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

* 1.1 Product identifier

Trade name/designation	Methylbromide (Bromomethane)
Art-Nr(n).	2100, 70210
Substance name	bromomethane
Index No	602-002-00-2
EC No	200-813-2
REACH No.	01-2119919335-38
CAS No	74-83-9

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

* **Use of the substance/mixture**
Use only as an intermediate under strictly controlled conditions.

1.3 Details of the supplier of the safety data sheet

Supplier
GHC Gerling, Holz & Co. Handels GmbH
Ruhrstraße 113
D-22761 Hamburg
Telephone +49 40 853 123 0
E-mail hamburg@ghc.de
Website www.ghc.com

Department responsible for information:
GHC Gerling, Holz & Co. Handels GmbH
Telephone +49 40 853 123 0

E-mail (competent person):
msds@ghc.de

* 1.4 Emergency telephone number

EN: Poison Information Center Mainz +49 6131 19240

* SECTION 2: Hazards identification

* 2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP]	Classification procedure
Press. Gas (Liq.), H280	
Acute Tox. 3, H301	
Acute Tox. 3, H331	
Skin Irrit. 2, H315	
Eye Irrit. 2, H319	
Muta. 2, H341	
STOT SE 3, H335	
STOT RE 2, H373	
Aquatic Acute 1, H400	
Ozone 1, H420	

Hazard statements for physical hazards
H280 Contains gas under pressure; may explode if heated.

Hazard statements for health hazards
H301 Toxic if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H335 May cause respiratory irritation.
H341 Suspected of causing genetic defects.
H373 May cause damage to organs through prolonged or repeated exposure by inhalation.

Hazard statements for environmental hazards
H400 Very toxic to aquatic life.

Hazard statements for additional hazards
H420 Harms public health and the environment by destroying ozone in the upper atmosphere.

* **2.2 Label elements**

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

Hazard pictograms

GHS06 GHS08 GHS09

Signal word
Danger

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

* **Precautionary statements**
P260 Do not breathe gas/vapours.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P315 Get immediate medical advice/attention.
P403 Store in a well-ventilated place.
P405 Store locked up.

* **Supplemental hazard information**
Please return container with residual pressure.

* **2.3 Other hazards**

* **Adverse physicochemical effects**
This substance presents a flammable gas hazard under extreme fire conditions in an enclosed space.

* **Adverse human health effects and symptoms**
Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.
Contact with liquid may cause cold burns/frostbite.

* **Other adverse effects**
The substance/mixture does not contain components identified as having endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Delegated Regulation (EU) 2018/605 in quantities of 0.1% or more.

* **Results of PBT and vPvB assessment**
The substance/mixture does not contain components meeting the PBT/vPvB criteria of the Reach Regulation, Annex XIII, at levels of 0.1% or higher.

* SECTION 3: Composition / information on ingredients

* 3.1 Substances

Substance name	bromomethane
Index No	602-002-00-2
EC No	200-813-2
REACH No.	01-2119919335-38
CAS No	74-83-9
ATE	ATE(oral): 104 mg/kg (An oral intake is very unlikely due to the low boiling point.) ATE(dermal): 135 mg/kg ATE(inhalation gas): 302 ppm

Additional information
Content: >= 99,5 %

3.2 Mixtures

not applicable

* SECTION 4: First aid measures

* 4.1 Description of first aid measures

* **General information**
Remove contaminated, saturated clothing immediately.
In the event of persistent symptoms obtain medical treatment.
First aider: Pay attention to self-protection!

Following inhalation
Remove casualty to fresh air and keep warm and at rest.
In case of respiratory standstill give artificial respiration by respiratory bag (Ambu bag) or respirator. Obtain medical assistance.
In the event of pulmonary irritation treat initially with corticoid spray, e.g. Ventolair- or Pulmicort- metered-dose aerosol (Ventolair and Pulmicort are registrated trademarks).

* **Following skin contact**
In case of skin contact rinse with warm water.
In case of frostbite, wash with plenty of water; do not remove clothing.
In case of frostbite rinse with lukewarm (not hot) water for at least 15 minutes. Do not remove clothing frozen to the skin.
Thaw with lukewarm water. Apply a sterile dressing. Obtain medical assistance.

