SAFETY DATA SHEET

METHYLENE CHLORIDE, TECHNICAL GRADE

North America EN
SDS No.: M47008

Rev. Date: 27-Sep-2024
Rev. Num. 11

SECTION 1. CHEMICAL PRODUCT / COMPANY IDENTIFICATION

Company Identification:	Occidental Chemical Corporation 14555 Dallas Parkway, Suite 400 Dallas, Texas 75254-4300
24-Hour Emergency Telephone Number:	1-800-733-3665 (USA); CANUTEC (Canada): 1-613-996-6666; CHEMTREC (within USA and Canada): 1-800-424-9300; CHEMTREC (outside USA and Canada): +1 703-527-3887; CHEMTREC Contract No: CCN16186
To Request an SDS:	MSDS@oxy.com or 1-972-404-3245
Customer Service:	1-800-752-5151 or 1-972-404-3700
Product Identifier:	**METHYLENE CHLORIDE**
Trade Name:	Methylene Chloride, Technical Grade
Synonyms:	Dichloromethane; Methylene Dichloride
Product Use:	Methylene Chloride is used in washing & cleaning products, coating products, adhesives and sealants and extraction agents. This substance has an industrial use resulting in manufacture of another substance (use of intermediates). Paint stripping applications may be limited. See "Uses Advised Against" below
Uses Advised Against:	- NOT FOR USE IN BATHTUB STRIPPING APPLICATIONS. - NOT FOR USE IN RESIDENTIAL HOME OR WORKSHOP AREAS. - NOT FOR ANY COMMERCIAL APPLICATIONS TAKING PLACE IN RESIDENTIAL SETTINGS. - NOT FOR USE IN COMMERCIAL/INDUSTRIAL APPLICATIONS NOT PROPERLY VENTILATED OR NOT DESIGNED TO ACCOMMODATE THE SAFE USE OF THIS CHEMICAL*.

*NOTE: ALL PROFESSIONAL AND COMMERCIAL/INDUSTRIAL USES OF METHYLENE CHLORIDE, INCLUDING PAINT AND COATING REMOVAL, SHOULD COMPLY WITH ALL RISK MANAGEMENT MEASURES FOUND IN 29CFR 1910.1052, OSHA'S METHYLENE CHLORIDE REGULATION, AND 40CFR CHAPTER I SUBCHAPTER R

PART 751 SUBPART B, EPA'S METHYLENE CHLORIDE RISK MANAGEMENT RULE (REGARDLESS OF EMPLOYER SIZE).

Restrictions on Use (United States):	- This chemical/product is not and cannot be distributed in commerce (as defined in TSCA section 3(5)) or processed (as defined in TSCA section 3(13)) for consumer paint or coating removal. - After February 3, 2025, this chemical substance (as defined in TSCA section 3(2))/ product cannot be distributed in commerce to retailers. After January 28, 2026, this chemical substance (as defined in TSCA section 3(2))/product is and can only be distributed in commerce or processed with a concentration of Methylene Chloride equal to or greater than 0.1% by weight for the following purposes: (1) Processing as a reactant; (2) Processing for incorporation into a formulation, mixture, or reaction product; (3) Processing for repackaging; (4) Processing for recycling; (5) Industrial or commercial use as a laboratory chemical; (6) Industrial or commercial use as a bonding agent for solvent welding; (7) Industrial and commercial use as a paint and coating remover from safety critical, corrosion-sensitive components of aircraft and spacecraft; (8) Industrial and commercial use as a processing aid; (9) Industrial and commercial use for plastic and rubber products manufacturing; (10) Industrial and commercial use as a solvent that becomes part of a formulation or mixture, where that formulation or mixture will be used inside a manufacturing process, and the solvent (Methylene Chloride) will be reclaimed; (11) Industrial and commercial use in the refinishing for wooden furniture, decorative pieces, and architectural fixtures of artistic, cultural or historic value until May 8, 2029; (12) Industrial and commercial use in adhesives and sealants in aircraft, space vehicle, and turbine applications for structural and safety critical non-structural applications until May 8, 2029; (13) Disposal; and (14) Export.
Restrictions on Use (EU):	In accordance with ANNEX XVII to REACH (Conditions of restriction) - Methylene Chloride shall not be placed on the market, or used, as substances or as constituents of other substances, or in mixtures in concentrations equal to or greater than 0.1% by weight, where the substance or mixture is intended for use in paint strippers. Restricted to industrial use and to professionals approved in certain EU Member States - verify where use is allowed.
Other Global Restrictions on Use:	Methylene Chloride may be restricted and/or prohibited for use in cosmetic products. See local, regional, and/or national regulations specific to cosmetic regulations. This grade of product should not be used as a food extraction solvent. Other restrictions on use based on local, regional, or national regulations may exist and must be determined on a case-by-case basis.
Chemical Family:	Saturated aliphatic halogenated solvent
Note:	The Technical Grade products contain small amounts of stabilizer, which do not impact the hazard classification of the final product.

SECTION 2. HAZARDS IDENTIFICATION

OSHA REGULATORY STATUS: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

HEALTH CANADA HPR REGULATORY STATUS: This material is considered hazardous by the Health Canada Hazardous Products Act's Hazardous Products Regulations (HPR) (SOR/2015-17).

EMERGENCY OVERVIEW:

Color: Colorless
Physical State: Liquid
Appearance: Clear liquid
Odor: Chloroform-like odor

Signal Word: **DANGER**

MAJOR HEALTH HAZARDS: HARMFUL IF SWALLOWED. MAY BE FATAL IF SWALLOWED AND ENTERS AIRWAYS. CAUSES SKIN IRRITATION. CAUSES SERIOUS EYE IRRITATION. MAY CAUSE DROWSINESS OR DIZZINESS. SUSPECTED OF CAUSING GENETIC DEFECTS. MAY CAUSE CANCER. CAUSES DAMAGE TO CARDIOVASCULAR SYSTEM INCLUDING ELEVATED CARBOXYHEMOGLOBIN LEVELS. MAY CAUSE DAMAGE TO LIVER THROUGH PROLONGED OR REPEATED EXPOSURE.

