



DICHLOROMETHANE~D2 99.9%

GHS Safety Data Sheet

Version No:2.0

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Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

METHYLENE CHLORIDE-D2

OTHER NAMES

C-D2-Cl2, dichloromethane-D2, "methylene bichloride", "methylene dichloride", NCI-C50102, "methane dichloride"

PROPER SHIPPING NAME

DICHLOROMETHANE

PRODUCT USE

Reagent.

The use of a quantity of material in an unventilated or confined space may result in increased exposure and an irritating atmosphere developing.

Before starting consider control of exposure by mechanical ventilation.

SUPPLIER

Company: S D FINE- CHEM LIMITED

Address:

315- 317, T.V. INDUSTRIAL ESTATE,
248, WORLI,

MUMBAI- 400030.INDIA.

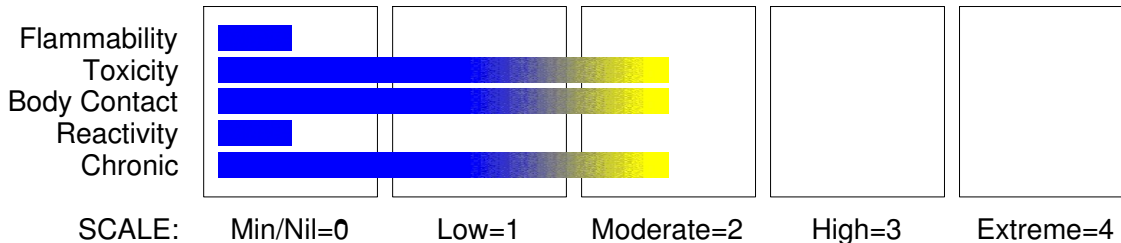
technical@sdfine.com

Telephone: 91- 22- 24959898

Telephone: 91- 22- 24959899

Fax: 91- 22- 24937232

HAZARD RATINGS



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Section 2 - HAZARDS IDENTIFICATION

GHS Classification

Acute Toxicity (Inhalation) Category 4

Acute Toxicity (Oral) Category 5

Respiratory Irritation Category 3



EMERGENCY OVERVIEW

HAZARD

WARNING

Determined by using GHS criteria:

H335 H332 H303

May cause respiratory irritation

Harmful if inhaled

May be harmful if swallowed

PRECAUTIONARY STATEMENTS

Prevention

Use only outdoors or in a well ventilated area.

Avoid breathing dust/fume/gas/mist/vapours/spray.

Response

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

Call a POISON CENTER or doctor/physician if you feel unwell.

Specific treatment: refer to Label or MSDS.

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

Disposal

Dispose of contents and container in accordance with relevant legislation.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
methylene chloride- D2	1665-00-5	> 99
contains		
methylene chloride	75-09-2	

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Section 4 - FIRST AID MEASURES

SWALLOWED

For advice, contact a Poisons Information Centre or a doctor.

- If swallowed do NOT induce vomiting.
 - If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
 - Observe the patient carefully.
 - Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious
 - Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.
 - Seek medical advice.
- Avoid giving milk or oils.
Avoid giving alcohol.

EYE

If this product comes in contact with the eyes:

- Immediately hold eyelids apart and flush the eye continuously with running water.
- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
- Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.
- Transport to hospital or doctor without delay.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN

If skin contact occurs:

- Immediately remove all contaminated clothing, including footwear.
- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

INHALED

- If fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.
- Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.
- Transport to hospital, or doctor.

NOTES TO PHYSICIAN

Treat symptomatically.

DO NOT administer sympathomimetic drugs as they may cause ventricular arrhythmias.

For acute or short term repeated exposures to methylene chloride:

- Methylene chloride is well absorbed by the lung. An 8 hour exposure to 250 ppm causes carboxyhaemoglobin levels to exceed 8%. Physical exertion and smoke produce an additive effect.
- The lungs exhale most of the absorbed dose unchanged. Between 1/4 and 1/3 is metabolised to carbon monoxide / dioxide. 5 hours of 100% oxygen is required, typically, to reduce the carboxyhaemoglobin level from 13% to 7.5%.
- As with inhalation and ingestion of the hydrocarbons support of respiration and

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Section 4 - FIRST AID MEASURES

monitoring for dysrhythmias are the first steps toward stabilisation.

