brand : Aldrich
Index-No. : 602-002-00-2
CAS-No. : 74-83-9

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

Identified uses : Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Company Ltd.
The Old Brickyard
NEW ROAD, GILLINGHAM
Dorset
SP8 4XT
UNITED KINGDOM

Telephone : +44 (0)1747 833000
Fax : +44 (0)1747 833313
E-mail address : eurtechserv@sial.com

1.4 Emergency telephone number

Emergency Phone # : +44 (0)1747 833100

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]

Gases under pressure (Compressed gas)
Acute toxicity, Oral (Category 3)
Acute toxicity, Inhalation (Category 3)
Skin irritation (Category 3)
Eye irritation (Category 2)
Germ cell mutagenicity (Category 2)
Specific target organ toxicity - single exposure (Category 3)
Specific target organ toxicity - repeated exposure (Category 2)
Acute aquatic toxicity (Category 1)
Hazardous to the ozone layer (Category 1)

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Possible risk of irreversible effects. Toxic by inhalation and if swallowed. Harmful: danger of serious damage to health by prolonged exposure through inhalation. Irritating to eyes, respiratory system and skin. Very toxic to aquatic organisms. Dangerous for the ozone layer.

2.2 Label elements

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

Pictogram



Signal word

Danger

Hazard statement(s)
H280 Contains gas under pressure; may explode if heated.
H301 + H331 Toxic if swallowed or if inhaled
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H341 Suspected of causing genetic defects.
H373 May cause damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H420 Harms public health and the environment by destroying ozone in the upper atmosphere

Precautionary statement(s)
P261 Avoid breathing gas.
P273 Avoid release to the environment.
P281 Use personal protective equipment as required.
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P311 Call a POISON CENTER or doctor/ physician.
Supplemental Hazard Statements none

According to European Directive 67/548/EEC as amended.

Hazard symbol(s)



R-phrases(s)
R23/25 Toxic by inhalation and if swallowed.
R36/37/38 Irritating to eyes, respiratory system and skin.
R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R50 Very toxic to aquatic organisms.
R59 Dangerous for the ozone layer.
R68 Possible risk of irreversible effects.
S-phrases(s)
S15 Keep away from heat.
S27 Take off immediately all contaminated clothing.
S36/39 Wear suitable protective clothing and eye/face protection.
S38 In case of insufficient ventilation, wear suitable respiratory equipment.
S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S59 Refer to manufacturer/supplier for information on recovery/recycling.
S61 Avoid release to the environment. Refer to special instructions/ Safety data sheets.

2.3 Other hazards - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Synonyms : Methyl bromide
Formula : CH₃Br CH₃Br
Molecular Weight : 94.94 g/mol

Component		Concentration
Bromomethane		
CAS-No.	74-83-9	-
EC-No.	200-813-2	

Index-No.	602-002-00-2	
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4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact

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

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

Nausea, Dizziness, Headache, Anorexia., Vomiting, Weakness, Blurred vision, Confusion., Tremors, Convulsions, Pulmonary edema. Effects may be delayed., Cyanosis, Coma., possibly death

4.3 Indication of any immediate medical attention and special treatment needed

no data available

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Carbon oxides, Hydrogen bromide gas

5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further information

Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

6.2 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.

6.3 Methods and materials for containment and cleaning up

Clean up promptly by sweeping or vacuum.

6.4 Reference to other sections

For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

Contents under pressure. Refrigerate before opening.

7.3 Specific end use(s)
no data available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
Bromomethane	74-83-9	STEL	15 ppm 59 mg/m3	UK. EH40 WEL - Workplace Exposure Limits
	Remarks	Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.		
		TWA	5 ppm 20 mg/m3	UK. EH40 WEL - Workplace Exposure Limits
		Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.		

