

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

1.1. Product Identifiers

Product name : Dichloromethane
Type of product : Chemical substance
Product grade : LR, AR/ ACS, AR, HPLC, Certified Dry, GC, Special Grade
CAS No : 75-09-2

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

Identified uses : Reagent for analysis

1.3. Details of the supplier of the safety data sheet

RYZE CHEMIE PRIVATE LIMITED
Gami Industrial Park, Unit.13, Second Floor, C Block,
Plot No.C-39-A, TTC Industrial area, Navi Mumbai,
Thane, Maharashtra-400705
Safety@ryzechemie.com

1.4. Emergency Telephone Number : +91- 99-3006-04-04

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Skin irritation, Category 2	H315: Causes skin irritation.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Carcinogenicity, Category 2	H351: Suspected of causing cancer.
Specific target organ toxicity - single exposure, Category 3, Central nervous system	H336: May cause drowsiness or dizziness.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Warning

Hazard statements : H315 Causes skin irritation.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
H351 Suspected of causing cancer.

Precautionary statements : **Prevention:**
P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing mist or vapours.
P264 Wash skin thoroughly after handling.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.

Reduced Labelling (<= 125 ml)

Hazard pictograms :



Signal word Warning

Hazard Statements
H351 Suspected of causing cancer.

Precautionary Statements
P202 Do not handle until all safety precautions have been read and understood.

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

Supplemental Hazard Statements none

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

Index-No. : 602-004-00-3

EC-No. : 200-838-9

Components

Chemical name	CAS-No. EC-No.	Concentration (% w/w)	M-Factor, SCL, ATE
Dichloromethane	75-09-2 200-838-9	>= 90 - <= 100	specific concentration limit STOT SE 3; H336 20 %

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Show this safety data sheet to the doctor in attendance.

If inhaled : After inhalation: fresh air. Call in physician.

In case of skin contact : In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

In case of eye contact : After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

If swallowed : After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media : For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire fighting : Not combustible.

Fire may cause evolution of:
Hydrogen chloride gas
Phosgene
Ambient fire may liberate hazardous vapours.

Hazardous combustion products : Carbon oxides

Hydrogen chloride gas

5.3 Advice for firefighters

Special protective equipment for fire-fighters : Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information : Suppress (knock down) gases/vapours/mists with a water spray jet.
Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Advice for non-emergency personnel:
Do not breathe vapours, aerosols.
Avoid substance contact.
Ensure adequate ventilation.
Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

6.2 Environmental precautions

Environmental precautions : Do not let product enter drains.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

6.4 Reference to other sections

For disposal considerations see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Hygiene measures : Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Further information on storage conditions : Protected from light.

Tightly closed. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorised persons.

Storage class (TRGS 510) : 6.1C, Combustible, acute toxic Cat.3 / toxic compounds or compounds which causing chronic effects

Further information on storage stability : Recommended storage temperature see product label.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006

Substance name	End Use	Exposure routes	Potential health effects	Value
	Worker DNEL, acute	inhalation	Systemic effects	706 mg/m3
	Worker DNEL, longterm	inhalation	Systemic effects	353 mg/m3
	Worker DNEL, longterm	dermal	Systemic effects	4750 mg/kg
	Consumer DNEL, longterm	oral	Systemic effects	0,06 mg/kg
	Consumer DNEL, longterm	dermal	Systemic effects	2395 mg/kg
	Consumer DNEL, longterm	inhalation	Systemic effects	88,3 mg/m3
	Consumer DNEL, acute	inhalation	Systemic effects	353 mg/m3

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006

Substance name	Environmental Compartment	Value
	Fresh water	0,54 mg/l
	Fresh water sediment	4,47 mg/kg
	Marine water	0,194 mg/l
	Marine sediment	1,61 mg/kg
	Aquatic intermittent release	0,27 mg/l
	Sewage treatment plant	26 mg/l
	Soil	0,583 mg/kg

8.2 Exposure controls

Personal protective equipment

Eye/face protection : Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
Safety glasses

Hand protection

Material : Viton®
Break through time : 120 min
Glove thickness : 0,7 mm
Protective index : Splash contact
Manufacturer : Vitoject® (KCL 890 / Z677698, Size M)

Remarks : This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

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Skin and body protection : protective clothing

Respiratory protection : required when vapours/aerosols are generated.