PRECAUTIONARY STATEMENTS: Obtain, read, and follow all safety instructions before use. Do not breathe mist, vapors, or spray. Wash hands and exposed skin and clothing thoroughly after handling. Do not touch eyes. Do not eat, drink, or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves, protective clothing, eye, and face protection.

ADDITIONAL HAZARD INFORMATION: Exposure in an enclosed or poorly ventilated area may be very harmful. Methylene Chloride can be metabolized to carbon monoxide (CO), which is then very tightly bound to hemoglobin. This complex is called carboxyhemoglobin (COHb) and results in a reduction in the oxygen carrying capacity of the blood. This product may be absorbed through the skin, causing systemic effects.

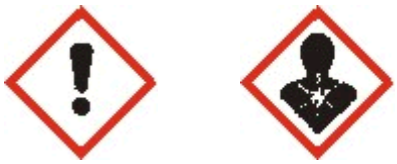
HAZARD CLASSIFICATION:

GHS: CONTACT HAZARD - SKIN:	Category 2 - Causes skin irritation
GHS: CONTACT HAZARD - EYE:	Category 2A - Causes serious eye irritation
GHS: ACUTE TOXICITY - ORAL:	Category 4 - Harmful if swallowed
GHS: ASPIRATION HAZARD:	Category 1 - May be fatal if swallowed and enters airways
GHS: TARGET ORGAN TOXICITY (SINGLE EXPOSURE):	- Category 1 - Causes damage to cardiovascular system including elevated carboxyhemoglobin levels - Category 3 - May cause drowsiness or dizziness
GHS: TARGET ORGAN TOXICITY (REPEATED EXPOSURE):	Category 2 - May cause damage to liver through prolonged or repeated exposure

GHS: CARCINOGENICITY:	Category 1B - May cause cancer
GHS: GERM CELL MUTAGENICITY:	Category 2 - Suspected of causing genetic defects

Unknown Acute Oral Toxicity:
Not applicable.
Unknown Acute Dermal Toxicity:
Not applicable.
Unknown Acute Inhalation Toxicity:
Not applicable.

GHS SYMBOL: Exclamation mark, Health hazard



GHS SIGNAL WORD: **DANGER**

GHS HAZARD STATEMENTS:

GHS - Health Hazard Statement(s)
• Harmful if swallowed
• May be fatal if swallowed and enters airways
• Causes skin irritation
• Causes serious eye irritation
• May cause drowsiness or dizziness
• Suspected of causing genetic defects
• May cause cancer
• Causes damage to cardiovascular system including elevated carboxyhemoglobin levels
• May cause damage to Liver through prolonged or repeated exposure

GHS - Precautionary Statement(s) - Prevention
• Obtain, read, and follow all safety instructions before use
• Do not breathe mist, vapors, or spray
• Wash hands and exposed skin and clothing thoroughly after handling. Do not touch eyes
• Do not eat, drink, or smoke when using this product
• Use only outdoors or in a well-ventilated area
• Wear protective gloves/protective clothing/eye protection/face protection/hearing protection

GHS - Precautionary Statement(s) - Response
• IF SWALLOWED: Get emergency medical help immediately
• Rinse mouth
• Do NOT induce vomiting
• IF ON SKIN: Wash with plenty of soap and water
• If skin irritation occurs: Get medical help
• Take off contaminated clothing and wash it before reuse
• 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 help

• IF INHALED: Remove person to fresh air and keep comfortable for breathing
• IF INHALED: Get medical help if you feel unwell
• IF exposed or concerned: Get emergency medical help immediately
• Specific treatment (see "Notes to Physician" in Section 4 of the SDS)

GHS - Precautionary Statement(s) - Storage
• Store in a well-ventilated place. Keep container tightly closed
• Store locked up

GHS - Precautionary Statement(s) - Disposal
• Dispose of contents and container in accordance with applicable local, regional, national, and/or international regulations

Physical Hazards of Significance Not Mentioned in GHS Classification
• Reacts violently with active metals

Health Hazards of Significance Not Mentioned in GHS Classification
• Methylene Chloride can be metabolized to carbon monoxide (CO), which is then very tightly bound to hemoglobin. This complex is called carboxyhemoglobin (COHb) and results in a reduction in the oxygen carrying capacity of the blood
• Exposure in an enclosed or poorly ventilated area may be very harmful
• May cross the placenta. May be excreted in breast milk; however, there were no indications of neonatal toxicity due to exposure of the parenteral group to Methylene Chloride during gestation and lactation.
• This material may be absorbed across the skin causing systemic effects

Additional Hazard Information
Methylene Chloride is listed on The Endocrine Disruptors Exchange's (TEDX) List of Potential Endocrine Disruptors (ED) database of chemicals with the potential to affect the endocrine system. Every chemical on the TEDX List has one or more verified citations published, accessible, primary scientific research demonstrating effects on the endocrine system. Literature data concerning reproductive/developmental effects points out directly to a potential ED-like mode of action. In particular, considering both: i) the CYP-mediated mechanism(s) supporting both hepatic and biliary tract carcinogenesis alert at low dichloromethane doses, and ii) the CYP2E1-mediated mechanism supporting the reproductive/developmental alert in the male germ line, a concern on the possibility that dichloromethane could act via an ED-like mechanism exists. A study (Mennear JH et al., 1988) on dichloromethane-mediated carcinogenesis in F344/N rats indicated that a set of endocrine-regulated tissues (mammary glands, testis, adrenals) were responding, in a non-linear dose-dependent manner, to the treatment with dichloromethane, suggesting a possible relationship with disturbed endocrine function and raising the possibility of a hormonal-mediated mechanism(s) at a realistic scenario of exposure to humans.