After eye contact
Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical assistance.

Following ingestion
Ingestion is not considered a potential route of exposure.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms
Redness / blebs on the skin.
Impairment of vision
Unconsciousness
Vomiting
Dizziness

Effects
Pulmonary oedema
In case of massive exposure: Risk of damage to the liver, kidneys and central nervous system.

4.3 Indication of any immediate medical attention and special treatment needed

Notes for the doctor
Treat symptomatically.
Pulmonary oedema prophylaxis.
To supervise the blood circulation.

* SECTION 5: Firefighting measures

* 5.1 Extinguishing media

* **Suitable extinguishing media**
Foam
Extinguishing powder
Water spray jet

Unsuitable extinguishing media
Carbon dioxide (CO_2)
Full water jet

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products
In case of fire formation of dangerous gases possible.
Carbon monoxide
Carbon dioxide (CO_2)
Carbonyl bromide
Hydrogen bromide (HBr)

* 5.3 Advice for firefighters

* **Special protective equipment for firefighters**
Wear a self-contained breathing apparatus and chemical protective clothing.

*** Additional information**
If possible, shut off gas valves and move containers to a safe location.
Use water spray jet to protect personnel and to cool endangered containers.
Exposure to fire may cause rupture / explosion of the containers.
Dispose of fire residues and contaminated extinguishing water in accordance with local, official regulations.

* SECTION 6: Accidental release measures

* 6.1 Personal precautions, protective equipment and emergency procedures

* **For non-emergency personnel**
Keep people away and stay on the upwind side.
Leave the danger area.
Use personal protection equipment.

For emergency responders
Personal protection by wearing close-fitting protective clothing and breathing apparatus.
Pay attention to extension of gas especially at ground (heavier than air) and in direction of the wind.
Remove persons to safety.

* 6.2 Environmental precautions

If possible, stop flow of product.
Do not allow to enter into soil/subsoil.
Do not allow to enter into surface water or drains.

* 6.3 Methods and material for containment and cleaning up

* **For containment**
If necessary, secure leaky pressure receptacles using a salvage container.
Prevent the liquid from spreading over a wide area (set up barriers, cover sewage systems).
Limit expansion of the gas (water spray jet).

* **For cleaning up**
Leave to vapourize.
Provide adequate ventilation.

6.4 Reference to other sections

Disposal: see section 13
Personal protection equipment: see section 8

* SECTION 7: Handling and storage

* 7.1 Precautions for safe handling

*

Protective measures
Use only in well-ventilated areas.
Transfer and handle product only in closed systems.
Usual measures for fire prevention.
Containers' temperature should not be increased above 50 °C.
The working pressure in the receptacle must not exceed the saturation vapour pressure of the pure product resulting at a temperature of 50 °C.
Prevent cylinders from falling over.
Ensure valve protection device is correctly fitted.
Ensure valve outlet cap nut or plug (where provided) is correctly fitted.
Open valve slowly to avoid pressure shock.
Do not allow backflow into the container.
Entering of water into the container must be prevented.
No water to valves, flanges and other fittings.
Purging of pipes and valves with inert gases - to avoid: water, solvents.

Advices on general occupational hygiene
When using do not eat, drink, smoke, sniff.
Wash hands before breaks and after work.
Remove contaminated clothing and protective equipment before entering eating areas.

* 7.2 Conditions for safe storage, including any incompatibilities

*

Requirements for storage rooms and vessels
All regulations and local requirements for the storage of containers have to be respected.
Keep container tightly closed and in a well-ventilated place.
Containers' temperature should not be increased above 50 °C.
Prevent cylinders from falling over.
Only use containers specifically approved for the substance/product.
Information on suitable materials for receptacles and valves see ISO 11114.

*

Materials to avoid
Do not store together with explosives.
Do not store together with flammable liquids.
Do not store together with flammable solids.
Do not store together with pyrophoric and self-heating substances.
Do not store together with oxidizing liquids or oxidizing solids.
Do not store together with toxic liquids or toxic solids.
Do not store together with infectious substances.
Do not store together with radioactive material.
Do not store together with food or feed.