- Small ingestions require only dilution with water or milk. Patients who have ingested more than several swallows may benefit from Ipecac Syrup/lavage, charcoal or cathartics.

No data is available to support the efficacy of these treatments.

[Ellenhorn and Barceloux: Medical Toxicology]

BIOLOGICAL EXPOSURE INDEX - BEI

Determinant	Index	Sampling Time	Comments
1. Methaemoglobin in blood	1.5% of haemoglobin	During or end of shift	B, NS, SQ

B: Background levels occur in specimens collected from subjects NOT exposed.

NS: Non-specific determinant; Also seen after exposure to other materials

SQ: Semi-quantitative determinant - Interpretation may be ambiguous; should be used as a screening test or confirmatory test.

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Water spray or fog.

Foam.

Dry chemical powder.

Carbon dioxide.

FIRE FIGHTING

Alert Fire Brigade and tell them location and nature of hazard.

- Wear breathing apparatus plus protective gloves.

- Prevent, by any means available, spillage from entering drains or water courses.

Use water delivered as a fine spray to control the fire and cool adjacent area.

Cool fire exposed containers with water spray from a protected location.

DO NOT approach containers suspected to be hot.

If safe to do so, remove containers from path of fire.

Fight fire from a safe distance, with adequate cover.

FIRE/EXPLOSION HAZARD

- Non flammable liquid.

- However vapour will burn when in contact with high temperature flame.

- Ignition ceases on removal of flame.

- May form a flammable / explosive mixture in an oxygen enriched atmosphere

- Heating may cause expansion/vapourisation with violent rupture of containers

- Decomposes on heating and produces corrosive fumes of hydrochloric acid, carbon monoxide and small amounts of toxic phosgene.

FIRE INCOMPATIBILITY

Avoid contact with strong acids, strong alkalis and strong oxidisers.

May react violently with aluminium and magnesium powdered metals and alkali metals e.g. sodium, potassium, lithium.

Dissolves most plastics and synthetic fibres.

Personal Protective Equipment

Breathing apparatus.

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Section 5 - FIRE FIGHTING MEASURES

Chemical splash suit.

Section 6 - ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURES

MINOR SPILLS

Clean up all spills immediately.

Avoid breathing vapours and contact with skin and eyes.

Wear protective clothing, impervious gloves and safety glasses.

Wipe up and absorb small quantities with vermiculite or other absorbent material.

Place spilled material in clean, dry, sealable, labelled container.

MAJOR SPILLS

Clear area of personnel and move upwind.

Alert Fire Brigade and tell them location and nature of hazard.

- Wear breathing apparatus plus protective gloves.

- Prevent, by any means available, spillage from entering drains or water courses.

Shut off all possible sources of ignition and increase ventilation.

Stop leak if safe to do so.

Contain spill with sand, earth or vermiculite.

Use only spark-free shovels and explosion proof equipment.

Reclaim solvent for recycling at an approved site.

Absorb remaining product with sand, earth or vermiculite.

Collect residues and seal in labelled drums for disposal.

Wash spill area with detergent and water.

After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using.

If contamination of drains or waterways occurs, advise emergency services.

SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS



+



X



+



X



O



+

+: May be stored together

O: May be stored together with specific precautions

X: Must not be stored together

Personal Protective Equipment advice is contained in Section 8 of the MSDS.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

Use good occupational work practice. Observe manufacturer's storing and handling recommendations.

Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

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Section 7 - HANDLING AND STORAGE

Avoid all personal contact, including inhalation.
Avoid generating and breathing mist.
Wear protective clothing when risk of exposure occurs.
Avoid smoking, naked lights or ignition sources.
Use in a well-ventilated area.
until atmosphere has been checked., Avoid contact with incompatible materials.
DO NOT spray directly on humans, exposed food or food utensils.
When handling, DO NOT eat, drink or smoke.
Keep containers securely sealed when not in use.
Avoid physical damage to containers.
Always wash hands with soap and water after handling. Work clothes should be laundered separately.

