

INEOS Chlor

PRODUCT NAME:

METHYLENE CHLORIDE

SAFETY DATA SHEET

RECD APR 07 2008

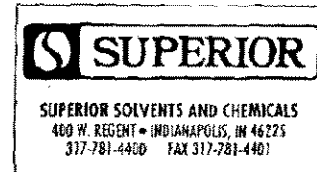
1. PRODUCT AND COMPANY IDENTIFICATION

Address/Phone No.: INEOS Chlor Americas Inc
2036 Foulk Road, Suite 204
Wilmington
Delaware, 19810
Tel No (866) 296-0146

Emergency Phone No.: call CHEMTREC 1-800-424-9300
For medical emergencies call 1-800-317-9643

Synonyms: Dichloromethane

Use of Substance / Preparation: General purpose solvent.



Distributed By:
SAL Chemical
3036 Birch Drive
Weirton, WV 26062
304-748-8200

2. COMPOSITION/INFORMATION ON INGREDIENTS

2.1 HAZARDOUS INGREDIENT(S)

Hazardous ingredient (s)	CAS No.	%(w/w)	ACGIH TLV
Dichloromethane (Methylene Chloride)	000075-09-2	100	50 ppm (8 hr TWA)

3. HAZARDS IDENTIFICATION

3.1 Emergency Overview

Colourless, clear liquid with penetrating odour. Harmful by inhalation. Continued or high exposures by inhalation will cause anaesthetic effects. This may result in a loss of consciousness and could prove fatal. Irritating to skin. A moderate irritant to eyes. Repeated exposure to high concentrations may produce adverse effects on the liver and kidney. Studies in some animals have shown methylene chloride to be carcinogenic. These effects are species specific and are of no relevance to human health. Methylene Chloride does not present a carcinogenic risk under any foreseeable conditions of handling and use. Explosive mixtures of methylene chloride and air can be formed, but they are difficult to ignite and require high intensity sources of heat such as welding arcs, sparks and flames or high temperatures and pressures.

3.2 Potential Health Effects

Eye Moderate irritant.

Skin Slight/mild irritant.
Can be absorbed through skin but not in sufficient amounts to cause adverse effects.

Ingestion The swallowing of small splashes is unlikely to cause any adverse effects. Large amounts may produce internal irritation, nausea, vomiting and diarrhoea and can lead to drowsiness and unconsciousness.

Inhalation Harmful by inhalation. High concentrations of vapor may be irritant to the respiratory tract. High atmospheric concentrations will lead to anaesthetic effects and adverse effects on the central nervous system. Symptoms may include lightheadedness, nausea, vomiting and headache. Exposure to concentrations of 1000ppm for 20 minutes causes lightheadedness. Very high concentrations may result in a loss of consciousness. Very high exposures may cause an abnormal heart rhythm and prove suddenly fatal.

PRODUCT NAME:**METHYLENE CHLORIDE****Chronic Effects**

Repeated exposure to high concentrations may produce adverse effects on the liver and kidney.
Chronic inhalation studies in mice have shown increases in lung and liver tumours, when exposed to concentrations of methylene chloride well in excess of the occupational exposure limit.
Extensive mechanistic research has shown that these carcinogenic effects are specific to the mouse and are not relevant to human health.
This is due to well established differences in metabolic pathways between rodents and man.

Carcinogenicity / Regulatory Status

See Regulatory Information (Section 15).

4. FIRST-AID MEASURES

Inhalation

Remove patient from exposure, keep warm and at rest. Administer oxygen if necessary. Apply artificial respiration if breathing has ceased or shows signs of failing. In the event of cardiac arrest apply external cardiac massage.
Obtain immediate medical attention.

Skin Contact

Remove contaminated clothing. After contact with skin, wash immediately with plenty of water.
If symptoms (irritation or blistering) occur obtain medical attention.

