



## ***TAG SOLVENT PRODUCTS (PTY) LTD.***

### ***MATERIAL SAFETY DATA SHEET METHYLENE CHLORIDE, TECHNICAL***

#### ***1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION***

<b>Common name</b>	: METHYLENE CHLORIDE, TECHNICAL
<b>Supplier</b>	: TAG Solvent Products Mallet Road/Weg Knights Germiston 1401 Republic of South Africa TEL: +27 11 822-1600
<b>Trade name</b>	: METHYLENE CHLORIDE, TECHNICAL

#### ***2 COMPOSITION / INFORMATION ON INGREDIENTS***

<b>Name</b>	<b>CAS#</b>	<b>EINECS No.</b>
: Methylene chloride stabilizers	000075-09-2	200-838-9

#### ***3 HAZARDS IDENTIFICATION***

Possible risks of irreversible effects.

<b>4</b>	<b>FIRST AID MEASURES</b>
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*Never give fluids or induce vomiting if patient is unconscious or is having convulsions.*

<b>Eye contact</b>	: Check for and remove any contact lenses. Immediately flush the eyes with running water. Consult medical personnel.
<b>Skin contact</b>	: In the case of contact, flush the skin with plenty of water or shower.
<b>Inhalation</b>	: If inhaled, remove to fresh air. If not breathing apply artificial respiration. If breathing is laboured, give oxygen. Get medical attention.
<b>Ingestion</b>	: Do not induce vomiting. Call a physician or transport to a emergency facility immediately.
<b>Notes to physician</b>	: Because rapid absorption may occur through lungs if aspirated and cause systemic effects, the decision of whether to induce vomiting or not should be made by a physician. If lavage is performed, suggest endotracheal and/or oesophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. If burn is present, treat as any thermal burn, after decontamination. Exposure may increase 'myocardial irritability'. Do not administer symptomatic drugs unless absolutely necessary. No specific antidote. Supportive care. Treatment based on judgement of the physician in response to reactions of the patient. Excessive exposure may aggravate pre-existing liver and kidney disease. Carboxyhemoglobinemia may aggravate any pre-existing condition sensitive to a decrease in available oxygen, such as chronic lung disease, coronary artery disease or anemias

<b>5</b>	<b>FIRE FIGHTING MEASURES</b>
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<b>Flammability of the product</b>	: Flammable
<b>Autoignition temperature</b>	: 556°C
<b>Flash points</b>	: None
<b>Flammable limits</b>	: LOWER: 14% v/v UPPER: 22% v/v
<b>Hazardous products of combustion</b>	: Exposed to the heat of a fire this product may decompose releasing hydrogen chloride and small amounts of chloride and phosgene.
<b>Fire fighting media and instructions</b>	: Water fog or fine spray.
<b>Protective clothing (fire)</b>	: Wear positive-pressure self-contained breathing apparatus and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots and gloves)
<b>Specific fire or explosion hazards</b>	: Vapours can form flammable mixtures with air at ambient temperature.
<b>Specific methods of fire fighting</b>	: Keep containers cool by spraying with water.

<b>6</b> <b>ACCIDENTAL RELEASE MEASURES</b>
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<b>Personal precautions</b>	: Evacuate area. Only trained and properly protected personnel should be involved in clean up operations.
<b>Environmental precautions</b>	: Contain liquid to prevent contamination of soil ,surface water or ground water.
<b>Small spill or leak</b>	: Cover and soak up with suitable absorbent material. Collect suitable and properly labelled containers. Dispose of according to applicable regulations, see Section 13, DISPOSAL CONSIDERATIONS
<b>Large spill or leak</b>	: Contain with dike. Pump into suitable and properly labelled containers.

<b>7</b> <b>HANDLING AND STORAGE</b>
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<b>Handling</b>	<p>: Exercise reasonable care and caution. Avoid breathing vapours. Manual operations involving the potential for skin contact such as cold cleaning operations, or cleaning operations involving large surfaces should be approached with special caution due to the volatility of methylene chloride.</p> <p>Never use air pressure for transferring product. Vapour of this product is heavier than air and will collect in low areas such as pits, storage tanks, and other confined areas. Do not enter areas where vapours of this product are suspected unless special breathing apparatus is used and an observer is present for assistance. Containers, even those that have been emptied, can contain vapours. Do not cut, drill, weld or perform similar operations on or near empty containers.</p>
<b>Storage</b>	: Store in cool, dry well ventilated area away from sources of ignition and heat.

