DICHLOROMETHANE
Safety Data Sheet
According to SANS 10234:2008 and SANS 11014:2010
Issue date:07/02/2020 Revision date: 07/02/2025 : Version: 1.0

SECTION 1: Identification

1.1. Product identifier

Trade name : DICHLOROMETHANE
EC-No. : 200-838-9
EC Index-No. : 602-004-00-3
CAS-No. : 75-09-2
UN-No. (ADR) : 1593
Product code : 104040xxx
Formula : CH2Cl2

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

Recommended uses and restrictions : For laboratory use only

1.3. Supplier's details

Labchem (Pty)Ltd
6 Wakefield Road
Founders Hill
1609 Johannesburg - South Africa
T +27 11 452 1116 - F +27 86 588 0293
techlab@labchem.co.za - www.labchem.co.za

1.4. Emergency telephone number

Emergency number : +27 11 452 1116

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to the United Nations GHS

Carcinogenicity, Category 2 H351

Hazardous to the aquatic environment - Acute Hazard Not classified
Full text of H statements : see section 16

2.2. Label elements

Labelling according to the United Nations GHS

Hazard pictograms (GHS-ZA) :

GHS08

Signal word (GHS-ZA) : Warning

Hazard statements (GHS-ZA) : H351 - Suspected of causing cancer.

Precautionary statements (GHS-ZA) : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P308+P313 - IF exposed or concerned: Get medical advice/attention.
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

Adverse physicochemical, human health and environmental effects : Suspected of causing cancer.

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance identification codes: See section 1.1

Name	Product identifier	%	Classification according to the United Nations GHS
dichloromethane (Main constituent)	(CAS-No.) 75-09-2	≥ 99.9	Carc. 2, H351 Aquatic Acute Not classified

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital. Never give alcohol to drink. IF exposed or concerned: Get medical advice/attention.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

First-aid measures after skin contact : Wash immediately with lots of water. Soap may be used. Do not apply (chemical) neutralizing agents without medical advice. Take victim to a doctor if irritation persists. Wash skin with plenty of water.

First-aid measures after eye contact : Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply (chemical) neutralizing agents without medical advice. Take victim to an ophthalmologist if irritation persists. Rinse eyes with water as a precaution.

First-aid measures after ingestion : Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Do not induce vomiting. Do not apply (chemical) neutralizing agents without medical advice. Call Poison Information Centre (www.big.be/antigif.html). Consult a doctor/medical service if you feel unwell. Ingestion of large quantities: immediately to hospital. Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects after inhalation : Dry/sore throat. Coughing. EXPOSURE TO HIGH CONCENTRATIONS: Headache. Nausea. Feeling of weakness. Dizziness. Coordination disorders. Impaired concentration. Change in the haemogramme/blood composition. ON CONTINUOUS EXPOSURE/CONTACT: Respiratory difficulties. Disturbances of consciousness.

Symptoms/effects after skin contact : No effects known.

Symptoms/effects after eye contact : No effects known.

Symptoms/effects after ingestion : AFTER INGESTION OF HIGH QUANTITIES: Nausea. Dry/sore throat. Gastrointestinal complaints.

Chronic symptoms : Red skin. Dry skin. Central nervous system depression. Mental confusion. Slurred speech. Visual disturbances. Drunkenness. Delusions. Impaired memory. Enlargement/affection of the liver. Change in the haemogramme/blood composition.

Potential adverse human health effects and symptoms : Practically non-toxic if swallowed (LD50 oral, rat > 2000 mg/kg). Practically non-toxic in contact with skin (LD50 skin > 2000 mg/kg). Obstructs oxygen absorption if inhaled. Slightly harmful by inhalation.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Quick-acting ABC powder extinguisher. Quick-acting BC powder extinguisher. Quick-acting class B foam extinguisher. Quick-acting CO2 extinguisher. Class B foam (alcohol-resistant). Water spray if puddle cannot expand. Water spray. Dry powder. Foam. Carbon dioxide.

Unsuitable extinguishing media : Water (quick-acting extinguisher, reel); risk of puddle expansion. Water; risk of puddle expansion.

5.2. Special hazards arising from the substance or mixture

Fire hazard : DIRECT FIRE HAZARD: Flammable in the presence of a high energy source. Gas/vapour flammable with air within explosion limits. INDIRECT FIRE HAZARD: Heating increases the fire hazard. Reactions involving a fire hazard: see "Reactivity Hazard".