PBT and vPvB assessment:
The overall conclusions - based on the available data under EU REACH registration- of the preliminary PBT assessment are that the (screening) criteria for PBT/vPvB are not met and that further testing in the scope of the final PBT assessment is not considered to be required

Component	U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing	EU - PBT / vPvB Status
Methylene Chloride (Dichloromethane)	Not listed	Considered NOT to be an EU PBT
Stabilizer 1	Not listed	PBT/PvBT assessment does not apply

Component	U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing	EU - PBT / vPvB Status
		Considered NOT to be an EU PBT
Stabilizer 2	Not listed	Considered NOT to be an EU PBT

Endocrine Disruptor Assessment:
This substance is currently under evaluation in an EU legislative process due to explicit concerns for possible endocrine disrupting properties. Methylene Chloride is listed on The Endocrine Disruptors Exchange's (TEDX) List of Potential Endocrine Disruptors database of chemicals with the potential to affect the endocrine system. Every chemical on the TEDX List has one or more verified citations published, accessible, primary scientific research demonstrating effects on the endocrine system.

Component	Endocrine Screening List
Methylene Chloride (Dichloromethane)	TEDX Potential Endocrine List: Present US EPA Endocrine Final Screening List: Present (SDWA chemical) Japan EXTEND List: Not Currently Tested

See Section 11: TOXICOLOGICAL INFORMATION

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Systematic Chemical Name	Common name	CAS Number	Percent [%]
Methylene Chloride (Dichloromethane) 75-09-2	Dichloromethane	Methylene Chloride	75-09-2	100

SECTION 4. FIRST AID MEASURES

EYE CONTACT: 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 help.

SKIN CONTACT: IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical help. Take off contaminated clothing and wash it before reuse. Specific treatment (see "Notes to Physician" in Section 4 of the SDS below).

INHALATION: IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF INHALED: Get medical help if you feel unwell. Specific treatment (see "Notes to Physician" in Section 4 of the SDS below).

INGESTION: IF SWALLOWED: Get emergency medical help immediately. Rinse mouth. Do NOT induce vomiting. Specific treatment (see "Notes to Physician" in Section 4 of the SDS below).

Most Important Symptoms/Effects (Acute and Chronic [Delayed]):

Acute Symptoms/Effects:

Eye: Eye Irritation. Mild eye irritation may occur when exposed to vapor. Splash of liquid in the eye can cause conjunctival irritation and burning pain. Prolonged contact can cause severe corneal burns.

Skin: Skin Irritation. Skin exposure may cause intense burning sensation, mild redness, and numbness. Severe burns may develop following prolonged exposures. Will remove the natural greases resulting in dryness, cracking, and dermatitis. Repeated and/or prolonged skin contact may cause reddening, burning and blisters.

Inhalation (Breathing): Respiratory System Effects: Pulmonary irritation, cough, chest discomfort, shortness of breath, headache, euphoria, nausea and vomiting, respiratory irritation. Changes in heart rate, paresthesias, sleepiness and seizures are described. Heavy exposure can result in muscle weakness or hypotonia, syncope, stupor followed by loss of consciousness. Complications include cardiac abnormalities and elevations of carboxyhemoglobin. Coma with respiratory depression may result in death.

Ingestion (Swallowing): Ingesting this material may cause nausea, vomiting, mucosal irritation with burning sensation. System effects include central nervous system depression, headache, syncope, seizures, and coma. Ingesting concentrated solutions of this material can cause corrosion of the GI tract and perforation. The minimum oral lethal dose is estimated at 0.5 to 5 ml/kg. Lesser amounts may cause significant toxicity.

Chronic (Delayed) Symptoms/Effects:

May cause cancer. Repeated or prolonged exposure may cause blood and liver damage. Suspected of causing genetic defects.

Target Organ Effects: Liver.

Protection of First-Aid Responders: Protect against vapor/gas exposure. Protect against liquid contamination. Most cases of serious toxicity or death have been associated with stripping operations and or use in enclosed spaces.

Notes to Physician:

There is no antidote. If the skin was in prolonged contact with liquid Methylene Chloride, chemical burns may result; treat as thermal burns. The primary exposure route is inhalation. Acute symptoms from low airborne levels are generally mild and self-limiting following removal from exposure and should require no specific treatment. The primary toxicity is central nervous system depression. Administer supplemental oxygen by mask to patients who have symptoms. Hypotension may respond to fluid replacement or management of underlying cardiac rhythm disorder. Methylene Chloride is metabolized to Carbon Monoxide. Carbon Monoxide levels may increase after exposure has ceased. It is unlikely that the Carbon Monoxide produced from Methylene Chloride metabolism will justify hyperbaric oxygen therapy; however, 100% oxygen at normal pressure is a useful treatment. The comparative efficacy of 100% normobaric oxygen compared with that of hyperbaric oxygen has not been definitively studied. May cause cardiac arrhythmias. Treatment with non-catecholamine agent is theoretically preferred. Treat seizures with benzodiazepines. Active management of metabolic acidosis and associated electrolyte abnormalities may be required if they are severe, slow to resolve or accompanied by significant complications. Treat patients who have bronchospasm with aerosolized bronchodilators. The use of bronchial sensitizing agents in situations of multiple chemical exposures may pose additional risks. Consider the health of the myocardium before choosing which type of bronchodilator should be administered. Cardiac sensitizing agents may be appropriate; however, the use of cardiac sensitizing agents after exposure to certain chemicals may pose enhanced risk of cardiac arrhythmias (especially in the elderly). If ingested, do not induce emesis. For ingestion, protect the airway and do not administer fluids or attempt to decontaminate due to the risk of vomiting and aspiration. Protect the airway. May dissolve some medical grade plastics.

