



SRF LIMITED

Rev: 01

Revision date:28.06.2018

SAFETY DATA SHEET METHYLENE CHLORIDE

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

1.1 Product Name	METHYLENE CHLORIDE
(a)Product identifier used on the label	METHYLENE CHLORIDE
Trade Names / Synonyms (Other means of identification)	MC; Dichloromethane (DCM); Methylene dichloride; Methylene bichloride; Methane dichloride
CAS Number	79-09-2
1.2 Manufacturer/supplier	SRF Limited, D-2/1 GIDC Phase-II, PCPIR, Dahej, Tal. Vagra, Dist. Bharuch 392 130, Gujarat (India) Phone no.-02641-289-201/202
Further information obtainable from:	Hamid Hasan Sayyad e-mail-Hamid.Sayyad@srf.com Mobile no.-09978986664
1.3 Emergency Phone number	
Emergency Contact	Mr Balwada Ashish +91-9099002602
Primary Contact	Mr Fadadu Jignesh +91-9687694057
SDS Contact	Mr Sharma Anil Kumar +91-9687694067
Recommended use of the chemical and restrictions on use:	
Identified Uses:	Solvent
Uses advised against:	Do not use product for anything outside of the above specified uses

2. HAZARDS IDENTIFICATION

Skin Corrosion/irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Carcinogenicity	Category 2A (Refer ACS)
Specific target organ toxicity (single exposure)	Category 3
Target Organs - Central nervous system (CNS)	
Specific target organ toxicity - (repeated exposure)	Category 2
Target Organs - Liver, Kidney, Blood.	

2.a) Label elements

GHS classification in accordance with 29 CFR 1910.1200



Single word

Danger

2b) Hazard Statements (S)

H-315-Causes skin irritation

H-336-May cause drowsiness or dizziness

H-319-Causes serious eye irritation

H-351-Suspected of causing cancer .

H-372-May cause damage to organs through prolonged or repeated exposure

2C)Precautionary statement(s)

P-201: Obtain special instructions before use

P-202: Do not handle until all safety precautions have been read and understood

P-281: Use personal protective equipment as required

P-264-Wash face, hands and any exposed skin thoroughly after handling

P-280-Wear protective gloves/protective clothing/eye protection/face protection

P-260-Do not breathe dust/fume/gas/mist/vapours/spray

P-271-Use only outdoors or in a well-ventilated area

Response IF exposed or concerned: Get medical attention/advice

Inhalation IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Skin IF ON SKIN: Wash with plenty of soap and water
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash before reuse

Eyes IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention

Storage Store locked up
Store in a well-ventilated place. Keep container tightly closed

Disposal Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

WARNING. Cancer - <https://www.p65warnings.ca.gov/>.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical name	Common name and synonyms	Formula	CAS No.	Concentration
METHYLENE CHLORIDE	MC; Dichloromethane (DCM); Methylene dichloride; Methylene bichloride; Methane dichloride	CH ₂ CL ₂	79-09-3	100%

4. FIRST AID MEASURES

4.1-Description of first aid measures

General Advice	If symptoms persist, call a physician.
Inhalation:	If inhaled, Move to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.
Skin contact:	Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.
Eye contact:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
Ingestion:	Clean mouth with water and drink afterwards plenty of water.
Self-protection of first aider:	If potential for exposure exists refer to Section 8 for specific personal protective equipment.
Notes to physician:	Treat symptomatically

4.2-Most Important Symptoms And Effects, Both Acute And Delayed

None reasonably foreseeable. Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting

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

No data available

5. FIRE FIGHTING MEASURES

5.1-Extinguishing media: Suitable extinguishing media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Flash Point Method	No information available
Auto ignition Temperature	556 °C / 1032.8 °F
Explosion Limits	Upper 23% Lower 12%

5.2-Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapours. Keep product and empty container away from heat and sources of ignition.



5.3-Advice for fire-fighters

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode. Combustion by-products include phosgene and hydrogen chloride gases. Structural firefighters' clothing provides only limited protection to the combustion products of this material

6. ACCIDENTAL RELEASE MEASURES

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Safeguards (Personnel)	Use personal protective equipment. Ensure adequate ventilation.
Environmental precautions	Should not be released into the environment. In accordance with local and national regulations.
Methods and material for containment and cleaning up	Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.
Accident Release Measures	Self-contained breathing apparatus (SCBA) is required if a large release occurs. Avoid open flames and high temperatures.