8.2 Exposure controls

Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Full contact

Material: Fluorinated rubber

Minimum layer thickness: 0.7 mm

Break through time: 480 min

Material tested: Vitoject® (KCL 890 / Aldrich Z677698, Size M)

Splash protection

Material: Fluorinated rubber

Minimum layer thickness: 0.7 mm

Break through time: 480 min

Material tested: Vitoject® (KCL 890 / Aldrich Z677698, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an Industrial Hygienist familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a) Appearance	Form: Compressed gas Colour: colourless
b) Odour	characteristic
c) Odour Threshold	no data available
d) pH	no data available
e) Melting point/freezing point	Melting point/range: -94 °C - lit.
f) Initial boiling point and boiling range	4 °C - lit.
g) Flash point	no data available
h) Evaporation rate	no data available
i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	Upper explosion limit: 20 %(V) Lower explosion limit: 8.6 %(V)
k) Vapour pressure	1,893.2 hPa at 20.0 °C 5,259.6 hPa at 55.0 °C 1,866.5 hPa at 20.0 °C
l) Vapour density	no data available
m) Relative density	3.3 g/cm ³ at 25 °C
n) Water solubility	soluble
o) Partition coefficient: n-octanol/water	no data available
p) Auto-ignition temperature	536.0 °CAuto-flammability
q) Decomposition temperature	no data available
r) Viscosity	no data available
s) Explosive properties	no data available
t) Oxidizing properties	no data available

9.2 Other safety information

no data available

10. STABILITY AND REACTIVITY

10.1 Reactivity

no data available

10.2 Chemical stability

no data available

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

Strong oxidizing agents, Plastics, Rubber, Aluminum, Strong bases, and its alloys, Alkali metals, Zinc

10.6 Hazardous decomposition products

Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - rat - 214.0 mg/kg

LC50 Inhalation - rat - 8 h - 302 ppm

Remarks: Behavioral:Change in motor activity (specific assay). Nutritional and Gross Metabolic:Weight loss or decreased weight gain. Nutritional and Gross Metabolic:Changes in:Body temperature decrease.

Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

In vitro tests showed mutagenic effects

Carcinogenicity

This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Bromomethane)

Reproductive toxicity

no data available

Experiments have shown reproductive toxicity effects in male and female laboratory animals.

Specific target organ toxicity - single exposure

May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

Aspiration hazard

no data available

Potential health effects

Inhalation

Harmful if inhaled. Causes respiratory tract irritation.

Ingestion

Toxic if swallowed.

Skin

Harmful if absorbed through skin. Causes skin irritation.

Eyes

Causes serious eye irritation.

Signs and Symptoms of Exposure

Nausea, Dizziness, Headache, Anorexia., Vomiting, Weakness, Blurred vision, Confusion., Tremors, Convulsions, Pulmonary edema. Effects may be delayed., Cyanosis, Coma., possibly death

Additional Information

RTECS: PA4900000

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish LC50 - other fish - 0.800 mg/l - 96.0 h

Toxicity to daphnia and other aquatic invertebrates Immobilization EC50 - Daphnia magna (Water flea) - 2 mg/l - 48 h

12.2 Persistence and degradability

no data available

12.3 Bioaccumulative potential

no data available

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

no data available

12.6 Other adverse effects

Very toxic to aquatic life.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

14.1 UN number

ADR/RID: 1062

IMDG: 1062

IATA: 1062

14.2 UN proper shipping name

ADR/RID: METHYL BROMIDE

IMDG: METHYL BROMIDE

IATA: Methyl bromide

Passenger Aircraft: Not permitted for transport

Cargo Aircraft: Not permitted for transport

14.3 Transport hazard class(es)

ADR/RID: 2.3

IMDG: 2.3

IATA: 2.3

14.4 Packaging group

ADR/RID: -

IMDG: -

IATA: -

14.5 Environmental hazards

ADR/RID: yes

IMDG Marine Pollutant: yes

IATA: no

14.6 Special precautions for user

no data available

15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

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

no data available

15.2 Chemical Safety Assessment

no data available

16. OTHER INFORMATION**Further information**

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