Interaction with Other Chemicals Which Enhance Toxicity: May potentiate other agents that cause central nervous system (CNS) and respiratory system depression, such as alcohol, opiates.

Medical Conditions Aggravated by Exposure: May increase potential for cardiac arrhythmia. May increase carboxyhemoglobin levels. May worsen respiratory system disorders such as asthma and other breathing disorders. May worsen central nervous system disorders such as seizure disorders or impair central nervous system functions. May worsen ischemic heart disease. It is possible that underlying heart disease may lead to dysrhythmia and contribute to the cause of death from Methylene Chloride (Macisaac et al.,2013). Some non-lethal case reports in humans have identified electrocardiogram [ECG] changes but at concentrations higher than those associated with CNS effects (U.S. EPA, 2011; ATSDR, 2000). Preisser et al. (2011) identified chest tightness (a possible cardiac sign). Increased carboxyhemoglobin (COHb) concentrations, however, have been associated with decreased time to angina in persons with cardiac disease while exercising (Nac/Aegl, 2008b). Based on this decreased time to angina, EPA considers individuals with cardiac disease to be an important susceptible subpopulation.

SECTION 5. FIRE FIGHTING MEASURES

Fire Hazard: Slight fire hazard. This material may burn but does not readily ignite.

Explosive properties: It will not form explosive mixtures with air at ordinary temperatures. Closed containers may explode or rupture when exposed to extreme heat (fire).

Extinguishing Media: Use foam, dry chemical, CO_2, or water spray.

Unsuitable Extinguishing Media: Do not use a solid water stream as it may scatter and spread fire.

Fire Fighting: Wear NIOSH approved positive-pressure self-contained breathing apparatus operated in pressure demand mode. Concentrated vapors may be ignited by high intensity source. Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Flood with fine water spray. Do not scatter spilled material with high-pressure water streams. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Keep water runoff out of water supplies and sewers (see Section 6 of the SDS).

Advice for Firefighters: Firefighters must wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with full face mask operating in positive pressure mode. Concentrated vapors may be ignited by high intensity source. Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Flood with fine water spray. Do not scatter spilled material with high-pressure water streams. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Keep water runoff out of water supplies and sewers (see Section 6 of the SDS).

Component	Immediately Dangerous to Life/ Health (IDLH)
Methylene Chloride (Dichloromethane) 75-09-2	2300 ppm IDLH
Stabilizer 1	1300 ppm IDLH

Hazardous Combustion Products: Hydrogen chloride; Chlorine; Phosgene; Oxides of carbon

Products Formed During Combustion and Thermal Degradation: Hydrogen Chloride; Chlorine; Phosgene; Oxides of carbon

Sensitivity to Mechanical Impact: Not sensitive.

Sensitivity to Static Discharge: Not sensitive.

Lower Flammability Level (air): 12% @ 100°C

Upper Flammability Level (air): 19% @100°C

Flash point: None

Auto-ignition Temperature: 1033 °F (556.1 °C)

Physical Hazards of Significance Not Mentioned in GHS Classification
- Reacts violently with active metals

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Most vapors are heavier than air and will spread along ground and collect in low or confined areas (drains, basements, tanks). Do not breathe vapors, mist, or spray. Ventilate closed spaces before entering. Exposure in an enclosed or poorly ventilated area may be very harmful. Keep unnecessary people away, isolate hazard area and deny entry. Evacuation of surrounding area may be necessary for large spills. Shut off ventilation systems to occupied areas that may be impacted by vapors picked up by the intake systems. Do not get in eyes, on skin or on clothing.

Personal Protective Equipment: See Section 8 for information on personal protective equipment.

Emergency Procedures: If employees are required to clean-up spills, they must be properly trained and equipped. The OSHA Hazardous Waste Operations and Emergency Response Standard (29 CFR 1910.120) may apply. Stop leak, if possible, without personal risk. Evacuate unnecessary personnel and eliminate all sources of ignition. Shut off ventilation systems to occupied areas that may be impacted by vapors picked up by the intake systems. Before entering tanks or opening service lines that may have contained chlorinated organics, they should be completely emptied, purged, and checked for vapors before performing maintenance activities. Never enter a confined space (which includes tanks or pits) without following proper entry procedures such as 29 CFR 1910.146.

Environmental Precautions: Keep out of water supplies, sewers, and soil. Avoid discharge into drains, surface water or groundwater. Releases should be reported, if required, to appropriate regulatory agencies.

Methods and Materials for Clean-up

Recovery: Reuse or reprocess, if possible. Completely contain spilled materials with dikes, sandbags, etc. Collect with appropriate absorbent and place into suitable container. Keep container tightly closed. Liquid material may be removed with a properly rated vacuum truck.

Neutralization: Absorb spilled liquids into compatible absorbent materials and place into sealed containers.

Final Disposal: It may be necessary to contain and dispose of Methylene Chloride as a Hazardous Waste. Contact your state department of Environmental Protection or your reginal office of the federal Environmental

Protection Agency (EPA) for specific recommendations. For waste disposal, see section 13.

Additional Disaster Prevention Measures: Potential Methylene Chloride exposures have special United States OSHA requirements as noted in CFR 1910.1052 and United States EPA requirements as noted in 40CFR CHAPTER I SUBCHAPTER R PART 751 SUBPART B.