7. HANDLING & STORAGE

7.1-Precautions For Safe Handling (Personal)

Keep in a tightly closed container at room temperature, protect against direct sunlight. Protect against physical damage. Isolate from any source of heat or ignition. Outside or detached storage is recommended. Containers of this material may be hazardous when empty since they retain product residues (vapours, liquid); observe all warnings and precautions listed for the product. To minimize decomposition, all storage containers should be galvanized or lined with a phenolic coating. This material may corrode plastic and rubber. Wear special protective equipment (Sec. 8) for maintenance break-in or where exposures may exceed established exposure levels. Wash hands, face, forearms and neck when exiting restricted areas. Shower, dispose of outer clothing, change to clean garments at the end of the day. Avoid cross-contamination of street clothes. Wash hands before eating and do not eat, drink, or smoke in workplace. Odour Threshold: 205 - 307 ppm. The odour threshold only serves as a warning of exposure; not smelling it does not mean you are not being exposed

7.2-Precautions For Safe Handling (Personal)

Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Ensure adequate ventilation.



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7.3-Conditions for safe storage, including any incompatibilities:

Avoid contact with eyes and skin. Avoid breathing vapour. Use with adequate ventilation and protective gear as listed. Make sure containers are properly grounded before use or transfer of material. Do not use near fire, sparks, or flame.

7.4-Storage period: No data available

7.5-Storage temperature Store in a cool, well-ventilated area.

8. EXPOSURE CONTROL / PERSONAL PROTECTION CONTROL PARAMETERS

8.1-Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL (TWA)
Methylene chloride	TWA: 50 ppm	(Vacated) TWA: 500 ppm (Vacated) STEL: 2000 ppm (Vacated) Ceiling: 1000 ppm TWA: 25 ppm	IDLH: 2300	TWA: 100 ppm TWA: 330 mg/m3 STEL: 500 ppm STEL: 1740 mg/m3

8.2-Exposure controls

Engineering controls	A system of local and/or general exhaust is recommended to keep employee exposures below the airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, Industrial Ventilation, A Manual of Recommended Practices.
Personal protective equipment Respiratory protection	If the exposure limit is exceeded, wear a supplied air, full-face piece respirator, air lined hood, or full-face piece self-contained breathing apparatus. The cartridges recommended for this material have a predicted service of less than 30 minutes at concentrations of ten times (10x) the exposure limits. Actual service life will vary considerably, depending on concentration levels, temperature, humidity, and work rate. This substance has poor warning properties.
Skin and body protection	Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact. Neoprene is a recommended material for personal protective equipment. Natural rubber and polybutadiene ARE NOT
Eye /face protection	Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area
Protective measures	When using do not smoke. Self-contained breathing apparatus (SCBA) is required if a large release occurs.
Additional Recommendations	Do not use closed circuit rebreathing system employing soda lime or other carbon dioxide absorber because of formation of toxic compounds capable of producing cranial nerve paralysis



9. PHYSICAL & CHEMICAL PROPERTIES

9.1-Information on basic physical and chemical properties

Appearance	Colourless
Physical state	Liquid
Molecular Formula	CH ₂ Cl ₂
Molecular Weight	84.93
Colour	Clear, colourless liquid
Odour	Chloroform-like odour
pH	Not pertinent
Freezing point	-97°C (-143°F)
Initial boiling point and boiling range	39.8 ° C (104°F)
Flash point	No information available
Evaporation rate	27.5
Upper/lower flammability or explosive limits	UEL=23 vol% , LEL=12 vol%
Vapour pressure	350 @ 20°C (68°F) (mm Hg)
Vapour density	2.93 (Air = 1.0)
Specific Gravity	1.33
Water solubility	1.32 gm/100 gm water @ 20°C
Auto-ignition temperature	556 °C / 1032.8 °F
Decomposition temperature	No data available
Viscosity	No information available

10. STABILITY & REACTIVITY

10.1-Reactivity None known, based on information available

10.2-Chemical stability Stable under ordinary conditions of use and storage.

10.3-Possibility of hazardous reactions None under normal processing

10.4-Conditions to avoid The product is not flammable in air under ambient conditions of temperature and pressure. When pressurised with air or oxygen, the mixture may become flammable. Certain mixtures of HCFCs or HFCs with chlorine may become flammable or reactive under certain conditions.



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10.5-Incompatible materials

Strong oxidizers, strong caustics, plastics, rubber, nitric acid, water + heat, and chemically active metals, such as aluminium and magnesium powder, sodium, potassium, and lithium. Avoid contact with open flames and electrical arcs. Liquid methylene chloride will attack some forms of plastics, rubber, and coatings.