* 7.3 Specific end use(s)

*

Recommendation
Use only as an intermediate under strictly controlled conditions.
An exposure scenario is not required.

* SECTION 8: Exposure controls/personal protection

* 8.1 Control parameters

*

Occupational exposure limit values

CAS No	EC No	Substance name	occupational exposure limit value
74-83-9	200-813-2	Bromomethane	5 [ml/m³(ppm)] 20 [mg/m³] Short-term(ml/m³) 15 (1) Short-term(mg/m³) 60 (1) (1) 15 minutes reference period (IE)

* 8.2 Exposure controls

* Appropriate engineering controls

* **Technical measures to prevent exposure**
Use only as an intermediate under strictly controlled conditions.
Transfer and handle only in enclosed systems.

* Personal protection equipment

Eye/face protection
Protective goggles according to EN 166, in case of increased risk add protective face shield.

* **Hand protection**
Safety gloves according to EN 388:
Chromate-free leather

Body protection:
Safety shoes with steel toecap.
Body covering work clothing or chemical resistant suit at increased risk.

* **Respiratory protection**
Keep self contained breathing apparatus readily available for emergency use.
Respiratory protection necessary at:
high concentrations
Respiratory protection complying with EN 137.
Short term: filter apparatus, filter AX
In case of rescue and maintenance activities in storage containers use environment-independent breathing apparatus because of risk of suffocation due to displacement of oxygen.

* **Thermal hazards**
Use cold-resistant protective equipment.

* Environmental exposure controls

* **Remark**
Prevent release to the environment.

* SECTION 9: Physical and chemical properties

* 9.1 Information on basic physical and chemical properties

Physical state
Gaseous / liquefied under pressure.

* **Colour**
colourless

Odour
sweetish

Safety relevant basis data

	Value	Method	Source, Remark
Odour threshold:			not determined
Melting point/freezing point			not applicable
Boiling point or initial boiling point and boiling range	4 °C		
flammability			Not readily flammable.
Lower and upper explosion limit	Upper explosion limit 20 Vol-%		
Lower and upper explosion limit	Lower explosion limit 8.6 Vol-%		
Flash point			not applicable
Auto-ignition temperature	535 °C		

	Value	Method	Source, Remark
Decomposition temperature			No decomposition if used as directed.
pH			not applicable
Viscosity			not applicable
Solubility(ies)	Water solubility 17.5 g/L		
Partition coefficient n-octanol/water (log value)	1.19		
Vapour pressure	1890 hPa (20°C)		
Density and/or relative density			not applicable
Relative vapour density	3.36		air = 1
particle characteristics			not applicable

* **9.2 Other information**

* **Information with regard to physical hazard classes**

* **Gases under pressure**

Safety characteristics

	Value	Method, Result	Source, Remark
Critical temperature	194 °C		

* **Other information**
Vapours are heavier than air.

* SECTION 10: Stability and reactivity

10.1 Reactivity

See section "Possibility of hazardous reactions".

* 10.2 Chemical stability

The substance is chemically stable under recommended conditions of storage, use and temperature.

* 10.3 Possibility of hazardous reactions

Reactions with numerous chemical compounds.
Reactions with earth alkali metals.
Reactions with metals in powder form.
Zinc

* 10.4 Conditions to avoid

Heat sources / heat - risk of bursting.
Ignition sources, open flames, glowing metal surfaces, etc.

* 10.5 Incompatible materials

Magnesium
Oxidising agent
Aluminium / Aluminium alloys.