SECTION 7. HANDLING AND STORAGE

Handling:

Precautions for Safe Handling: Obtain, read, and follow all safety instructions before use. Do not breathe gas, vapors, or spray mist. Most vapors are heavier than air and will spread along ground and collect in low or confined areas (drains, basements, tanks). Avoid contact with skin, eyes, and clothing. Wear personal protective equipment as described in Exposure Controls/Personal Protection (Section 8) of the SDS. Wash hands and exposed skin and clothing thoroughly after handling. Do not touch eyes. Wash thoroughly with soap and water after handling. Do not eat, drink, or smoke in areas where this material is used. Use only outdoors or in a well-ventilated area.

Precautions for Safe Handling:

Technical measures/precautions: Recommended transfer of chlorinated organics is by pump with special precautions to not allow moisture or atmospheric air into the (un)loading lines. Transport and (un)loading can be done under nitrogen blanket or dry air to exclude moisture. If moisture could enter into the tank via seals or valves, it should be blanketed by slight overpressure of nitrogen or dry air. Use of air for blanketing might contain water and other impurities that lead to solvent degradation/acidification.

Other precautions: A number of important safety devices should be incorporated to warn of equipment failures and to avoid damages. Their purpose is specially to prevent leakage of product and they include: containment to collect drips and leaks, leakage indicators, liquid level indicators, exhaust installations, high level trip and high- and low- level alarms.

Prevention of contact: Obtain, read, and follow all safety instructions before use. Do not breathe mist, vapors, or spray. Wash hands and exposed skin and clothing thoroughly after handling. Do not touch eyes. Do not eat, drink, or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves, footwear, clothing, eye, and face protection.

Storage:

Safe Storage Conditions: Store and handle in accordance with all current regulations and standards. Keep container tightly closed and properly labeled. Store in a cool, dry area. Store in a well-ventilated area. Prevent water or moist air from entering storage tanks or containers. Do not enter confined spaces unless adequately ventilated. Do not store in aluminum container or use aluminum fittings or transfer lines. To minimize the decomposition of dichloromethane, storage containers should be lined with a phenolic coating. Protect from sunlight. Do not reuse drum without recycling or reconditioning in accordance with any applicable federal, state, or local laws. Do not use cutting or welding torches, open flames, or electric arcs on empty or full containers. Keep separated from incompatible substances (see below or Section 10 of the Safety Data Sheet).

Technical measures: Chlorinated organics and the vapors should always be contained in suitably designed tanks and pipes constructed of compatible materials that have been well maintained and in good condition. Secondary

containment should be designed with compatible materials that can hold 110% of the largest expected amount of stored product. Aluminum, non-compatible plastics, or fiberglass reinforced plastic are prohibited for use in chlorinated organic service. For more information about incompatible products or storage requirements, please contact the OxyChem Technical Service Group at OxyChem_Tech_Service@oxy.com.

Incompatible Substances: Bases, Amines, Alkali metals, Methylene Chloride reacts with strong oxidizers, caustic substances, chemically active metals such as aluminum, magnesium, potassium, sodium, and concentrated nitric acid.

Packaging or Materials of Construction: Carbon steel of welded construction is the usual material for storage and handling of chlorinated solvents in bulk tanks. If rust contamination cannot be tolerated, an appropriate grade of stainless steel may be preferred, or a coating may be applied to the steel. A certificate of the suitability of the coating should be obtained from the supplier/manufacturer. Aluminum, magnesium, and their alloys should not be used in chlorinated solvents service. Plastics are not generally suitable for bulk chlorinated solvents service.

Additional Information:

Physical Hazards of Significance Not Mentioned in GHS Classification
- Reacts violently with active metals

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

REGULATORY EXPOSURE LIMIT(S):
Listed below for the product components that have regulatory occupational exposure limits (OEL's) established. See 40 CFR Chapter I Part 751 Methylene Chloride Risk Management Rule for additional requirements when any Methylene Chloride exposures are at or above the EPA ECEL action level, ECEL, or the EPA STEL. See 29 CFR 1910.1052 (OSHA's regulatory standard for Methylene Chloride) for additional requirements when 8-hour action level (12.5 ppm TWA) is exceeded.

Component	EPA ECEL Action Level	EPA ECEL	EPA STEL
Methylene Chloride (Dichloromethane)	1 ppm (8-hr TWA) See 40 CFR Chapter I Part 751 Methylene Chloride	2 ppm (8-hr TWA) See 40 CFR Chapter I Part 751 Methylene Chloride	16 ppm (15-minute STEL) See 40 CFR Chapter I Part 751 Methylene Chloride

Existing Chemical Exposure Level (ECEL) is the concentration at which an adult human would be unlikely to suffer adverse effects if exposed for a working lifetime, including susceptible subpopulations. EPA has determined as a matter of risk management policy that ensuring exposures remain at or below the ECEL will eliminate the unreasonable risk of injury to health from occupational inhalation exposures for conditions of use identified as presenting unreasonable risk under TSCA.

Component	OSHA Final PEL TWA	OSHA Final PEL STEL	OSHA Final PEL Ceiling
Methylene Chloride (Dichloromethane) 75-09-2 (100 %)	25 ppm (TWA) See 29 CFR 1910.1052	125 ppm (STEL) See 29 CFR 1910.1052	None

OEL: Occupational Exposure Limit; OSHA: United States Occupational Safety and Health Administration; PEL: Permissible Exposure Limit; TWA: Time Weighted Average; STEL: Short Term Exposure Limit

Component	Canada - TWAs	Canada - STELs	Canada - Ceilings
Methylene Chloride (Dichloromethane) 75-09-2 (100 %)	Ontario - 50 ppm (TWA) Alberta - 50 ppm (TWA) Alberta - 174 mg/m^3 (TWA) British Columbia - 25 ppm (TWA)	-----	-----

NON-REGULATORY EXPOSURE LIMIT(S):
Listed below are the product components that have advisory (non-regulatory) occupational exposure limits (OEL's) established.