<b>8</b>	<b>EXPOSURE CONTROLS, PERSONAL PROTECTION</b>
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<b>Engineering Guidelines</b>	: ACGIH TLV: 50ppm TWA-8hrs, A2.
<b>Engineering controls</b>	: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines. Use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations. Lethal concentrations may exist in areas with poor ventilation.
<b>Personal protection</b>	
<b>Eyes</b>	: Safety glasses. Where contact with this material is likely, chemical goggles are recommended. If vapour exposure causes eye discomfort use full-face respirator.
<b>Respiratory</b>	: Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required for certain operation, use an approved air-purifying respirator. Filter-type EN136, AX (low-boiling organics cartridge) is recommended. The effectiveness of an air-purifying respirator is limited. Use it only for a single short-term exposure. In confined or poorly ventilated areas, use an approved positive pressure supplied-air respirator. For emergency and other conditions where the exposure guideline may be greatly exceeded, use an approved positive-pressure self-contained breathing or positive-pressure self-contained air supply.
<b>Skin</b>	: For brief contact, no precautions other than body-covering clothing should be used. When prolonged or frequently repeated contact could occur, use protective clothing imperious to this material. Selection of specific items such as face shield, gloves, apron, or full body suit will depend on operation. Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse.

<b>9</b>	<b>PHYSICAL AND CHEMICAL PROPERTIES</b>
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<b>Physical state and appearance</b>	: Liquid.
<b>Colour</b>	: Colourless. Clear.
<b>Odor</b>	: Ethereal
<b>pH (1% soln/water)</b>	: Not applicable.
<b>Boiling/condensation point</b>	: 39.8°C
<b>Freezing point/range</b>	: -96.7°C
<b>Vapour pressure</b>	: 355mmHg/20°C
<b>Rel. vapor density</b>	: 2.93mbar (@25°C)
<b>Rel density</b>	: 1.32 (@25°C)
<b>LogP (octanol/water)</b>	: 1.25
<b>Water solubility</b>	: 2% wt
<b>Flash point</b>	: None
<b>Autoignition</b>	: 556°C
<b>Flammability – LFL</b>	: 14 %vol/vol (100°C)
<b>Flammability – UFL</b>	: 22 %vol/vol (150°C)

**10 STABILITY AND REACTIVITY**

<b>Conditions to avoid</b>	: Avoid open flames, welding arcs, or other high temperature sources, which induce thermal decomposition.
<b>Material to avoid</b>	: Amines, aluminium, magnesium, potassium, and sodium. Do not use aluminium as material of construction for equipment (tanks, pumps, gaskets, etc.).
<b>Hazardous decomposition products</b>	: Thermal decomposition products may include hydrogen chloride and small amounts of chloride and phosgene.
<b>Hazardous Reactions</b>	: Hydrolysis producing small amounts of hydrochloric acid possible with gross water contamination.

**11 TOXICOLOGICAL INFORMATION**

<b>Acute toxicity</b>	<b>Ingestion</b>	: Single dose oral toxicity is considered to be low. Oral LD50 (rats): 1500 – 2500mg/kg. No hazards anticipated from swallowing small amounts incidental to normal handling operations, swallowing amounts larger than that may cause injury. In aspirated (liquid enters the lung), may be rapidly absorbed through the lungs and result in injury to other body systems
	<b>Skin</b>	: A single prolonged exposure is not likely to result In the material being absorbed through the skin in harmful amounts. The dermal LD50 has not been determined. May cause more severe response if confined to skin. Extensive skin contact with this product, such as immersion, may cause an intense burning sensation, followed by a cold, numb feeling which will subside after contact.
	<b>Inhalation</b>	: In confined or poorly ventilated areas, vapours can readily accumulate and cause unconsciousness and death. Excessive exposure may cause carboxyhemoglobinemia, thereby impairing the blood's ability to transport oxygen. Minimal aesthetic or narcotic effects may be seen in the range of 500-100ppm, methylene chloride. Progressively higher levels over 1000ppm can cause dizziness, drunkenness, and as low as 10 000ppm unconsciousness and death. These high levels may also cause cardiac arrhythmias (irregular heartbeats).
<b>Irritation</b>	<b>Skin</b>	: Prolonged contact is essentially non-irritating to skin. Repeated exposures may cause flaking and drying of the skin.
	<b>Eyes</b>	: May cause pain, moderate eye irritation, and slight corneal injury. Vapours may irritate eyes.
	<b>Inhalation</b>	: Excessive exposure may cause irritation to upper respiratory tract (nose and throat).
<b>Developmental/reproductive effects</b>		: Birth defects are unlikely. Exposures having no effects on the mother should have no effect on the foetus. Did not cause birth defects in animals; other effects were seen in the foetus only at doses which caused toxic effects to the mother. Animal studies have indicated that there is no interference with reproduction.
<b>Mutagenicity</b>		: Negative or equivocal results have been obtained in mutagenicity tests with methylene chloride using mammalian cells or animals. This is consistent with the lack of interaction with DNA in rats and hamsters. Although results of Ames bacterial tests generally have been positive, overall the data suggests that genotoxic potential does not appear to be a significant factor in the toxicity of methylene chloride.
<b>Carcinogenicity</b>		: Methylene chloride has been shown to increase the incidence of malignant tumours in mice and benign tumours in rats. Studies have shown that tumours observed in mice and rats are unique to that species. Other animal studies, as well as several human epidemiology studies, failed to show a tumourigenic response. Methylene chloride is not believed to pose a measurable carcinogenic risk to humans when handled as recommended.
<b>Other information</b>		: In animals, effects have been reported on the following organs: Central nervous system (CNS), liver and kidney.