* 10.6 Hazardous decomposition products

Hydrogen bromide (HBr)
Carbonyl bromide

* SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

*** Acute toxicity**

*** Animal data**

	Effective dose	Method,Evaluation	Source, Remark
Acute oral toxicity	CAS No74-83-9 bromomethane LD50: 104 mg/kg Species Rat	EPA OPP 81-1	An oral intake is very unlikely due to the low boiling point.
Acute dermal toxicity	CAS No74-83-9 bromomethane LD50: 135 mg/kg Species Rat		
Acute inhalation toxicity	CAS No74-83-9 bromomethane Acute inhalation toxicity (gas) LC50: 302 ppm Species Rat Exposure time 8 h		

*** Assessment/classification**
Toxic by inhalation and if swallowed.

*** Skin corrosion/irritation**

*** Assessment/classification**
Causes skin irritation.

*** Serious eye damage/irritation**

Animal data

Result / Evaluation	Method	Source, Remark
strongly irritant.		experiences

*** Assessment/classification**
Causes serious eye irritation.

*** Sensitisation to the respiratory tract**

*** Assessment/classification**
No data available

*** Skin sensitisation**

*** Assessment/classification**
Study scientifically not necessary.

*** Germ cell mutagenicity**

	Value	Method	Result / Evaluation	Remark
In vitro mutagenicity/genotoxicity	Species Salmonella typhimurium		positive	

*** Assessment/classification**
Suspected of causing genetic defects.

*** Carcinogenicity**

*** Assessment/classification**
Based on available data, the classification criteria are not met.

* **Reproductive toxicity**

Animal data

	Value	Method	Result / Evaluation	Remark
Reproductive toxicity	NOEL 30 ppm Species Rat	EU Method B.35 (Two-Generation Reproduction Toxicity Test)		

* **Assessment/classification**
Based on available data, the classification criteria are not met.

* **STOT-single exposure**

* **STOT SE 1 and 2**

* **Assessment/classification**
Based on available data, the classification criteria are not met.

* **STOT SE 3**

* **Irritation to respiratory tract**

* **Assessment/classification**
May cause respiratory irritation.

* **STOT-repeated exposure**

* **Animal data**

	Effective dose	Method	Specific effects:	Organs affected:	Source, Remark
Inhalative specific target organ toxicity (repeated exposure)	NOEL(C): 25 ppm Species Dog Exposure duration 28 d	OECD 412			

* **Assessment/classification**
May cause damage to organs through prolonged or repeated exposure by inhalation.

* **Aspiration hazard**

* **Assessment/classification**
Study technically not feasible.

11.2 Information on other hazards

* **Additional information**
Repetitive skin contact may cause dermatitis.

* SECTION 12: Ecological information

* **12.1 Toxicity**

* **Aquatic toxicity**

	Effective dose	Method,Evaluation	Source, Remark
Acute (short-term) fish toxicity	LC50: 3.9 mg/L Species Oncorhynchus mykiss (Rainbow trout) Test duration 96 h	EPA OPP 72-1	
Chronic (long-term) fish toxicity	not determined		
Acute (short-term) toxicity to crustacea	EC50 2.6 mg/L Species Daphnia magna (Big water flea) Test duration 48 h	EPA OPP 72-2	
Chronic (long-term) toxicity to aquatic invertebrate	not determined		

	Effective dose	Method,Evaluation	Source, Remark
Acute (short-term) toxicity to algae and cyanobacteria	EC50 3.2 mg/L Species Scenedesmus quadricauda Test duration 48 h	EU Method C.3	
Chronic (long-term) toxicity to aquatic algae and cyanobacteria	not determined		
Toxicity to other aquatic plants/organisms	not determined		
Toxicity to microorganisms	not determined		

*** 12.2 Persistence and degradability**

No data available

*** 12.3 Bioaccumulative potential**

* **Assessment/classification**
Based on the n-octanol/water partition coefficient accumulation in organisms is not expected.

*** 12.4 Mobility in soil**

No data available

*** 12.5 Results of PBT and vPvB assessment**

The substance/mixture does not contain components meeting the PBT/vPvB criteria of the Reach Regulation, Annex XIII, at levels of 0.1% or higher.

*** 12.6 Endocrine disrupting properties**

No data available

*** 12.7 Other adverse effects**

	Value	Method	Source, Remark
Ozone depletion potential (ODP):	0.6		
Global warming potential (GWP)	2.43		

* SECTION 13: Disposal considerations

*** 13.1 Waste treatment methods**

Waste codes/waste designations according to EWC/AVV

Waste code product	Waste name
160504 *	gases in pressure containers (including halons) containing hazardous substances

* **Appropriate disposal / Product**
Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.
Prevent release to the environment. No disposal via the sewage.
Disposal in accordance with Article 20 Regulation (EU) 2024/590 on substances that deplete the ozone layer.