Component	ACGIH TWA	ACGIH STEL	ACGIH Ceiling	Skin Absorption - ACGIH	NIOSH RELs	AIHA WEELs	OSHA TWA (Vacated)	OSHA STEL (Vacated)	OSHA Ceiling (Vacated)
Methylene Chloride (Dichloromethane) 75-09-2 (100 %)	50 ppm (TWA)	-----	-----	Not Listed	-----	-----	500 ppm	2000 ppm	1000 ppm

- The Non-Regulatory United States Occupational Safety and Health Administration (OSHA) limits, if shown, are the Vacated 1989 PEL's (vacated by 58 FR 35338, June 30, 1993).

- The American Conference of Governmental Industrial Hygienists (ACGIH) is a voluntary organization of professional industrial hygiene personnel in government or educational institutions in the United States. The ACGIH develops and publishes recommended occupational exposure limits each year called Threshold Limit Values (TLVs) for hundreds of chemicals, physical agents, and biological exposure indices.

ENGINEERING CONTROLS: Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits. Monitoring should be performed in accordance with 29 CFR 1910.1052(d), Exposure Monitoring under OSHA's Methylene Chloride Regulation, and 40CFR CHAPTER I SUBCHAPTER R PART 751.109(d), Exposure Monitoring under EPA'S Methylene Chloride Risk Management Rule, to determine compliance with applicable exposure level(s).

WORKPLACE CHEMICAL PROTECTION PROGRAM (WCPP): A workplace chemical protection program (WCPP) is required in order to continue 13 conditions of use of Methylene Chloride. These uses include:

1. Domestic manufacturing
2. Import
3. Processing as a reactant
4. Processing in incorporation into formulation, mixture, or reaction product
5. Processing in repackaging
6. Processing in recycling
7. Use as a laboratory chemical.
8. Use in paint and coating removers for safety critical, corrosion-sensitive components of aircraft and spacecraft
9. Use as a bonding agent for solvent welding
10. Industrial and commercial use as a processing aid
11. Use for plastic and rubber products manufacturing
12. Use as a solvent that becomes part of a formulation or mixture where the formulation or mixture will be used inside

a manufacturing process and the solvent (Methylene Chloride) will be reclaimed
13. Disposal
- Details of these requirements are in 40 CFR Part 751, subpart B, available at https://www.ecfr.gov/current/title40/part-751/subpart-B.
- The WCPP requires that owners and operators of facilities using Methylene Chloride take appropriate measures to meet new inhalation exposure limits (including 2 ppm as an 8-hour time weighted average) and develop and implement an exposure control plan, among other requirements.

Applicability of the WCPP:
- The provisions of the WCPP only apply to chemical substances as defined under TSCA section 3, which excludes “any food, food additive, drug, cosmetic, or device (as such terms are defined in Section 201 of the Federal Food, Drug, and Cosmetic Act [21 U.S.C. 321]) when manufactured, processed, or distributed in commerce for use as a food, food additive, drug, cosmetic, or device” and “any pesticide (as defined in the Federal Insecticide, Fungicide, and Rodenticide Act [7 U.S.C. 136 et seq.]) when manufactured, processed, or distributed in commerce for use as a pesticide".
- The provisions of the WCPP only apply when Methylene Chloride is present in a formulation at 0.1% or greater (e.g., the de minimis threshold to account for impurities and the unintended presence of Methylene Chloride).

PERSONAL PROTECTIVE EQUIPMENT:

Eye Protection: Wear chemical safety goggles and/or a face-shield to protect against skin and eye contact when appropriate. Provide an emergency eyewash fountain and quick drench shower in the immediate work area.

Skin and Body Protection: Wear chemical resistant clothing and footwear that meet the performance requirements of ISO 16602:2007 and are designed to provide protection and prevent skin contact to Methylene Chloride.

Hand Protection: Wear appropriate chemical resistant gloves that are tested for protection from Methylene Chloride when potential for dermal exposure is possible. Consult a glove supplier for assistance in selecting an appropriate chemical resistant glove. The selection of a specific glove for a particular application and duration of use in a workplace should consider all relevant workplace factors like other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier. Donning of gloves that are chemically resistant to Methylene Chloride with activity-specific training where dermal contact with Methylene Chloride is possible must be including in the WPPP (see 40 CFR Part 751.109(g)).

Protective Material Types: Trellchem®, Tychem®, Viton®, Polyvinyl alcohol (PVA), Ethyl vinyl alcohol laminate ("EVAL").

Respiratory Protection: Because Methylene Chloride may cause eye irritation or damage, the OSHA standard for Methylene Chloride (29 CFR 1910.1052) prohibits use of quarter and half mask respirators; additionally, only supplied air respirators (SARs) can be used for other than emergency escape purposes because Methylene Chloride may pass through air purifying respirators. Respiratory protection requirements for Methylene Chloride are in 29 CFR 1910.1052(g) and 40 CFR Part 751.109(f). When concentrations are above the IDLH, or are unknown, or during spills and/or emergencies, use any supplied-air respirator that has a facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.

Component	Immediately Dangerous to Life/ Health (IDLH)
Methylene Chloride (Dichloromethane)	2300 ppm IDLH

75-09-2 (100 %)	
Stabilizer 1 (< 0.01 %)	1300 ppm IDLH

Other Protective Equipment: Provide an emergency eyewash fountain and quick drench shower in the immediate work area.

