



BROMOMETHANE (13C, 99%)

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 28/03/2011

Revision date: 28/09/2018

Supersedes: 25/05/2011

Version: 3.0

CLM-1217-1-BS

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

1.1. Product identifier

Product form	: Substance
Substance name	: BROMOMETHANE (13C, 99%)
EC Index-No.	: 602-022-00-2 (Unlabeled)
EC-No.	: 200-813-2 (Unlabeled)
CAS-No.	: 51624-21-6
Product code	: CLM-1217-1-BS
Formula	: *CH3Br
Synonyms	: Methyl Bromide
Other means of identification	: Also applicable to: CLM-1217-0.5

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

1.2.1. Relevant identified uses

Main use category	: Professional use
Industrial/Professional use spec	: For professional use only

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Cambridge Isotope Laboratories, Inc.
50 Frontage Road
Andover, MA 01810
USA

USA: 1-800-322-1174 Int: 1-978-749-8000
cilsales@isotope.com www.isotope.com

Emergency telephone number

Emergency numbers:

Chemtrec: 1-800-424-9300 (24 hours)
International: 1-703-741-5970 (24 hours)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Acute Tox. 3 (Oral)	H301
Acute Tox. 3 (Inhalation)	H331
Skin Irrit. 2	H315
Eye Irrit. 2	H319
STOT SE 3	H335
STOT RE 1	H372
Aquatic Chronic 1	H410

Full text of hazard classes and H-statements : see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

N; R50/53
Xi; R36/37/38
T; R48/23/25

Full text of R-phrases: see section 16

GHS-US classification

Acute Tox. 3 (Oral)	H301
Acute Tox. 3 (Inhalation)	H331
Skin Irrit. 2	H315
Eye Irrit. 2	H319
STOT SE 3	H335

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STOT RE 1 H372
Aquatic Chronic 1 H410

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

Central nervous system. Kidneys.

2.2. Label elements

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

Hazard pictograms (CLP) :



GHS08

GHS06

GHS09

Signal word (CLP) :

Danger

Hazard statements (CLP) :

H301+H331 - Toxic if swallowed or if inhaled
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation
H372 - Causes damage to organs (central nervous system, kidneys) through prolonged or repeated exposure (in contact with skin, if inhaled, if swallowed)
H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements (CLP) :

P260 - Do not breathe dust, fume, gas, mist, spray, vapors.
P264 - Wash hands, forearms and face thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310 - IF SWALLOWED: Immediately call a doctor, a POISON CENTER.
P302+P352 - IF ON SKIN: Wash with plenty of soap and water.

GHS-US labeling

Hazard pictograms (GHS-US) :



GHS08

GHS06

GHS09

Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

H301+H331 - Toxic if swallowed or if inhaled
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation
H372 - Causes damage to organs (central nervous system, kidneys) through prolonged or repeated exposure (Dermal, Inhalation, oral)
H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements (GHS-US) :

P260 - Do not breathe dust, fume, gas, mist, spray, vapors.
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 - Wash hands, forearms and face thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310 - If swallowed: Immediately call a doctor, a POISON CENTER
P302+P352 - If on skin: Wash with plenty of water
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
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 doctor, a POISON CENTER
P312 - Call a doctor, a POISON CENTER if you feel unwell
P314 - Get medical advice/attention if you feel unwell.
P321 - Specific treatment (see Hazardous component(s) for labeling on this label)
P330 - Rinse mouth.
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.

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P391 - Collect spillage.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

2.3. Other hazards

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Name	Product identifier	%	Classification according to Directive 67/548/EEC
BROMOMETHANE (13C, 99%)	(CAS-No.) 51624-21-6 (EC-No.) 200-813-2 (Unlabeled) (EC Index-No.) 602-022-00-2 (Unlabeled)	100	N; R50/53 Xi; R36/37/38 T; R48/23/25
Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
BROMOMETHANE (13C, 99%)	(CAS-No.) 51624-21-6 (EC-No.) 200-813-2 (Unlabeled) (EC Index-No.) 602-022-00-2 (Unlabeled)	100	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Inhalation), H331 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 STOT RE 1, H372 Aquatic Chronic 1, H410

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

Name	Product identifier	%	GHS-US classification
BROMOMETHANE (13C, 99%) (Main constituent)	(CAS-No.) 51624-21-6	100	Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Inhalation), H331 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 STOT RE 1, H372 Aquatic Chronic 1, H410

Full text of H-phrases: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : If you feel unwell, seek medical advice (show the label where possible). Evacuate danger area.
First-aid measures after inhalation : When symptoms occur: go into open air and ventilate suspected area. If not breathing, give artificial respiration. Get medical advice/attention.
First-aid measures after skin contact : Wash with plenty of soap and water. Get immediate medical advice/attention.
First-aid measures after eye contact : Rinse cautiously with water for several minutes.
First-aid measures after ingestion : Never give anything by mouth to an unconscious person. Rinse mouth out with water. Get medical advice/attention.

