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

1.1. Product identifier

Trade name	Chloromethane (R49)
Chemical description	Chloromethane, Methyl chloride
CAS N°	74-87-3
CE N°	200-817-4
Index N°	602-001-00-7
Registration n°	01-2119493708-22
Chemical formula	CH ₃ Cl

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

Relevant identified uses	Industrial and professional Test gas/Calibration gas Chemical reaction / Synthesis Laboratory use Contact supplier for more information on uses
Uses advised against	Consumer use not recommended

1.3. Details of the supplier of the safety data sheet

Company identification	MULTIGAS Route de l'Industrie 102 CH-1564 Domdidier
Phone number	+41 (0) 26 676 94 94
E-mail address	info@multigas.ch

1.4. Emergency telephone numbers


145 (Toxicology Centre Zurich) or +41 (0) 44 251 51 51
 +41 (0) 26 676 94 94 (Multigas)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Physical hazards	Flammable gases, Category 1	H220
	Gases under pressure : Liquefied gas	H280

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Carcinogenicity, Category 2	H351
Reproductive toxicity, Category 2	H361fd
Specific target organ toxicity — Repeated exposure, Category 2	H373

For the complete H-sentences texts mentioned in that chapter, refer to Section 16

2.2. Label elements

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

Hazard pictograms			
	GHS02	GHS04	GHS08

Signal word Danger

Hazard statements


H220	Extremely flammable gas
H280	Contains gas under pressure; may explode if heated
H351	Suspected of causing cancer
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child
H373	May cause damage to organs through prolonged or repeated exposure

Precautionary statements

P202	Do not handle until all safety precautions have been read and understood
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P260	Do not breathe gas, vapours
P308+P313	IF exposed or concerned: Get medical advice
P377	Leaking gas fire: Do not extinguish, unless leak can be stopped safely
P381	In case of leakage, eliminate all ignition sources
P410+403	Protect from sunlight. Store in a well-ventilated place

2.3. Other hazards

Contact with liquid may cause cold burns/frostbite

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SECTION 3: Composition/information on ingredients

3.1. Substances

Name	Product identifier	Concentration	Classification
Chloromethane	(CAS-No.) 74-87-3 (EC-No.) 200-817-4 (EC Index-No.) 602-001-00-7 (Registration-No.) 01-2119493708-22	<= 100%	Flam. Gas 1, H220 Press. Gas (Liq.), H280 Carc. 2, H351 Repr. 2, H361fd STOT RE 2, H373

For the complete H-sentences texts mentioned in that chapter, refer to Section 16

Contains no other components or impurities which will influence the classification of the product

3.2. Mixtures

Not established

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice	See a doctor. Show this safety data sheet to the attending physician
In case of inhalation	In case of inhalation, remove the person from the contaminated area. In case of respiratory arrest, give artificial respiration. See a doctor
In case of skin contact	Remove contaminated clothing and shoes immediately. Wash with soap and plenty of water. Take victim immediately to hospital. See a doctor
In case of eyes contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a doctor
In case of ingestion	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. See a doctor


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

May cause damaging effects to central nervous system, metabolism and gastrointestinal tract

Refer to section 11

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

None

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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Water spray or water mist. Dry powder. Carbon dioxide. Foam

Unsuitable extinguishing media Do not use water jet to extinguish

5.2. Special hazards arising from the substance or mixture

Specific hazards In case of fire or excessive heat, hazardous combustion products may be produced
Exposure to fire may cause containers to rupture/explode

Hazardous combustion products In case of fire or excessive heat, hazardous combustion products may be produced such as : carbon monoxide, phosgene, hydrogen chloride

5.3. Additional information

Cool endangered receptacles with water spray jet from a protected position

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Avoid breathing vapours, spray mists or gases

Provide adequate ventilation

Evacuate personnel to a safe place

Personal protective equipment, see section 8

6.2. Environmental precautions

No data available

6.3. Methods and material for containment and cleaning up

Ensure adequate air ventilation

Keep area evacuated and free from ignition sources until any spilled liquid has evaporated (ground free from frost)