Explosion hazard : DIRECT EXPLOSION HAZARD: Gas/vapour explosive within explosion limits if energy source high. INDIRECT EXPLOSION HAZARD: Heat may cause pressure rise in tanks/drums: explosion risk. Reactions with explosion hazards: see "Reactivity Hazard".

Hazardous decomposition products in case of fire : On burning: release of toxic and corrosive gases/vapours (hydrogen chloride, carbon monoxide - carbon dioxide).

5.3. Advice for firefighters

Precautionary measures fire : Exposure to fire/heat: consider evacuation.

Firefighting instructions : Cool tanks/drums with water spray/remove them into safety. Physical explosion risk: extinguish/cool from behind cover. Do not move the load if exposed to heat. After cooling: persistant risk of physical explosion. Dilute toxic gases with water spray. Take account of toxic/corrosive precipitation water.

Protection during firefighting : Heat/fire exposure: compressed air apparatus (EN 136 + EN 137). Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

No additional information available

6.1.1. For non-emergency personnel

Protective equipment : Gloves (EN 374). Protective goggles (EN 166). Head/neck protection. Protective clothing (EN 14605 or EN 13034). Large spills/in enclosed spaces: compressed air apparatus (EN 136 + EN 137).

Emergency procedures : Ventilate spillage area. Keep upwind. Mark the danger area. Seal off low-lying areas. Close doors and windows of adjacent premises. No naked flames. Keep containers closed. Wash contaminated clothes. Large spills/in confined spaces: consider evacuation. In case of reactivity hazard: consider evacuation.

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

Avoid release to the environment. Prevent spreading in sewers.

6.3. Methods and material for containment and cleaning up

For containment : Contain released product, pump into suitable containers. Plug the leak, cut off the supply. Dam up the liquid spill. Try to reduce evaporation. Provide equipment/receptacles with earthing.

Methods for cleaning up : Take up liquid spill into absorbent material. Take up liquid spill into absorbent material, e.g.: sand, earth, vermiculite. Scoop absorbed substance into closing containers. Carefully collect the spill/leftovers. Damaged/cooled tanks must be emptied. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Use earthed equipment. Keep away from naked flames/heat. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Keep container tightly closed. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment.

Hygiene measures : Observe strict hygiene. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool.

Storage area : Store in a cool area. Store in a dry area. Store in a dark area. Keep container in a well-ventilated place. Provide for a tub to collect spills. Provide the tank with earthing. Unauthorized persons are not admitted. Store only in a limited quantity. Meet the legal requirements.

Heat and ignition sources : KEEP SUBSTANCE AWAY FROM: heat sources.

Information on mixed storage : KEEP SUBSTANCE AWAY FROM: oxidizing agents. (strong) acids. (strong) bases. organic materials. water/moisture.

Special rules on packaging : SPECIAL REQUIREMENTS: closing. dry. clean. opaque. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.

Packaging materials : SUITABLE MATERIAL: stainless steel. polyethylene. glass. MATERIAL TO AVOID: iron. aluminium. synthetic material. copper. PVC.

Storage temperature : < 35 °C

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DICHLOROMETHANE (75-09-2)	
South Africa - Occupational Exposure Limits (Recommended Limits)	
Local name	Methylene chloride (Dichloromethane)
OEL TWA (mg/m³)	350 mg/m³
OEL TWA (ppm)	100 ppm
OEL STEL (mg/m³)	780 mg/m³

DICHLOROMETHANE (75-09-2)	
OEL STEL (ppm)	250 ppm
Regulatory reference	Government Notice. R: 1179
South Africa - Occupational Exposure Limits (Control Limits)	
Local name	Dichloromethane
OEL TWA (mg/m³)	350 mg/m³
OEL TWA (ppm)	100 ppm
Regulatory reference	Government Notice. R: 1179

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment (PPE)

Materials for protective clothing : GIVE GOOD RESISTANCE: PVA. viton. GIVE LESS RESISTANCE: neoprene. tetrafluoroethylene. GIVE POOR RESISTANCE: butyl rubber. natural rubber. nitrile rubber. PVC. styrene-butadiene rubber

Hand protection : Protective gloves against chemicals (EN 374)

Eye protection : Protective goggles (EN 166)

Skin and body protection : Head/neck protection. Protective clothing (EN 14605 or EN 13034)

Respiratory protection : Full face mask with filter type AX at conc. in air > exposure limit. High vapour/gas concentration: compressed air apparatus (EN 136 + EN 137)

Personal protective equipment symbol(s):

8.4. Exposure limit values for the other components

No additional information available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Appearance : Liquid.