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

Symptoms/effects : Causes damage to organs (kidneys, central nervous system) through prolonged or repeated exposure (in contact with skin, if inhaled, if swallowed).
Symptoms/effects after inhalation : Toxic if inhaled. May cause respiratory irritation.
Symptoms/effects after skin contact : Causes skin irritation.
Symptoms/effects after eye contact : Causes serious eye irritation.
Symptoms/effects after ingestion : Toxic if swallowed.

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry chemical powder, alcohol-resistant foam, carbon dioxide (CO₂).

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5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

- Firefighting instructions : Fight fire with normal precautions from a reasonable distance. Wear a self contained breathing apparatus. Do not enter fire area without proper protective equipment, including respiratory protection.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Wear recommended personal protective equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Emergency procedures : Avoid breathing vapors, mist, gas. Avoid dust formation. Ensure adequate air ventilation. Evacuate danger area.

6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Prevent entry to sewers and public waters. Do not allow to enter drains or water courses. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

- For containment : Clean up any spills as soon as possible, using an absorbent material to collect it. Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal. For large spills, confine the spill in a dike and charge it with wet sand or earth for subsequent safe disposal.
- Methods for cleaning up : This material and its container must be disposed of in a safe way, and as per local legislation.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Provide adequate ventilation to minimize dust and/or vapor concentrations.
- Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Store in a well-ventilated place. Keep container tightly closed.
- Storage conditions : Store at room temperature away from light and moisture.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

BROMOMETHANE (13C, 99%) (51624-21-6)		
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	1.00000000 ppm
USA OSHA	OSHA PEL (TWA) (ppm)	5 ppm

8.2. Exposure controls

- Appropriate engineering controls : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.
- Personal protective equipment : Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus.



- Materials for protective clothing : Wear suitable protective clothing and gloves.
- Hand protection : Wear suitable protective clothing and gloves.
- Eye protection : Wear eye protection. Chemical goggles or face shield with safety glasses.
- Skin and body protection : Wear suitable protective clothing, gloves and eye/face protection.

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Respiratory protection : In case of inadequate ventilation wear respiratory protection. Approved supplied air respirator.
Environmental exposure controls : Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Appearance : Clear, Liquid
Molecular mass : 95.93 g/mol (Labeled)
Color : Clear
Odor : No data available
Odor threshold : No data available
pH : No data available
Relative evaporation rate (butyl acetate=1) : No data available
Melting point : -94 °C (- 137 °F)
Freezing point : No data available
Boiling point : 4 °C (39 °F) at 1,013 hPa (760 mmHg)
Flash point : No data available
Auto-ignition temperature : 536 °C (997 °F)
Decomposition temperature : No data available
Flammability (solid, gas) : No data available
Vapor pressure : 1893 hPa (1,420 mmHg) at 20.0 °C (68.0 °F)
Relative vapor density at 20 °C : No data available
Relative density : No data available
Solubility : No data available
Log Pow : No data available
Log Kow : No data available
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available
Explosive properties : No data available
Oxidizing properties : No data available
Explosion limits : 10 - 16 vol % (V%)

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 if stored under recommended conditions.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Extremes of temperature and direct sunlight.

10.5. Incompatible materials

Strong oxidizing agents. Aluminum. plastics. Rubber. Zinc. Alkali metals.

10.6. Hazardous decomposition products

Carbon oxides (CO, CO₂). Hydrogen bromide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Toxic if swallowed. Inhalation: Toxic if inhaled.

BROMOMETHANE (13C, 99%) (51624-21-6)	
LD50 oral rat	214 mg/kg
LC50 inhalation rat (ppm)	302 ppm 8 h
ATE CLP (oral)	100.000 mg/kg body weight
ATE CLP (gases)	700.000 ppmV/4h

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BROMOMETHANE (13C, 99%) (51624-21-6)	
ATE CLP (vapors)	3.000 mg/l/4h
ATE CLP (dust, mist)	0.500 mg/l/4h

Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: 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	: Causes damage to organs (central nervous system, kidneys) through prolonged or repeated exposure (in contact with skin, if inhaled, if swallowed).
Aspiration hazard	: Not classified
Potential Adverse human health effects and symptoms	: 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.
IARC group	: 3
Symptoms/effects after inhalation	: Toxic if inhaled. May cause respiratory irritation.
Symptoms/effects after skin contact	: Causes skin irritation.
Symptoms/effects after eye contact	: Causes serious eye irritation.
Symptoms/effects after ingestion	: Toxic if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

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

BROMOMETHANE (13C, 99%) (51624-21-6)	
LC50 fish 1	0.0008 mg/l - 96 h
EC50 Daphnia 1	2 mg/l Daphnia magna (Water flea) - Immobilization - 48 h

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

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

Other adverse effects : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste)	: Waste materials should be disposed of under conditions which meet Federal, State, and local environmental control regulations.
Product/Packaging disposal recommendations	: Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.
Ecology - waste materials	: Dispose of as unused product.