Eye Contact**Ingestion**

Do not induce vomiting. Provided the patient is conscious, wash out mouth with water and give 200-300 ml (half a pint) of water to drink. Obtain immediate medical attention.

Note to Physicians

Symptomatic treatment and supportive therapy as indicated.
Adrenaline and similar sympathomimetic drugs should be avoided following exposure as cardiac arrhythmia may result with possible subsequent cardiac arrest. Following ingestion adsorbents such as activated charcoal may be of value.

5. FIRE-FIGHTING MEASURES

Explosive mixtures of methylene chloride and air can be formed, but are difficult to ignite and require high intensity sources of heat, such as welding arcs, sparks and flames or high temperatures and pressures; addition of small amounts of flammable substances to methylene chloride (such as flammable liquids or gases) and / or an increase in the oxygen content of the local atmosphere, may strongly enhance these effects.

Welding or cutting should not be carried out on any vessel likely to contain solvent because of the risk of explosion.

Thermal decomposition will evolve toxic and corrosive vapours of hydrogen chloride and phosgene.

Containers may burst if overheated due to thermal expansion of the contents.

Extinguishing Media

Normal extinguishing media. Water spray should be used to cool containers.

Fire Fighting Protective Equipment

A self contained breathing apparatus and full protective clothing must be worn in fire conditions.

6. ACCIDENTAL RELEASE MEASURES

Ensure suitable personal protection during removal of spillages. Do not empty into drains. Adsorb onto earth or sand and remove to safe place. Transfer to a container for disposal or recovery.

Spillages or uncontrolled discharges into waterways must be alerted to the Environment Agency or other appropriate regulatory body.

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METHYLENE CHLORIDE

7. HANDLING AND STORAGE

7.1 Handling

Do not breathe vapor. Use only in well ventilated areas.

Avoid contact with skin and eyes.

Do not mix with nitric acid because detonable mixtures may be formed. Avoid contact with naked flames and hot surfaces as toxic and corrosive decomposition products (hydrogen chloride) can be formed. The vapour is heavier than air and may reach dangerously high concentrations in pits, tanks, and other confined spaces. In such cases provide adequate ventilation or wear suitable respiratory protective equipment with positive air supply.

When using do not smoke.

7.2 Storage

Keep in a cool, well ventilated place. Keep away from direct sunlight. Keep only in the original container. Keep away from nitric acid.

All bulk storage vessels should be made of steel and require a suitable vent or pressure relief valve and secondary containment to prevent uncontrolled losses from accidental release. Do not use aluminium or its alloys in the construction of storage vessels, pipework and ancillary equipment, including internal components e.g. pump impellers.

Due to the risk of explosion DO NOT weld, cut or burn drums or other vessels which contain or have contained methylene chloride.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Wear suitable protective clothing and gloves. Gloves should be changed when permeation is likely.

PVC has a breakthrough time of approximately 5 minutes.

PVA gives longer protection, but is weakened by alcohols and water and will provide less effective protection as a result.

Wear eye/face protection. Wear suitable respiratory protective equipment if exposure to levels above the occupational exposure limit is likely. Positive air supplied RPE is recommended.

Exposure Guidelines

Exposure Guidelines product(s)	OSHA PEL	ACGIH	Company 8 hr LTEL	Company 15 min STEL	Notes
Dichloromethane (Methylene Chloride)	25 ppm (8hr TWA) 125 ppm (15 min STEL)	50 ppm (8 hr TWA)	-	-	A3 BEI

9. PHYSICAL AND CHEMICAL PROPERTIES

These properties are the most relevant and no other properties are available.