Recommended Filter type: : Filter AX (EN 371)

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Environmental exposure controls

Advice : Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state : liquid (20 °C, 1.013 hPa)

Color : colourless

Odor : ether-like

Odor Threshold : 250 ppm

Melting point/ range : -95 °C (1.013 hPa)

Boiling point/boiling range : 40 °C (1.013 hPa)

Flammability : No data available

Upper explosion limit /
Upper flammability limit : Upper explosion limit
22 %(V)

Lower explosion limit /
Lower flammability limit : Lower explosion limit
13 %(V)

Flash point : does not flash

Autoignition temperature : 556,1 °C

Decomposition
temperature : No data available

pH : No data available

Viscosity	
Viscosity, dynamic	: 0,42 mPa.s (25 °C)
Viscosity, kinematic	: No data available
Flow time	: No data available
Solubility(ies)	
Water solubility	: 13,2 g/l (25 °C) pH: 7
Partition coefficient: n-octanol/water	: log Pow: 1,25 (20 °C) pH: 7 Method: (experimental) Bioaccumulation is not expected.
Vapor pressure	: 584 hPa (25 °C)
Relative density	: No data available
Density	: 1,33 g/cm ³ (20 °C)
Relative vapour density	: 2,93

9.2 Other information

Explosives	: Not classified as explosive.
Oxidizing properties	: none
Burning rate	: No data available
Self-ignition	: 605 °C 1.013 hPa Method: DIN 51794
Evaporation rate	: 0,71
Refractive index	: 1,42 at 20 °C 589,3 nm
Molecular weight	: 84,93 g/mol

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

Sensitivity to light

The product is chemically stable under standard ambient conditions (room temperature) .

Contains the following stabiliser(s):

2-methyl-2-butene(0,002 %)

10.3 Possibility of hazardous reactions

Hazardous reactions : Risk of explosion with:

Alkali metals
nitrogen oxides
nitrogen dioxide
Potassium
sodium azide
perchloric acid
Nitric acid
aluminium chloride
Amines
Oxygen
(as liquefied gas)
powdered aluminium
sodium
aromatic hydrocarbons
with
powdered aluminium
Exothermic reaction with:

Alkaline earth metals
Powdered metals
amides
alcoholates
nonmetallic oxides
potassium tert-butanolate
sodium amide
Lithium

10.4 Conditions to avoid

Conditions to avoid : no information available

10.5 Incompatible materials

No data available

10.6 Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - male and female - > 2.000 mg/kg
(OECD Test Guideline 401)

LC50 Inhalation - Mouse - 4 h - 86 mg/l - vapour

Remarks: (ECHA)

Symptoms: Possible damages: , mucosal irritations

LD50 Dermal - Rat - male and female - > 2.000 mg/kg
(OECD Test Guideline 402)

Skin corrosion/irritation

Skin - Rabbit

Result: Irritations - 4 h

(OECD Test Guideline 404)

Remarks: Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Eye irritation

Remarks: (ECHA)

Remarks: Risk of corneal clouding.

Respiratory or skin sensitization

Local lymph node assay (LLNA) - Mouse

Result: negative

(OECD Test Guideline 429)

Germ cell mutagenicity

Test Type: Mutagenicity (mammal cell test): chromosome aberration.

Test system: Chinese hamster ovary cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 473

Result: positive

Test Type: Ames test

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: positive

Test Type: In vivo micronucleus test

Species: Mouse

Cell type: Bone marrow

Application Route: Gavage

Method: OECD Test Guideline 474

Result: negative

Carcinogenicity

Suspected of causing cancer.