**12 ECOLOGICAL INFORMATION**

<b>Aquatic toxicity</b> <b>fathead minnow</b> <b>Water flea Daphnia magna</b>	: Acute LC50 – 320mg/L [fathead minnow] : Acute LC50 – 244 [water flea Daphnia magna] : Acute immobilization EC50 – 480mg/L [water flea Daphnia magna] Growth inhibition (72hIC50) - >662mg/L [green algae Selenastrum capricornutum]
	Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50 > 100mg/L in most sensitive species).
<b>Mobility &amp; bioaccumulation potential</b>	: Volatilisation from water to air is expected Measured log octanol/water partition coefficient (log Pow) is 1.25. Bioaccumulation potential is low (BCF less than 100 or log Pow <3). Potential for mobility in soil is very high (KOC between 0 and 50).
<b>Degradation</b>	: Biodegradation may occur slowly under both aerobic and anaerobic conditions. Biodegradation rate may increase in soil and/or water with acclimation. Degradation is expected in the atmospheric environment. In the atmospheric environment the material is estimated to have a tropospheric half-life of 79-110 days.

**13 DISPOSAL CONSIDERATIONS**

The preferred options are to send to licensed reclaimer or to permitted incinerators. Any disposal practice must be in accordance with national and local laws and regulations. Do not dump into sewers, on the ground, or into any body of water.

**14 TRANSPORT INFORMATION**

<b>Road, Rail &amp; Barge</b>	Proper shipping name: 1593 DICHLOROMETHANE. TRUCK – ADR loaded: 6.1-15c      Empty: 6.1-91 Label: 6.1 RAIL – RID loaded: 6.1-15c      Empty: 6.1-91 Label: 6.1 Filling% Packed: 90.16 Filling% Bulk: 90.16 Filling kg/l (gas): UN number: 1593 Kemler Code: 60 Tremcard No. CRFIC: T-720 Tremcard Other: Barge – ADNR Loaded: 6.1-15c      Empty: 6.1-91 Label: 6.1 Ship type: C      CATG:
<b>Sea</b>	Proper shipping name: DICHLOROMETHANE. Sea – IMO/IMDG Class: 6.1      UN No.: 1593      Label: 6.1 Packing group: iii,      EMS: 6.1-02      MFAG: 340 Container type: 1 Marine pollutant: N(Y?N) Test Pressure (bar): 4.0      Filling% Packed: 90.16
<b>Air</b>	: Proper shipping name: 1593 DICHLOROMETHANE. Air – OICOA/IATA Class: 6.1      UN No.: 1593      Label: TOX Subclass: - Packing group: iii      Pack Instr.: Passenger: 605 Pack Instr Cargo: 6012
<b>Remarks</b>	: Sample shipment not allowed by mail.

<b>15</b>	<b>REGULATORY INFORMATION</b>
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<b>EC Classification and User Label Information</b>	: Classification according to Annex I of council Directive 67/548/EEC (Dangerous Substances Directive) ("EC label").
<b>Hazardous symbol</b>	: Xn – Harmful
<b>Risk Phrases</b>	: R40 - Possible risks of irreversible effects
<b>Safety Phrases</b>	: S2 - Keep out of reach of children. S 23 – Do not breathe vapour. S24/25 – Avoid contact with skin and eyes. S26/27 – Wear suitable protective clothing and gloves.
<b>Chemical name</b>	: Methylene chloride (EC label, EC number 200-838-9)
<b>EC number</b>	: 200-8.8-9
<b>EC Index number</b>	: 602-004-00-3

<b>16</b>	<b>OTHER INFORMATION</b>
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No other information
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**Notice to reader:**

This MSDS summarizes at the date of issue our best knowledge of the health, safety and environmental hazard information related to the product, and in particular how to safely handle, use and transport the product in the workplace. Since TAG Solvent Products (PTY) LTD. and its subsidiaries cannot anticipate or control the conditions under which the product may be handled, used, stored or transported, each user must, prior to usage, review MSDS in the context of how the user intends to handle, use, store or transport the product in the workplace and beyond, and communicate such information to all relevant parties. If clarification or further information is required to ensure that an appropriate assessment can be made, the user should contact the company.

We shall not assume any liability for the accuracy or completeness of the information contained herein or any advice given unless there has been gross negligence on our part. In such event our liability shall be limited only to direct damages suffered. Our responsibility for the product as sold is subject to our standards terms and conditions, a copy of which is sent to our customers and is also available upon request. All risk with possession and application of the product passes on delivery.