6.4. Reference to other sections

See also sections 8 and 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with skin and eyes

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Avoid breathing vapour or mist
 Keep away from sources of ignition - No smoking
 Take steps to prevent electrostatic charge build-up
 For precautions, see section 2.2

7.2. Conditions for safe storage, including any incompatibilities

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

7.3. Specific end use(s)

None

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Components with occupational exposure limits

Component	CAS N°	Exposure value type	Control parameter	Source
Chloromethane	74-87-3	TWA	50 ppm	SUVA: Limit values of exposure to workstations
			105 mg/m ³	
		OEL	100 ppm	SUVA: Limit values of exposure to workstations
			210 mg/m ³	

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Provide adequate general and local exhaust ventilation
 Gas detectors should be used when flammable gases may be released

8.2.2. Individual protection measures, e.g. personal protective equipment

Eye/face protection


Wear goggles and a face shield when transfilling or breaking transfer connections. Standard EN 166

Skin / hand protection

Wear protective gloves when handling gas cylinders. Standard EN 388-Protective gloves against mechanical hazards
 Wear cold insulating gloves when transferring or disconnecting transfer lines Standard EN 511 - Insulating gloves against cold
 Wearing chemical resistant gloves Standard EN 374-Protective gloves against chemicals

For short-term use

Material: Fluoro rubber
 Penetration time:> 4800 min

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Glove thickness: 0.7 mm

For long-term use

Material: Fluoro rubber

Penetration time:> 480 min

Glove thickness: 0.7 mm

Have appropriate, chemical-resistant protective clothing ready for use in emergencies

Respiratory protection

When the risk assessment shows that the use of respirable respirators is appropriate, use a full face mask with EN 14387 multipurpose cartridge. If the mask is the only means of protection, use a full face respirator. Use NIOSH (US) or CEN (EU) tested and approved equipment

8.2.3. Environmental exposure controls

No data available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

- **Physical state at 20°C / 101.3kPa** Gas
- **Colour** Colourless

Odour No data available

Odour threshold No data available

pH No data available

Melting point / Freezing point -98°C

Boiling point -23.8°C

Flash point No data available

Evaporation rate No data available

Flammability (solid, gas) Extremely flammable gas

Explosive limits 7 – 17.4%

Vapour pressure [20°C] 4.9 bar

Vapour pressure [50°C] 11 bar

Vapour density No data available

Relative density, liquid (water=1) 0.9

Relative density, gas (air=1) 1.8


Water solubility 6.3 g/l

Partition coefficient 0.91

n-octanol/water (Log Kow)

Auto-ignition temperature 632°C

Decomposition temperature No data available

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Viscosity	No data available
Explosive properties	No data available
Oxidising properties	No data available

9.2. Other information

Molar mass	50.5 g/ mol
Critical temperature [°C]	143°C
Relative vapour density	Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level

SECTION 10: Stability and reactivity

10.1. Reactivity

No reactivity hazard other than the effects described in sub-sections below

10.2. Chemical stability

Stable under recommended storage conditions

10.3. Possibility of hazardous reactions

Can form explosive mixture with air.
May react violently with oxidants

10.4. Conditions to avoid

Keep away from heat/sparks/open flames/hot surfaces. – No smoking

10.5. Incompatible materials

Strong oxidisers, strong acids
May react with aluminium.
For additional information on compatibility refer to ISO 11114

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced

SECTION 11: Toxicological information

11.1. Chemical safety assessment

Acute toxicity	No data available
Skin corrosion/irritation	No data available

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Serious eye damage/irritation	No data available
Respiratory or skin sensitisation	No data available
Germ cell mutagenicity	No data available
Carcinogenicity	Suspected of causing cancer
Reproductive toxicity	No data available
STOT-single exposure – Target organ(s)	Overexposure may cause stomach cramps, vomiting and cough and may also cause kidney and liver damage
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure. Central nervous system
Ingestion hazard	No data available