10.6-Hazardous decomposition products

Emits highly toxic fumes of phosgene when heated to decomposition. Decomposes in a flame or hot surface to form toxic gas phosgene and corrosive mists of hydrochloric acid. Carbon dioxide and carbon monoxide may form when heated to decomposition

11. TOXICOLOGICAL INFORMATION

11.1-Information on toxicological effects

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Methylene chloride	> 1600 mg/kg (Rat)	> 2000 mg/kg (Rat)	53 mg/L (Rat) 6 h 76000 mg/m3 (Rat) 4 h

Toxicologically Synergistic

No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin irritation

Irritating to eyes and skin

Skin sensitization

No information available

Carcinogenicity

The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Methylene chloride	75-09-2	Group 2A	Reasonably Anticipated	A3	X	A3

IARC: (International Agency for Research on Cancer)

IARC: (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
Group 2A - Probably Carcinogenic to Humans
Group 2B - Possibly Carcinogenic to Humans

NTP: (National Toxicity Program)

NTP: (National Toxicity Program)
Known - Known Carcinogen
Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

ACGIH: (American Conference of Governmental Industrial Hygienists)

A1 - Known Human Carcinogen
A2 - Suspected Human Carcinogen
A3 - Animal Carcinogen
ACGIH: (American Conference of Governmental Industrial Hygienists)

Mexico - Occupational Exposure Limits - Carcinogens

Mexico - Occupational Exposure Limits - Carcinogens
A1 - Confirmed Human Carcinogen
A2 - Suspected Human Carcinogen
A3 - Confirmed Animal Carcinogen
A4 - Not Classifiable as a Human Carcinogen
A5 - Not Suspected as a Human Carcinogen

Mutagenicity

Mutagenic effects have occurred in microorganisms

Reproductive toxicity

No information available

Teratogenicity

No information available



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STOT - single exposure	Central nervous system (CNS)
STOT - repeated exposure	Liver Kidney Blood
Symptoms / effects, both acute and delayed	Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting
Endocrine Disruptor Information	No information available
Other Adverse Effects	Tumorigenic effects have been reported in experimental animals.

12. ECOLOGICAL INFORMATION

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Methylene chloride	EC50:>660 mg/L/96h	Pimephales promelas: LC50:193 mg/L/96h	EC50: 1 mg/L/24 h EC50: 2.88 mg/L/15 min	EC50: 140 mg/L/48h

12.1-Toxicity

Persistence and Degradability	Persistence is unlikely based on information available.
Bioaccumulation/ Accumulation	No information available
Mobility	Will likely be mobile in the environment due to its volatility.

Component	log Pow
Methylene chloride	1.25

13. DISPOSAL CONSIDERATIONS

13.1-Waste Treatment Methods

Product Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification

Component	RCRA - U Series Wastes	RCRA - P Series Wastes
Methylene chloride - 75-09-2	U080	-

14. TRANSPORT INFORMATION

Regulation	DOT	IATA	IMDG/IMO
14.1-UN number	UN1513	UN1513	UN1513
14.2-UN proper shipping name	DICHLOROMETHANE	DICHLOROMETHANE	DICHLOROMETHANE
14.3-Transport hazard class(es)/Labelling Number	6.1	6.1	6.1
14.4-Packing Group	III	III	III

15. REGULATORY INFORMATION

All of the components in the product are on the following Inventory lists: X = listed International Inventories

Component	TSCA/DSL/PICCS/ENSS/AICS/IECSC/KECL	NDSL	EINECS	NLP
Methylene chloride	X (Listed)	-	200-839-9	-



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U.S. Federal Regulations

TSCA 12(b)

SARA 313 Regulated Chemical(s)	Component	CAS-No	Weight %	SARA 313 - Threshold Values %
	Methylene chloride	75-09-2	>99.5	0.1

CWA (Clean Water Act)	Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
	Methylene chloride	-	-	X	X

CAA (Clean Air Act)	Component	HAPS Data Substances	Class 1 Ozone Depletors	Class 1 Ozone Depletors
	Methylene chloride	X	-	-

OSHA Occupational Safety and Health Administration	Component	Specifically Regulated Chemicals Substances	Highly Hazardous Chemicals Quantities
	Methylene chloride	125 ppm STEL 12.5 ppm Action Level 25 ppm TWA	-



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CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Component	Hazardous Substances RQs Substances	CERCLA EHS RQs Quantities
Methylene chloride	1000 lb 1lb	-

California Proposition 65

This product contains the following proposition 65 chemicals

Component	CAS-No	California Prop. 65	Prop 65 NSRL	Category
Methylene chloride	75-09-2	Carcinogen	200 µg/day 50 µg/day	Carcinogen

U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Methylene chloride	X	X	X	X	X

U.S. Department of Transportation

Reportable Quantity (RQ): Y

DOT Marine Pollutant N

DOT Severe Marine Pollutant N

U.S. Department of Homeland Security

This product does not contain any DHS chemicals.

Other International Regulations

This product does not contain any DHS chemicals.

Mexico - Grade No information available

16. OTHER INFORMATION

Prepared By
Revision date

EHS Department -Fluorochemicals Business SRF-Dahej
28-Jun-18

Disclaimer

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if the company has been advised of the possibility of such damages.