SECTION 14: Transport information

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

14.1. UN number

UN-No.(DOT)	: 3169
DOT NA no.	UN3169

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14.2. UN proper shipping name

Proper Shipping Name (DOT) : Gas sample, non-pressurized, toxic, n.o.s.
Class (DOT) : 2.3 - Class 2.3 - Poisonous gas 49 CFR 173.115
Hazard labels (DOT) : 2.3 - Poison gas



DOT Special Provisions (49 CFR 172.102) : 6 - This material is poisonous-by-inhalation and must be described as an inhalation hazard under the provisions of this subchapter.
DOT Packaging Exceptions (49 CFR 173.xxx) : 306
DOT Packaging Non Bulk (49 CFR 173.xxx) : 302;304
DOT Packaging Bulk (49 CFR 173.xxx) : None

14.3. Additional information

Emergency Response Guide (ERG) Number : 123
Other information : No supplementary information available.
Special transport precautions : Not dangerous.

Overland transport

Class (ADR) : 2 - Gases
Classification code (ADR) : 7T
Hazard labels (ADR) : 2.3 - Toxic gases



Tunnel restriction code (ADR) : D
Limited quantities (ADR) : 0
EAC : 2XE
APP : B
Excepted quantities (ADR) : E0

Transport by sea

DOT Vessel Stowage Location : D - The material must be stowed "on deck only" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers or one passenger per each 3 m of overall vessel length, but the material is prohibited on passenger vessels in which the limiting number of passengers is exceeded.
MFAG-No : 123

Air transport

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : Forbidden
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 1 L

14.4. Environmental hazards

Dangerous for the environment :



Other information : No supplementary information available.

14.5. Special precautions for user

Special transport precautions : Not dangerous.

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

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

BROMOMETHANE (13C, 99%) (51624-21-6)	
SARA Section 302 Threshold Planning Quantity (TPQ)	Subject to reporting requirements of the United States SARA Section 302.
SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard
SARA Section 313 - Emission Reporting	Subject to reporting requirements of the United States SARA Section 313.

15.2. International regulations

CANADA

BROMOMETHANE (13C, 99%) (51624-21-6)
Listed on the Canadian DSL (Domestic Substances List)

15.2.1. National regulations

No additional information available

15.3. US State regulations

BROMOMETHANE (13C, 99%)(51624-21-6)	
U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	Yes
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	Yes
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Yes
State or local regulations	U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Massachusetts - Right To Know List

SECTION 16: Other information

Other information : This product is not radioactive. The data given for this product are those of the corresponding unlabeled compound, unless specifically indicated otherwise. Health and safety data for labeled compounds are generally not available, but are assumed to be similar or identical to the corresponding unlabeled compound.

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

Acute Tox. 3 (Inhalation)	Acute toxicity (inhalation) Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral) Category 3
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Eye Irrit. 2	Serious eye damage/eye irritation Category 2
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT RE 1	Specific target organ toxicity (repeated exposure) Category 1
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H301	Toxic if swallowed
H315	Causes skin irritation
H319	Causes serious eye irritation
H331	Toxic if inhaled
H335	May cause respiratory irritation
H372	Causes damage to organs through prolonged or repeated exposure
H410	Very toxic to aquatic life with long lasting effects
R36/37/38	Irritating to eyes, respiratory system and skin
R48/23/25	Toxic: danger of serious damage to health by prolonged exposure through inhalation and if swallowed
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

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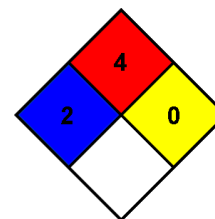
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N	Dangerous for the environment
T	Toxic
Xi	Irritant

- NFPA health hazard : 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.
- NFPA fire hazard : 4 - Materials that rapidly or completely vaporize at atmospheric pressure and normal ambient temperature or that are readily dispersed in air and burn readily.
- NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



Hazard Rating

- Health : 2 Moderate Hazard - Temporary or minor injury may occur
- Flammability : 4 Severe Hazard
- Physical : 0 Minimal Hazard

CIL Substance SDS

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