SUITABLE CONTAINER

Packaging as recommended by manufacturer.
· Check that containers are clearly labelled.
Metal can.
Metal drum.

STORAGE INCOMPATIBILITY

Segregate from strong oxidisers, strong alkalis, aluminium and magnesium powdered metals and alkali metals e.g. sodium, potassium, lithium.
Segregate from alcohol, water.
In the presence of moisture and at higher temperatures material breaks down generating hydrochloric acid, which may corrode and perforate containers.

STORAGE REQUIREMENTS

Observe manufacturer's storing and handling recommendations.
Store in original containers. Keep containers securely sealed.
Store in a cool, dry and well-ventilated area.
Store away from incompatible materials. Store away from foodstuff containers.
Protect containers against physical damage.
Check regularly for spills and leaks.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

The following materials had no OELs on our records
• methylene chloride- D2: CAS:1665- 00- 5

EMERGENCY EXPOSURE LIMITS

Material	Revised IDLH Value (mg/m3)	Revised IDLH Value (ppm)
methylene chloride		2, 000

MATERIAL DATA

Not available. Refer to individual constituents.

INGREDIENT DATA

METHYLENE CHLORIDE:
Odour Threshold Value: 158 ppm (detection), 227 ppm (recognition)

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

NOTE: Detector tubes for methylene chloride, measuring in excess of 25 ppm are commercially available. Long-term measurements (4 hrs) may be conducted to detect concentrations exceeding 13 ppm.

Exposure at or below the recommended TLV-TWA (and in the absence of occupational exposure to carbon monoxide) is thought to minimise the potential for liver injury and to provide protection against the possible weak carcinogenic effects which have been demonstrated in laboratory rats and mice. Enhancement of tumours of the lung, liver, salivary glands and mammary tissue in rodent studies has lead NIOSH to recommend a more conservative outcome. The ACGIH however concludes that in the absence of documentation of health-related injuries at higher exposures after a long history of methylene chloride use and a number of epidemiologic studies, the recommended TLV-TWA provides an adequate margin of safety. Concentration effects:

Concentration	Clinical effects
>300 ppm	Sweet odour
500-1000 ppm (1-2 h)	Unpleasant odour, slight anaesthetic effects, headache, light-headedness, eye irritation and elevated COHb concentration
2300 ppm (5 min.)	Odour strong, intensely irritating; dizziness
7200 ppm (8-16 min)	Paraesthesia, tachycardia
>50000 ppm	Immediately life-threatening

PERSONAL PROTECTION



EYE

- Chemical goggles.
- Safety glasses with side shields.
- Full face shield.
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59].

HANDS/FEET

- Barrier cream and PVA gloves or Viton gloves or Wear chemical protective gloves, eg. PVC.
- Wear safety footwear.
- DO NOT use this product to clean the skin.

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

OTHER

Overalls and Plastic apron.

· Impervious protective clothing.

· Eyewash unit.

Ensure there is ready access to a safety shower.

The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required.

For further information consult

your

Occupational Health and Safety Advisor.

ENGINEERING CONTROLS

Use in a well-ventilated area.

General exhaust is adequate under normal operating conditions. If risk of overexposure exists, wear SAA approved respirator. Correct fit is essential to obtain adequate protection. Provide adequate ventilation in warehouse or closed storage areas. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

Type of Contaminant:

solvent, vapours, degreasing etc., evaporating from tank (in still air)

aerosols, fumes from pouring operations,

intermittent container filling, low speed

conveyer transfers, welding, spray drift,

plating acid fumes, pickling (released at low velocity into zone of active generation)

direct spray, spray painting in shallow booths,

drum filling, conveyer loading, crusher dusts,

gas discharge (active generation into zone of rapid air motion)

grinding, abrasive blasting, tumbling, high

speed wheel generated dusts (released at high

initial velocity into zone of very high rapid

air motion).