Form	volatile liquid
Color	clear
Odor	Sharp penetrating
Odor Threshold (ppm)	approx 200ppm
Boiling Point (Deg C)	40
Melting Point (Deg C)	-97
Flammable Limits	
Vapour Pressure (mm Hg)	355 at 20 Deg C , 529 at 30 Deg C
Solubility (Water)	slightly soluble 1.3% at 25 Deg C
Solubility (Other)	Miscible with most organic solvents.
Specific Gravity	1.32 (Water = 1 at 4 Deg C)
Vapour Density (Air= 1)	2.93
Additional properties	Flash point (BS EN 22719:1994) : None Small Scale Test for Combustibility (BS 3900) : Non-combustible. Explosive limits (Company test method) : at 25 Deg C LEL 18.8% v/v, UEL 19.5% v/v at 50 Deg C LEL 17.5% v/v, UEL 20.1% v/v at 100 Deg C LEL 16.1% v/v, UEL 21.5% v/v

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10. STABILITY AND REACTIVITY

Hazardous Reactions

Contact with red hot surfaces, sparks or naked flames may generate toxic fumes of phosgene and hydrogen chloride. Forms a detonable mixture with nitric acid.
Incompatible materials: May react with certain amines, e.g. polyurethane catalysts.
Prolonged contact with aluminium or light alloys may cause a reaction resulting in the generation of hydrogen chloride gas and heat.

Decomposition Product(s)

hydrogen chloride , Phosgene.

11. TOXICOLOGICAL INFORMATION

Inhalation

Harmful by inhalation. High concentrations of vapor may be irritant to the respiratory tract. High atmospheric concentrations will lead to anaesthetic effects and adverse effects on the central nervous system. Symptoms may include lightheadedness, nausea, vomiting and headache. Exposure to concentrations of 1000ppm for 20 minutes causes lightheadedness. Very high concentrations may result in a loss of consciousness. Very high exposures may cause an abnormal heart rhythm and prove suddenly fatal.

Methylene chloride is converted to carbon monoxide in the body, which reduces the oxygen carrying capacity of the blood. This is reflected by a raised carboxyhaemoglobin concentration in the blood.

Skin Contact

Slight/mild irritant. Will remove the natural greases resulting in dryness, cracking and dermatitis. Repeated and/or prolonged skin contact may cause reddening, burning and blisters.

Can be absorbed through skin but not in sufficient amounts to cause adverse effects.

Eye Contact

Moderate irritant. Liquid splashes may result in transient eye damage.

Ingestion

The swallowing of small splashes is unlikely to cause any adverse effects. Large amounts may produce internal irritation, nausea, vomiting and diarrhoea and can lead to drowsiness and unconsciousness.

Long Term Exposure

Repeated exposure to high concentrations may produce adverse effects on the liver and kidney.

Chronic inhalation studies in mice have shown increases in lung and liver tumours, when exposed to concentrations of methylene chloride well in excess of the occupational exposure limit.

Extensive mechanistic research has shown that these carcinogenic effects are specific to the mouse and are not relevant to human health.

This is due to well established differences in metabolic pathways between rodents and man.

Several major studies on humans occupationally exposed to methylene chloride have shown no demonstrable link with cancer.

12. ECOLOGICAL INFORMATION

Environmental Fate and Distribution

High tonnage material produced in wholly contained systems.

High tonnage material used in open systems.

Liquid with high volatility. The product is sparingly soluble in water. The product partitions into the atmosphere.

The product has low potential for bioaccumulation.

Persistence and Degradation

This product does not persist in the atmosphere. It is naturally degraded to hydrogen chloride and carbon dioxide.

Atmospheric lifetime is approximately 6 months.

The product is slowly biodegradable in water.

The product is slowly biodegradable in soil.

Biodegradability : half-life (bacteria) approximately 18 months. Biodegradability : psuedomonas strain - 0.8g/l/hr.

Ecotoxicity

May cause harm to aquatic organisms.

Effect on Effluent Treatment

The product is substantially removed in biological treatment processes. There is no evidence of inhibition to the aerobic treatment process at a concentration (mg/l) of 200.