HYGIENE MEASURES: Obtain, read, and follow all safety instructions before use. Do not breathe mist, vapors, or spray. Wash hands and affected skin immediately after handling, before breaks, and at the end of the workday. Do not eat, drink, or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves, protective clothing, eye, and face protection.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear liquid
Physical State:	Liquid
Color:	Colorless
Odor:	Chloroform-like odor
Odor Threshold [ppm]:	200-300 ppm (causes olfactory fatigue)
Melting Point/Range:	-139 °F (-95 °C)
Freezing Point/Range:	-139 °F (-95 °C)
Boiling Point °C	103.5 °F (39.7 °C)
Evaporation Rate (ether=1):	0.7
Lower Flammability Level (air):	12% @ 100°C
Upper Flammability Level (air):	19% @100°C
Explosion limits:	Not applicable
Flash point:	None
Auto-ignition Temperature:	1033 °F (556.1 °C)
Decomposition Temperature:	Not determined.
pH:	Not applicable
Viscosity:	- 0.41 (cps) @ 77°F
Dynamic viscosity:	0.437 mPa·s @ 20°C
Kinematic viscosity	0.33 mm2/s @ 20C
Water Solubility:	1.32% @ 25 C or 13,000 mg/l at 25 °C
Partition Coefficient (n-octanol/water):	log Kow = 1.25
Vapor Pressure:	350 mmHg @ 20°C and 435 mmHg @ 25°C
Density:	No data available
Relative Density/Specific Gravity (water=1):	1.31 - 1.32 @ 25°C
Vapor Density (air=1):	2.93
Particle Size Distribution:	Not applicable
Other Information	
Chemical Family:	Saturated aliphatic halogenated solvent
Molecular Weight:	84.94
Volatility:	100% by volume
Surface tension:	28.12 dyne/cm @ 20°C

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability: Stable at normal temperatures and pressures.

Reactivity: Reacts violently with active metals.

Possibility of Hazardous Reactions: Avoid heat, flames, sparks, and other sources of ignition. Containers may rupture or explode if exposed to heat. Reacts violently with active metals. Reacts violently with active metals such as aluminum, magnesium, potassium, sodium. Avoid contact with incompatible substances and conditions due to generation of phosgene and other toxic and irritating substances.

Conditions to Avoid (e.g., static discharge, shock, or vibration): Methylene Chloride dissolves endothermically in concentrated nitric acid to give a detonable solution.

Incompatible Substances: Bases, Amines, Alkali metals, Methylene Chloride reacts with strong oxidizers, caustic substances, chemically active metals such as aluminum, magnesium, potassium, sodium, and concentrated nitric acid.

Hazardous Decomposition Products: Hydrogen Chloride, Chlorine, Phosgene, Oxides of Carbon.

Hazardous Polymerization: Will not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS:

TOXICITY:
Dermal exposure results in absorption but at a slower rate than via the oral or inhalation routes of exposure.

ACUTE TOXICITY:

Eye contact: Vapors may cause eye irritation. Liquid contact may cause tearing, redness, a stinging or burning feeling, swelling, and blurred vision.

Skin contact: May cause effects ranging from mild irritation to severe pain, and possibly burns, depending on the intensity of contact. Skin absorption may occur.

Inhalation: May cause upper respiratory tract irritation and central nervous system depression with symptoms such as confusion, lightheadedness, nausea, vomiting, headache, and fatigue. Causes formation of carbon monoxide in blood which may affect the cardiovascular system and central nervous system. Continued exposure may cause unconsciousness and even death.

Ingestion: May cause nausea or vomiting. If vomiting results in aspiration, chemical pneumonia could occur. Absorption through the gastrointestinal tract may produce central nervous system depression, carboxyhemoglobin,

metabolic acidosis and electrolyte disorders, hypotension, cardiac rhythm disorders and seizures.

CHRONIC TOXICITY:
Liver effects have not been reported in humans, but liver changes have been observed in several long-term studies with laboratory animals. Inhalation of 500 to 3,500 ppm Methylene Chloride for two years produced only minimal, non-proliferative changes in the liver of Sprague Dawley rats (the no-observed-effect level was equal to 200 ppm) and no liver effects in hamsters. Non-proliferative changes were noted in rats in another study after exposure to 1,000 to 4,000 ppm. Liver enlargement has been observed in mice exposed to 2,000 and 4,000 ppm of Methylene Chloride for 11 days.

Chronic Effects: May cause liver damage. May cause cancer based on animal data. Suspected of causing genetic defects.

SIGNS AND SYMPTOMS OF EXPOSURE:

Inhalation (Breathing): Respiratory System Effects: Pulmonary irritation, cough, chest discomfort, shortness of breath, headache, euphoria, nausea and vomiting, respiratory irritation. Changes in heart rate, paresthesias, sleepiness and seizures are described. Heavy exposure can result in muscle weakness or hypotonia, syncope, stupor followed by loss of consciousness. Complications include cardiac abnormalities and elevations of carboxyhemoglobin. Coma with respiratory depression may result in death.
Skin: Skin Irritation. Skin exposure may cause intense burning sensation, mild redness, and numbness. Severe burns may develop following prolonged exposures. Will remove the natural greases resulting in dryness, cracking, and dermatitis. Repeated and/or prolonged skin contact may cause reddening, burning and blisters.
Eye: Eye Irritation. Mild eye irritation may occur when exposed to vapor. Splash of liquid in the eye can cause conjunctival irritation and burning pain. Prolonged contact can cause severe corneal burns.
Ingestion (Swallowing): Ingesting this material may cause nausea, vomiting, mucosal irritation with burning sensation. System effects include central nervous system depression, headache, syncope, seizures, and coma. Ingesting concentrated solutions of this material can cause corrosion of the GI tract and perforation. The minimum oral lethal dose is estimated at 0.5 to 5 ml/kg. Lesser amounts may cause significant toxicity.

Interaction with Other Chemicals Which Enhance Toxicity: May potentiate other agents that cause central nervous system (CNS) and respiratory system depression, such as alcohol, opiates.