Air Speed:

0.25- 0.5 m/s (50- 100 f/min)

0.5- 1 m/s (100- 200 f/min.)

1- 2.5 m/s (200- 500 f/min)

2.5- 10 m/s (500- 2000 f/min.)

Within each range the appropriate value depends on:

Lower end of the range

1: Room air currents minimal or favourable to capture

2: Contaminants of low toxicity or of nuisance value only

3: Intermittent, low production.

4: Large hood or large air mass in motion

Upper end of the range

1: Disturbing room air currents

2: Contaminants of high toxicity

3: High production, heavy use

4: Small hood - local control only

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min.) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used. In confined spaces where there is inadequate ventilation, wear full-face air supplied breathing apparatus.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Colourless non flammable liquid; does not mix with water. Highly volatile.
Has a penetrating, ether-like odour. Mixes with alcohol, organic solvents.

PHYSICAL PROPERTIES

Liquid.

Molecular Weight: 86.95
Melting Range (°C): - 95.1
Solubility in water (g/L): 1.3%
pH (1% solution): Not applicable.
Volatile Component (%vol): 100
Relative Vapour Density (air=1): 2.93
Lower Explosive Limit (%): 12
Autoignition Temp (°C): 556
State: Liquid

Boiling Range (°C): 39.8
Specific Gravity (water=1): 1.33 @ 20 C.
pH (as supplied): Not applicable
Vapour Pressure (kPa): 50.66 @ 22 C.
Evaporation Rate: >1 BuAc=1
Flash Point (°C): Not applicable
Upper Explosive Limit (%): 19
Decomposition Temp (°C): Not available

log Kow (Prager 1995): 1.25
log Kow: 1.25

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.
- Product is considered stable.
- Hazardous polymerisation will not occur.

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

Accidental ingestion of the material may be damaging to the health of the individual.
Ingestion may result in nausea, abdominal irritation, pain and vomiting.
Considered an unlikely route of entry in commercial/industrial environments.

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Section 11 - TOXICOLOGICAL INFORMATION

EYE

Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).

SKIN

Skin contact with the material may damage the health of the individual; systemic effects may result following absorption.

The material is not thought to be a skin irritant (i.e. is unlikely to produce irritant dermatitis as described in EC Directives using animal models). Temporary discomfort, however, may result from prolonged dermal exposures. Good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.

Toxic effects may result from skin absorption.

INHALED

Inhalation may produce health damage*.

Limited evidence exists, or practical experience predicts, that the material produces irritation of the respiratory system in a significant number of individuals following inhalation.

Inhalation hazard is increased at higher temperatures.

At high concentrations most of the absorbed methylene chloride (dichloromethane) is exhaled unchanged; the remainder is metabolised to carbon monoxide, carbon dioxide and inorganic chloride. Inhalation may produce fatigue, weakness, sleepiness, light-headedness, chills, nausea, diarrhoea and abdominal pain. The lowest published lethal dose is 20,000 ppm for 20 hours. The body metabolises methylene chloride to carbon monoxide and adds to the body burden of carboxyhaemoglobin (COHb) contributed by other sources. The increase in COHb is related to the magnitude of vapour exposure and duration. Serious poisoning can occur without raised COHb concentrations, although these raised concentrations may persist for several hours. Central nervous system (CNS) effects are thought to be due to methylene chloride itself or methylene chloride in combination with other sources of COHb, rather than the COHb metabolite. The raised COHb concentrations are not usually expected to produce adverse effects in healthy individuals but may be cause for concern in individuals with cardiovascular disease. Encephalopathy (brain injury) has been reported after repeated exposure. Angina, myocardial infarction, cardiac arrhythmias and cardiac arrest have also been reported, although the cardiovascular system is not generally a target for methylene chloride toxicity. Hypotension, shock and metabolic acidosis may also occur as a result of overexposure. Respiratory failure may develop, secondary to CNS depression, in severe cases. Inhalation exposure may cause susceptible individuals to show change in heart beat rhythm i.e. cardiac arrhythmia. Exposures must be terminated.