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13. DISPOSAL CONSIDERATIONS

Disposal should be in accordance with local, state or national legislation. Transfer solvent residues to a labelled, sealed container for disposal or recovery. Waste disposal must be by an accredited contractor. Large volumes may be suitable for redistillation by solvent recovery contractors. Solvent residues must not be allowed to enter drains, sewers or watercourses or to contaminate the ground.

Due to the risk of explosion DO NOT weld, cut or burn drums or other vessels which contain or have contained methylene chloride.

14. TRANSPORT INFORMATION

UN No.	UN 1593
UN Pack. Group	III
AIR	
ICAO/IATA	
: primary	6.1
Packing group Air	III
SEA	
IMDG	
: primary	6.1
U.N. Packing group Sea	III
Proper Shipping Name	DICHLOROMETHANE
ROAD/RAIL	
ADR/RID Class	6.1
ADR Sin	1593
TDG / DOT	
Hazards Class	6.1
Identification No	UN 1593
Packing Group	III
Hazardous Substances (RQ)	1000 lbs / 454 kg
Placard	POISON, 1593, Class 6.1

15. REGULATORY INFORMATION

US FEDERAL REGULATIONS

OSHA Classification	This product is classified as a "Hazardous Chemical" by definition of Hazard Communication Standard (29 CFR 1910.1200) Occupational exposures to methylene chloride are specifically regulated under 29 CFR 1910.1052
Carcinogen Status	Methylene chloride is listed by NTP as 'reasonably anticipated to be a human carcinogen' and by IARC as a Group 2B carcinogen.
TSCA Inventory Status	Yes
CERCLA	This material is listed in Table 302.4 of 40 CFR Part 302 as a hazardous substance with a reportable quantity of 100 lbs. Releases to air, land or water which exceed the RQ must be reported to the National Response Centre, 800-424-8802.
SARA	Sections 313 and 40 CFR 372: This product is subject to reporting requirements. Sections 311/312 (40 CFR 370.2): An immediate health hazard; A delayed health hazard. CALIFORNIA PROPOSITION 65: Methylene chloride is listed as a chemical known to the State of California to cause cancer.

PRODUCT NAME:**METHYLENE CHLORIDE****Canadian Regulations**

This product has been classified in accordance with the hazard criteria of the CPR (Controlled Products Regulations) and this MSDS (Material Safety Data Sheet) contains all the information required by the CPR.

The substances in this product are on the Canadian Domestic Substances List (CEPA DSL).

Controlled Products Regulations (WHMIS) Classification:
Class D1B: Toxic material causing immediate and serious toxic effects.
Class D2A: Very toxic material causing other toxic effects.

EU

EINECS : 200-838-9

Inventory Status

United States, Australia, Canada, China, EU, Japan, Korea, Philippines

16. OTHER INFORMATION

NFPA ratings:

Health 2, Flammability 1, Reactivity 0

Explosive limit data from Company measurements using 5 litre ASTM flask with 6 Amp hot wire or fusing wire ignition source.

Information in this publication is believed to be accurate and is given in good faith, but it is for the Customer to satisfy itself of the suitability for its own particular purpose. Accordingly, INEOS Chlor Limited gives no warranty as to the fitness of the Product for any particular purpose and any implied warranty or condition (statutory or otherwise) is excluded except to the extent that such exclusion is prevented by law. Freedom under Patent, Copyright and Designs cannot be assumed.

The following sections contain revisions or new statements: 3, 11

GLOSSARY

ACGIH - American Conference of Governmental Industrial Hygienists
CAS - Chemical Abstracts Service Registry Number
CFR - Code of Federal Regulations
COM - The company aims to control exposure in its workplace to this limit
DOT - Department of Transportation
EINECS - European Inventory of Existing Commercial Chemical Substances
OSHA - Occupational Safety & Health Administration
SARA - Superfund Amendments and Reauthorization Act of the U.S. EPA
TDG - Transportation of Dangerous Goods Act/Regulations
TLV - Threshold Limit Value
TSCA - Toxic Substances Control Act
TWA - Time-Weighted Average