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

Inhalation - May cause drowsiness or dizziness. - Central nervous system

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

11.2 Additional Information

Endocrine disrupting properties

Product:

Assessment

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Repeated dose toxicity - Rat - male and female - Oral - 104 Weeks - No observed adverse effect level - 6 mg/kg

Repeated dose toxicity - Rat - male and female - Inhalation - 104 Weeks

Dizziness, Nausea, Vomiting, narcosis, Cough, irritant effects, Unconsciousness, Shortness of breath, respiratory paralysis, somnolence, depressed respiration, CNS disorders, inebriation

Risk of corneal clouding.

The following applies to aliphatic halogenated hydrocarbons in general: systemic effect: narcosis, cardiovascular disorders. Toxic effect on liver, kidneys.

Dichloromethane is metabolized in the body producing carbon monoxide which increases and sustains carboxyhemoglobin levels in the blood, reducing the oxygen-carrying capacity of the blood.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Systemic effects:

After absorption of large quantities:

CNS disorders

Drowsiness

Dizziness

drop in blood pressure

Cardiac irregularities

depressed respiration

inebriation

Unconsciousness

narcosis

Swallowing may result in damage to the following:

Liver

Kidney

The following applies to aliphatic halogenated hydrocarbons in general: systemic effect: narcosis, cardiovascular disorders. Toxic effect on liver, kidneys.

Other dangerous properties can not be excluded.

This substance should be handled with particular care.

SECTION 12: Ecological information

12.1 Toxicity

Components:

Dichloromethane:

Toxicity to fish	: LC50 (Pimephales promelas (fathead minnow)): 193,00 mg/l End point: mortality Exposure time: 96 h Test Type: flow-through test Analytical monitoring: yes Remarks: (ECHA)
Toxicity to daphnia and other aquatic invertebrates	: LC50 (Daphnia magna (Water flea)): 27 mg/l End point: mortality Exposure time: 48 h Test Type: static test Method: US-EPA
Toxicity to microorganisms	: EC50 (activated sludge): 2.590 mg/l Exposure time: 40 min Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 209
Toxicity to fish (Chronic toxicity)	: LC50: 471 mg/l End point: mortality Exposure time: 8 d Species: Pimephales promelas (fathead minnow) Test Type: flow-through test Analytical monitoring: yes Remarks: (ECHA)

12.2 Persistence and degradability

Components:

Dichloromethane:

Biodegradability	: Test Type: aerobic Inoculum: activated sludge, non-adapted Concentration: 5 mg/l Result: Readily biodegradable. Biodegradation: 68 % Exposure time: 28 d Method: OECD Test Guideline 301D GLP: yes
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12.3 Bioaccumulative potential

Components:

Dichloromethane:

Bioaccumulation : Species: Cyprinus carpio (Carp)
Exposure time: 6 Weeks
Concentration: 250 µg/l
Bioconcentration factor (BCF): 2 - 5,4
Method: OECD Test Guideline 305
GLP: yes

Species: Cyprinus carpio (Carp)
Exposure time: 6 Weeks
Concentration: 25 µg/l
Bioconcentration factor (BCF): 6 - 40
Method: OECD Test Guideline 305
GLP: yes

Partition coefficient: n-octanol/water : log Pow: 1,25 (20 °C)
pH: 7
Method: (experimental)
Remarks: Bioaccumulation is not expected.

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Components:

Dichloromethane:

Assessment : Not persistent, bioaccumulative, and toxic (PBT).
Not very persistent and very bioaccumulative (vPvB).

: Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

12.6 Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

No data available

12.7 Other adverse effects

Components:

Dichloromethane:

Ozone-Depletion Potential : The figures relating to ozone-depleting potential are estimates based on existing knowledge and will be reviewed and revised periodically in the light of decisions taken by the Parties.
Regulation: Regulation (EU) No 2024/590 on substances that deplete the ozone layer (Update: 2024-02-20)
Group: Annex II Ozone-Depleting Substances
Referred To In Article 2, Point (A), Not Controlled Under The Protocol

Regulation (EU) No 2024/590 on substances that deplete the ozone layer

Components:

Dichloromethane:

100-year global warming potential: 11,2

Further information: The figures relating to ozone-depleting potential are estimates based on existing knowledge and will be reviewed and revised periodically in the light of decisions taken by the Parties., Annex II Ozone-Depleting Substances Referred To In Article 2, Point (A), Not Controlled Under The Protocol

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

SECTION 14: Transport information

14.1 UN number or ID number

ADR : UN 1593
IMDG : UN 1593
IATA : UN 1593

14.2 UN proper shipping name

ADR	:	DICHLOROMETHANE
IMDG	:	DICHLOROMETHANE
IATA	:	Dichloromethane

14.3 Transport hazard class(es)

	Class	Subsidiary risks
ADR	: 6.1	
IMDG	: 6.1	
IATA	: 6.1	

14.4 Packing group

ADR	
Packing group	: III
Classification Code	: T1
Hazard Identification Number	: 60
Labels	: 6.1
Tunnel restriction code	: (E)
IMDG	
Packing group	: III
Labels	: 6.1
EmS Code	: F-A, S-A
IATA (Cargo)	
Packing instruction (cargo aircraft)	: 663
Packing instruction (LQ)	: Y642
Packing group	: III
Labels	: Division 6.1 - Toxic substances
IATA_P (Passenger)	
Packing instruction (passenger aircraft)	: 655
Packing instruction (LQ)	: Y642
Packing group	: III
Labels	: Division 6.1 - Toxic substances

14.5 Environmental hazards

ADR	
Environmentally hazardous	: no
IMDG	
Marine pollutant	: no

14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.1 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)	: Conditions of restriction for the following entries should be considered: Number on list 3 Number on list 40: 2-methyl-2-butene Number on list 59: Dichloromethane Number on list 75: If you intend to use this product as tattoo ink, please contact your vendor.
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).	: Not applicable
Regulation (EU) No 2024/590 on substances that deplete the ozone layer	: Dichloromethane
Regulation (EU) 2019/1021 on persistent organic pollutants (recast)	: Not applicable
REACH - List of substances subject to authorisation (Annex XIV)	: Not applicable
Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.	Not applicable

15.2 Chemical safety assessment

A Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

Abbreviation and Acronyms

CAS - Chemical Abstracts Service
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
DSL/NDSL - Canadian Domestic Substances List/Non- Domestic Substances List
PICCS - Philippines Inventory of Chemicals and Chemical Substances
ENCS - Japanese Existing and New Chemical Substances
IECSC - Chinese Inventory of Existing Chemical Substances
AICS - Australian Inventory of Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
NZIoC - New Zealand Inventory of Chemicals
WEL - Workplace Exposure Limit
TWA - Time Weighted Average
ACGIH - American Conference of Governmental Industrial Hygienists
IARC - International Agency for Research on Cancer
DNEL - Derived No Effect Level
PNEC - Predicted No Effect Concentration
RPE - Respiratory Protective Equipment
LD50 - Lethal Dose 50%
LC50 - Lethal Concentration 50%
EC50 - Effective Concentration 50%
NOEC - No Observed Effect Concentration
POW- Partition coefficient Octanol:Water
PBT - Persistent, Bioaccumulative, Toxic
vPvB - very Persistent, very Bioaccumulative
ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road
ICAO/IATA - International Civil Aviation Organization/International Air Transport Association
IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code
MARPOL - International Convention for the Prevention of Pollution from Ships
OECD - Organization for Economic Co-operation and Development
ATE - Acute Toxicity Estimate
BCF - Bioconcentration factor
VOC - (Volatile Organic Compound)

Disclaimer: The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

Ryze Chemie will not be held liable for any damage resulting from handling or from contact with the above product

End of safety data sheet