Appropriate disposal / Package
Transportable pressure equipment (empty, residual pressure): Return to supplier / manufacturer.

* SECTION 14: Transport information

	Land transport (ADR/RID)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
14.1 UN number or ID number	UN 1062	UN 1062	UN 1062
14.2 UN proper shipping name	METHYL BROMIDE	METHYL BROMIDE	Methyl bromide
14.3 Transport hazard class(es)	2.3	2.3	2.3
14.4 Packing group	-	-	-
14.5 Environmental hazards	ENVIRONMENTALLY HAZARDOUS	ENVIRONMENTALLY HAZARDOUS Marine pollutant	ENVIRONMENTALLY HAZARDOUS

14.6 Special precautions for user

The protective measures listed in Sections 6, 7 and 8 of the Safety Data Sheet have to be considered.

14.7 Maritime transport in bulk according to IMO instruments

No carriage in bulk.

Land transport (ADR/RID)

UN number or ID number	UN 1062
UN proper shipping name	METHYL BROMIDE
Transport hazard class(es)	2.3
Hazard label(s)	2.3
Classification code	2T
Packing group	-
Environmental hazards	ENVIRONMENTALLY HAZARDOUS
Limited quantity (LQ)	0
Special provisions	23
Tunnel restriction code	C/D

Remark
ADR / RID: Environmentally hazardous substance - special marking: symbol "fish and tree".

* Sea transport (IMDG)

UN number or ID number	UN 1062
UN proper shipping name	METHYL BROMIDE
Transport hazard class(es)	2.3
Packing group	-
Environmental hazards	ENVIRONMENTALLY HAZARDOUS
Limited quantity (LQ)	0
Marine pollutant	Yes.
EmS	F-C, S-U

* Air transport (ICAO-TI / IATA-DGR)

UN number or ID number	UN 1062
UN proper shipping name	Methyl bromide
Transport hazard class(es)	2.3
Packing group	-
Environmental hazards	ENVIRONMENTALLY HAZARDOUS

* SECTION 15: Regulatory information

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

* EU legislation

Restrictions on use
Use according to Regulation (EU) 2024/590 on substances that deplete the ozone layer.

*** Restrictions of occupation**
Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.
Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC).

* **Other regulations (EU)**

* **To follow:**
Regulation (EU) 2024/590 on substances that deplete the ozone layer.
Regulation (EU) No 649/2012 concerning the export and import of dangerous chemicals.
Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances.
National and local regulations concerning chemicals shall be observed.

* **Directive 2010/75/EU on industrial emissions [Industrial Emissions Directive] VOC**
VOC-value ≥ 99.5 %

15.2 Chemical Safety Assessment

* **National regulations**

For this substance a chemical safety assessment has not been carried out.

* SECTION 16: Other information

* **Abbreviations and acronyms**
Press. Gas (Liq.): Liquefied gas (LG)
Acute Tox. 3, H301: Acute Toxicity (oral), Category 3
Skin Irrit. 2: Skin irritation, Category 2
Eye Irrit. 2: Eye irritation, Category 2
Muta. 2: Germ cell mutagen, Category 2
STOT SE 3, H335: Specific target organ toxicity (single exposure), Category 3
STOT RE 2: Specific target organ toxicity (repeated exposure), Category 2
Aquatic Acute 1: Short-term (acute) aquatic hazard, Category 1
Ozone 1: Hazardous to the ozone layer, Category 1
Acute Tox. 3, H331: Acute Toxicity (inhalation), Category 3

Key literature references and sources for data
Information from our suppliers and data from the "GESTIS Substances Database" and the "Registered Substances" database of the European Chemicals Agency (ECHA) were used to create this safety data sheet.

* **Additional information**
The information contained herein is based on the state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product.

Relevant H- and EUH-phrases (Number and full text)

H280	Contains gas under pressure; may explode if heated.
H301	Toxic if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
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.

Indication of changes
* Data changed compared with the previous version