Acute intoxication by halogenated aliphatic hydrocarbons appears to take place over two stages. Signs of a reversible narcosis are evident in the first stage and in the second stage signs of injury to organs may become evident, a single organ alone is (almost) never involved.

Depression of the central nervous system is the most outstanding effect of most halogenated aliphatic hydrocarbons. Inebriation and excitation, passing into narcosis, is a typical reaction. In severe acute exposures there is always a danger of death from respiratory failure or cardiac arrest due to a tendency to make the heart more susceptible to catecholamines (adrenalin).

CHRONIC HEALTH EFFECTS

Principal routes of exposure are usually by skin contact/absorption and inhalation of vapour.

Methylene chloride is stored in body fat and is metabolised to carbon monoxide which

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Section 11 - TOXICOLOGICAL INFORMATION

increases and sustains carboxyhaemoglobin levels in the blood, reducing its oxygen carrying capacity. Smokers with already high carboxyhaemoglobin levels may show increased effects of exposure.

Methylene chloride exposures cause liver and kidney damage in animals and this justifies consideration before exposing persons with a history of impaired liver function and/or renal disorders.

Chronic exposure may produce central nervous system damage including confusion, delusions, slurred speech, memory impairment, anxiety, focal seizures, encephalopathy and visual and auditory hallucinations. These effects are probably due to chronic carbon monoxide poisoning resulting from methylene chloride metabolism.

Two epidemiological studies of workers exposed to methylene chloride have been published. An excess in pancreatic tumours was noted in one study. Chronic exposure to methylene chloride (approximately 30-120 ppm TWA) did not appear to increase the risk of deaths arising from lung cancer or cardiovascular disease. A study from Zeneca's Central Toxicology Laboratory added further support to the claim that solvent methylene chloride is not a human carcinogen. This study supported a previous finding by the European Centre of Ecology and Toxicology (ECETOC) that methylene chloride induced-cancers, previously identified in mice, were a consequence of a unique metabolic pathway found only in mice.

TOXICITY AND IRRITATION

None assigned. Refer to individual constituents.

METHYLENE CHLORIDE:

TOXICITY

Oral (human) LDLo: 357 mg/kg

Oral (rat) LD50: 1600 mg/kg

Inhalation (human) TCLo: 500 ppm/ 8 hr

Inhalation (rat) LC50: 88000 mg/m³/30 m

WARNING: This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans.

Inhalation (human) TCLo: 500 ppm/ 1 y - I Eye(rabbit): 10 mg - mild

IRRITATION

Skin (rabbit): 810 mg/24hr- SEVERE

Skin (rabbit): 100mg/24hr- Moderate

Eye(rabbit): 162 mg - Moderate

Eye(rabbit): 500 mg/24hr - Mild

Section 12 - ECOLOGICAL INFORMATION

No data for methylene chloride-D2.

Refer to data for ingredients, which follows:

METHYLENE CHLORIDE:

Fish LC50 (96hr.) (mg/l): 147.6- 193

Daphnia magna EC50 (48hr.) (mg/l): 224

BCF<100: 5

log Kow (Prager 1995): 1.25

Half- life Soil - High (hours): 672

Half- life Soil - Low (hours): 168

Half- life Air - High (hours): 4584

Half- life Air - Low (hours): 458

Half- life Surface water - High (hours): 672

Half- life Surface water - Low (hours): 168

Half- life Ground water - High (hours): 1344

Half- life Ground water - Low (hours): 336

Aqueous biodegradation - Aerobic - High (hours): 672

Aqueous biodegradation - Aerobic - Low (hours): 168

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Section 12 - ECOLOGICAL INFORMATION

Aqueous biodegradation - Anaerobic - High (hours):	2688
Aqueous biodegradation - Anaerobic - Low (hours):	672
Aqueous biodegradation - Removal secondary treatment - High (hours):	94.50%
Photolysis maximum light absorption - High (nano- m):	250
Photolysis maximum light absorption - Low (nano- m):	220
Photooxidation half- life air - High (hours):	4584
Photooxidation half- life air - Low (hours):	458
First order hydrolysis half- life (hours):	704 YR

The UK Department of Environment have established that methylene chloride is not a greenhouse gas and the Organisation for Economic Cooperation and Development (OECD) in a Monograph have affirmed that there was no single international view that risk reduction measures are required for the solvent. The Monograph suggests that alternatives may pose a greater risk to the environment.