Molecular mass : 84.94 g/mol

Colour : Colourless.

Odour : Ether-like odour.

Odour threshold : No data available

pH : No data available

pH solution : No data available

Relative evaporation rate (butylacetate=1) : 27.5

Relative evaporation rate (ether=1) : 1.8

Melting point : -95 °C (1013 hPa)

Freezing point : No data available

Boiling point : 40 °C (1013 hPa)

Flash point : Not quantifiable

Critical temperature : 245 °C

Auto-ignition temperature : 605 °C (1013 hPa, DIN 51794: Self-ignition temperature)

Decomposition temperature : > 120 °C

Flammability (solid, gas) : Not applicable

Vapour pressure : 584 hPa (25 °C)

Vapour pressure at 50 °C : No data available

Critical pressure : 61000 hPa

Relative vapour density at 20 °C : 2.9

Relative density : 1.33 (20 °C)

Relative density of saturated gas/air mixture : 1.9

Density	:	1330 kg/m³ (20 °C)
Relative gas density	:	No data available
Solubility	:	Moderately soluble in water. Substance sinks in water. Soluble in ethanol. Soluble in ether. Soluble in acetone. Soluble in chloroform. Soluble in tetrachloromethane. Soluble in dimethylformamide. Water: 1.3 g/100ml (25 °C)
Partition coefficient n-octanol/water (Log Pow)	:	1.25 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 20 °C)
Partition coefficient n-octanol/water (Log Kow)	:	No data available
Viscosity, kinematic	:	0.316 mm²/s
Viscosity, dynamic	:	0.42 mPa·s (20 °C)
Explosive properties	:	No data available
Oxidising properties	:	No data available
Explosive limits	:	13 – 22 vol % 450 – 780 g/m³
Lower explosive limit (LEL)	:	13 vol %
Upper explosive limit (UEL)	:	22 vol %

9.2. Other information

Specific conductivity	:	4300 pS/m
Saturation concentration	:	1535 g/m³
VOC content	:	100 %
Other properties	:	Gas/vapour heavier than air at 20°C. Clear. Highly volatile. May generate electrostatic charges.

SECTION 10: Stability and reactivity

10.1. Reactivity

On heating under increased oxygen concentration: (increased) risk of fire/explosion. Reacts on exposure to water and heat with (some) metals.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Violent to explosive reaction with many compounds e.g. with (some) acids, with (some) metal powders and with (strong) oxidizers: (increased) risk of fire/explosion and formation of small quantities of phosgene. Decomposes slowly on exposure to water (moisture): release of toxic and corrosive gases/vapours (hydrogen chloride).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	:	Not classified
Acute toxicity (dermal)	:	Not classified
Acute toxicity (inhalation)	:	Not classified

DICHLOROMETHANE (75-09-2)	
LD50 oral rat	> 2000 mg/kg bodyweight (OECD 401: Acute Oral Toxicity, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 dermal rat	> 2000 mg/kg bodyweight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal)

Skin corrosion/irritation	:	Not classified
Serious eye damage/irritation	:	Not classified
Respiratory or skin sensitisation	:	Not classified
Germ cell mutagenicity	:	Not classified
Carcinogenicity	:	Suspected of causing cancer.
Reproductive toxicity	:	Not classified
STOT-single exposure	:	Not classified
STOT-repeated exposure	:	Not classified
Aspiration hazard	:	Not classified

DICHLOROMETHANE (75-09-2)	
Viscosity, kinematic	0.316 mm²/s

Potential adverse human health effects and symptoms : Practically non-toxic if swallowed (LD50 oral, rat > 2000 mg/kg). Practically non-toxic in contact with skin (LD50 skin > 2000 mg/kg). Obstructs oxygen absorption if inhaled. Slightly harmful by inhalation.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008.

Ecology - air : Included in the list of substances which may contribute to the greenhouse effect (IPCC). Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014). Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).

Ecology - water : Harmful to crustacea. Slightly harmful to fishes. Groundwater pollutant. Inhibition of activated sludge. Slightly harmful to algae.

Hazardous to the aquatic environment, short-term (acute) : Not classified.

Hazardous to the aquatic environment, long-term (chronic) : Not classified

DICHLOROMETHANE (75-09-2)	
LC50 fish 1	193 mg/l (96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value, Lethal)
BCF fish 1	2 – 40 (OECD 305: Bioconcentration: Flow-Through Fish Test, 6 week(s), Cyprinus carpio, Semi-static system, Fresh water, Experimental value, GLP)
Partition coefficient n-octanol/water (Log Pow)	1.25 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 20 °C)
Partition coefficient n-octanol/water (Log Koc)	1.67 (log Koc, Calculated value)

12.2. Persistence and degradability

DICHLOROMETHANE (75-09-2)	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.