SECTION 12: Ecological information

12.1. Toxicity

Assessment Classification criteria are not met

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

PBT / vPvB assessment is not available because the chemical safety assessment is not required / is not conducted


12.6. Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product	Must not be discharged to atmosphere Burn in a chemical incinerator equipped with an afterburner and scrubber Return unused product in original cylinder to supplier
Contaminated container	Eliminate as unused product

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Contact the supplier if instructions are needed

OMoD Code

16 05 04

Gases in pressure containers containing dangerous substances

SECTION 14: Transport information

14.1. UN number

Transport par road/rail ADR / RID	Transport by sea IMDG	Transport by air IATA
1063	1063	1063

14.2. UN proper shipping name

Transport par road/rail ADR / RID	Transport by sea IMDG	Transport by air IATA
Methyl chloride (Refrigerant gas R40)	Methyl chloride (Refrigerant gas R40)	Methyl chloride

14.3. Transport hazard class(es)

Labelling



ADR/RID
IMDG
IATA

2.1 : Flammable gases

14.4. Packing group

ADR/RID
IMDG
IATA

Not established

14.5. Environmental hazards

ADR/RID

None

IMDG

None

ICAO-TI / IATA-DGR


None

14.6. Special precautions for user

No data available

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

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SECTION 15: Regulatory information

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

This safety data sheet complies with the requirements of Regulation (CE) No. 1907/2006

15.2. Chemical safety assessment

A CSA has been carried out

SECTION 16: Other information

Indication of changes	Revised safety data sheet in accordance with commission regulation (EU) No 2015/830
Abbreviations and acronyms	<p>ADR : European Agreement concerning the International Carriage of Dangerous Goods by Road</p> <p>CAS : Chemical Abstract Service number (USA)</p> <p>CLP : Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008</p> <p>CSA : Chemical Safety Assessment</p> <p>EIGA : European Industrial Gases Association</p> <p>EINECS : European Inventory of Existing Commercial Chemical Substances</p> <p>EN : European Standard</p> <p>ATE : Acute Toxicity Estimate</p> <p>IATA : International Air Transport Association</p> <p>IMDG Code : International Maritime Dangerous Goods Code</p> <p>LC50 : Lethal Concentration to 50 % of a test population</p> <p>OMoD : Swiss Ordinance on the movement of waste</p> <p>PBT : Persistent, Bioaccumulative and Toxic</p> <p>PPE: Personal Protection Equipment</p> <p>REACH : Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006</p> <p>RID : Regulations concerning the international carriage of dangerous goods by rail</p> <p>RMM : Risk Management Measures</p> <p>STOT-SE : Specific Target Organ Toxicity - Single Exposure</p> <p>UN : United Nations</p> <p>vPvB : Very Persistent and Very Bioaccumulative</p> <p>WGK: Water Hazards Class</p>

Full text of H, EUH and P statements used in sections 2 and 3

Hazard statements

H220

Extremely flammable gas

Chloromethane (R40)

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- H280 Contains gas under pressure; may explode if heated
- H351 Suspected of causing cancer
- H361fd Suspected of damaging fertility. Suspected of damaging the unborn child
- H373 May cause damage to organs through prolonged or repeated exposure

Precautionary statements

- P202 Do not handle until all safety precautions have been read and understood
- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
- P260 Do not breathe gas, vapours
- P308+P313 IF exposed or concerned: Get medical advice
- P377 Leaking gas fire: Do not extinguish, unless leak can be stopped safely
- P381 In case of leakage, eliminate all ignition sources
- P410+403 Protect from sunlight. Store in a well-ventilated place

Disclaimer of liability

Details given in this document have been prepared based on the most available reliable documents and are believed to be correct at the time of going to press. They do not claim to be exhaustive and should be considered as a guide.