In the atmosphere methylene chloride degrades by reaction with photochemically produced hydroxy radicals (half-life 6 months). Methylene chloride rapidly volatilises from water and soil to the atmosphere (estimated half-life for volatilisation from water 3-5.6 hours). In soil methylene chloride may partially leach to ground water. It is not expected to bioaccumulate or bioconcentrate in the food chain.

Drinking Water Standards:

hydrocarbon total: 10 ug/l (UK max)

dichloromethane: 20 ug/l (WHO guideline)

Soil Guidelines: Dutch Criteria: detection threshold (target)

20 mg/kg (intervention)

Air Quality Standards:

3 mg/m³ averaging time 24 hours (WHO guideline).

log Kow: 1.25

log Koc: 1.68

log Kom: 1.44

Henry's atm m³ /mol: 2.68E-03

BCF: 5

Section 13 - DISPOSAL CONSIDERATIONS

Recycle wherever possible.

Consult manufacturer for recycling options.

Consult State Land Waste Management Authority for disposal.

Reclaim solvent at an approved site.

Evaporate or incinerate residue at an approved site.

Recycle containers if possible, or dispose of in an authorised landfill.

Section 14 - TRANSPORTATION INFORMATION



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Section 14 - TRANSPORTATION INFORMATION

Labels Required: TOXIC
HAZCHEM: 2Z

UNDG:

Dangerous Goods Class: 6.1
UN Number: 1593
Shipping Name: DICHLOROMETHANE

Subrisk: None
Packing Group: III

Air Transport IATA:

ICAO/IATA Class: 6.1
UN/ID Number: 1593
ERG Code: 6L
Shipping name: DICHLOROMETHANE

ICAO/IATA Subrisk: None
Packing Group: III

Maritime Transport IMDG:

IMDG Class: 6.1
UN Number: 1593
EMS Number: F- A, S- A
Shipping name: DICHLOROMETHANE

IMDG Subrisk: None
Packing Group: III

Section 15 - REGULATORY INFORMATION

REGULATIONS

methylene chloride-D2 (CAS: 1665-00-5) is found on the following regulatory lists;
WHO Guidelines for Drinking-water Quality - Chemicals for which guideline values have not been established

Section 16 - OTHER INFORMATION

REPRODUCTIVE HEALTH GUIDELINES

Established occupational exposure limits frequently do not take into consideration reproductive end points that are clearly below the thresholds for other toxic effects. Occupational reproductive guidelines (ORGs) have been suggested as an additional standard. These have been established after a literature search for the reproductive no-observed-adverse effect-level (NOAEL) and the lowest-observed-adverse-effect-level (LOAEL). In addition the US EPA's procedures for risk assessment for hazard identification and dose-response assessment as applied by NIOSH were used in the creation of such limits. Uncertainty factors (UFs) have also been incorporated.

#32org

Ingredient	ORG	UF	Endpoint	CR	Adeq TLV
methylene chloride	2.4 mg/m3	100	R	14	-

These exposure guidelines have been derived from a screening level of risk assessment and should not be construed as unequivocally safe limits. ORGS represent an 8-hour time-weighted average unless specified otherwise.

CR = Cancer Risk/10000; UF = Uncertainty factor:

TLV believed to be adequate to protect reproductive health:

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Section 16 - OTHER INFORMATION

LOD: Limit of detection

Toxic endpoints have also been identified as:

D = Developmental; R = Reproductive; TC = Transplacental carcinogen

Jankovic J., Drake F.: A Screening Method for Occupational Reproductive

American Industrial Hygiene Association Journal 57: 641-649 (1996).

The above information is believed to be accurate and represent the best information currently available to us, but does not represent any warranty expressed or implied of the properties of the product. User should make their own investigation to determine the suitability of the information for their particular purpose.

Issue Date: 13-Oct-2017