12.3. Bioaccumulative potential

DICHLOROMETHANE (75-09-2)	
BCF fish 1	2 – 40 (OECD 305: Bioconcentration: Flow-Through Fish Test, 6 week(s), Cyprinus carpio, Semi-static system, Fresh water, Experimental value, GLP)
Partition coefficient n-octanol/water (Log Pow)	1.25 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 20 °C)
Partition coefficient n-octanol/water (Log Koc)	1.67 (log Koc, Calculated value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

DICHLOROMETHANE (75-09-2)	
Mobility in soil	No additional information available
Surface tension	No data available in the literature
Partition coefficient n-octanol/water (Log Pow)	1.25 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 20 °C)
Partition coefficient n-octanol/water (Log Koc)	1.67 (log Koc, Calculated value)
Ecology - soil	Highly mobile in soil. May be harmful to plant growth, blooming and fruit formation.

12.5. Other adverse effects

Ozone : Not classified

Other adverse effects : No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Product/Packaging disposal recommendations : Do not discharge into surface water (Directive 2000/60/EC, Council Decision 2455/2001/EC). Do not discharge into drains or the environment. Dispose of at authorized waste collection point. Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals.

Additional information : Hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.

SECTION 14: Transport information

In accordance with SANS / IMDG / IATA

SANS	IMDG	IATA
14.1. UN number		
1593	1593	1593
14.2. Proper Shipping Name		
DICHLOROMETHANE	DICHLOROMETHANE	Dichloromethane
14.3. Transport hazard class(es)		
6.1	6.1	6.1
		 Not applicable
14.4. Packing group		
III	III	III
14.5. Environmental hazards		
Dangerous for the environment : No	Dangerous for the environment : No :	Dangerous for the environment : No
No supplementary information available		

14.6. Special precautions for user

- SANS

Transport regulations (UN) : Subject to the provisions
Limited quantities (SANS) : 5 L
Limited quantities (SANS) : 5 L
Packagings, large packagings and IBCs Packing instructions (SANS) : P001, IBC03, LP01
Packagings, large packagings and IBCs Special packing instructions (SANS) : B8
Portable tank and bulk containers instructions (SANS) : T7
Portable tank and bulk container special provisions (SANS) : TP2

- IMDG

Transport regulations (IMDG) : Subject to the provisions
Limited quantities (IMDG) : 5 L
Excepted quantities (IMDG) : E1
Packing instructions (IMDG) : P001, LP01
IBC packing instructions (IMDG) : IBC03
IBC special provisions (IMDG) : B8
Tank instructions (IMDG) : T7
Tank special provisions (IMDG) : TP2
EmS-No. (Fire) : F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE
EmS-No. (Spillage) : S-A - SPILLAGE SCHEDULE Alfa - TOXIC SUBSTANCES
Stowage category (IMDG) : A
Properties and observations (IMDG) : Colourless, volatile liquid with heavy vapours. Boiling point: 40°C. When involved in a fire, evolves extremely toxic fumes (phosgene). Toxic if swallowed, by skin contact or by inhalation.

- IATA

Transport regulations (IATA) : Subject to the provisions
PCA Excepted quantities (IATA) : E1
PCA Limited quantities (IATA) : Y642
PCA limited quantity max net quantity (IATA) : 2L
PCA packing instructions (IATA) : 655
PCA max net quantity (IATA) : 60L

CAO packing instructions (IATA)	:	663
CAO max net quantity (IATA)	:	220L
ERG code (IATA)	:	6L

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

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health, and environmental national regulations specific for the product

Regulatory reference : SANS 10234:2008; SANS 11014:2010; SANS 10228:2012;SANS 10229:2010; SANS 10232(1,2,4), SANS 10231:2018; Occupational Health and Safety Act 85 of 1993; National Road Traffic Act 93 of 1996.

SECTION 16: Other information

Issue date : 07/02/2020

Revision date : 07/02/2025

Full text of H-statements:

H351	Suspected of causing cancer.

SDS South Africa

The data provided in this Safety Data Sheet (SDS) is correct to the best of our knowledge. The data relates to the specific product as named and is ntended as a guide to the safe handling of the product in all its facets. The data may no longer be valid if the product is used in any process or in combination with other products.This SDS is not a quality specification nor any form of guarantee.