GHS HEALTH HAZARDS:

GHS: CONTACT HAZARD - SKIN: Category 2 - Causes skin irritation
GHS: CONTACT HAZARD - EYE: Category 2A - Causes serious eye irritation
GHS: ACUTE TOXICITY - ORAL: Category 4 - Harmful if swallowed
GHS: TARGET ORGAN TOXICITY (SINGLE EXPOSURE):
Category 1 - Causes damage to cardiovascular system including elevated carboxyhemoglobin levels
Category 3 - May cause drowsiness or dizziness
GHS: TARGET ORGAN TOXICITY (REPEATED EXPOSURE):
Category 2 - May cause damage to liver through prolonged or repeated exposure
GHS: ASPIRATION HAZARD: Category 1 - May be fatal if swallowed and enters airways
GHS: CARCINOGENICITY: Category 1B - May cause cancer
GHS: GERM CELL MUTAGENICITY: Category 2 - Suspected of causing genetic defects

TOXICITY DATA:

PRODUCT TOXICITY DATA:

LD50 Oral:	LD50 Dermal:	LC50 Inhalation:
950 mg/kg (Rat)	> 2,000 mg/kg (Rat)	76000 mg/m³ (4 hr-Rat)

COMPONENT TOXICITY DATA: The component toxicity data is populated by the LOLI database and may differ from the product toxicity data given

Component	Oral LD50	Dermal LD50	Inhalation LC50
Methylene Chloride (Dichloromethane) 75-09-2	1600 mg/kg (Rat)	>2000 mg/kg (Rat)	53 mg/L (6-h Rat)
Stabilizer 1	12705 mg/kg (Rat)	>2000 mg/kg (Rabbit)	>32880 mg/m³ (4-h Rat)
Stabilizer 2	700 - 2600 mg/kg (Rat)	>2000 mg/kg (Rat)	>61000 ppm (4-h Rat)

EYE IRRITATION/CORROSION: Small increases in corneal thickness and intraocular tension reported after exposure of rabbits to vapors of > 490 ppm Methylene Chloride were reversible within 2 days after exposure ceased. Following direct eye contact with Methylene Chloride (0.1 mL), rabbits exhibited inflammation of the conjunctivae and eyelids and increases in corneal thickness and intraocular tension. The effects were reversible within 3 to 9 days. This product is classified as causing serious eye irritation (Category 2) per GHS criteria.

Standard Draize (Eye): Methylene Chloride: 162 mg eyes-rabbit moderate; 10 mg eyes-rabbit mild; 500 mg/24 hour(s) eyes-rabbit mild.

SKIN IRRITATION/CORROSION: In animals, an available guideline study demonstrated that Methylene Chloride could cause skin irritation in rabbits including severe erythema and oedema with necrosis. The product is classified as cutaneous irritant (Category 2), according to GHS classification criteria.

Standard Draize (Skin): Methylene Chloride: 810 mg/24 hour(s) skin-rabbit severe; 100 mg/24 hour(s) skin-rabbit moderate

SKIN ABSORBENT/DERMAL ROUTE: Yes.
Dermal absorption of liquid Methylene Chloride in mice increased linearly with time at a rate of 0.1 mg/cm2/min. An in-vitro study using pig skin measured the dermal permeability of Methylene Chloride and estimated permeability coefficients of 8.66 x 10-3 cm/hour for the neat (100%) compound and 3.15 x 10-2 (1%) cm/hour for a 1% solution.

RESPIRATORY OR SKIN SENSITIZATION: In a recent GLP Mouse local lymph node assay (LLNA) study (2010), the SI values calculated for the substance concentrations of 5, 25 and 100% were 1.3, 1.5 and 1.7 respectively. Since there was no indication that the test substance elicits an SI ≥3 when tested up to 100%, Methylene Chloride was considered not to be a skin sensitizer.

CARCINOGENICITY: The International Agency for Research on Cancer (IARC) concluded that there is sufficient evidence in experimental animals for the carcinogenicity of Methylene Chloride. In the evaluation it was pointed out that mechanistic studies have established a link between glutathione S-transferase-mediated metabolism of Methylene Chloride and its genotoxicity and carcinogenicity in mice. The glutathione-S-transferase (GSTT1) responsible for the metabolism of Methylene Chloride is expressed to significantly greater levels in mouse tissues than in rat, hamster, or human tissues and thus, the available data suggest a plausible mechanism for the development of liver and lung tumors occurring in mice which is assumed to be of less importance in rats and hamsters. No studies with Methylene Chloride in humans have investigated whether GSTT1 polymorphisms are associated with cancer.

One study has reported an association between a CYP2E1 polymorphism and non-Hodgkin lymphoma in Methylene Chloride exposed individuals; however, the functional significance of this polymorphism is unknown. Overall, given the extensive evidence for genotoxicity, in association with metabolic pathways that are operative in humans, IARC concluded that the mode of action of the carcinogenesis reported in animals is relevant for humans. In conclusion, although the evidence in humans for the carcinogenicity of Methylene Chloride is limited, the available data on carcinogenicity of Methylene Chloride in experimental animals and the mechanistic information is sufficient to support a classification of Methylene Chloride as carcinogen category 1B.

Component	NTP:	IARC (GROUP 1):	IARC (GROUP 2):	OSHA:
Methylene Chloride (Dichloromethane)	Reasonably Anticipated To Be A Human Carcinogen		Group 2	Listed

SPECIFIC TARGET ORGAN TOXICITY (Single Exposure): Exposure in an enclosed or poorly-ventilated area may be very harmful. Methylene Chloride can be metabolized to Carbon Monoxide (CO), which is then very tightly bound to hemoglobin. This complex is called carboxyhemoglobin (COHb) and results in a reduction in the oxygen carrying capacity of the blood and may lead to death by chemical asphyxiation. Formation of COHb is not specific to the heart, brain, and cardiovascular system; thus, are not considered target organs. Since CO binds tightly and specifically to blood, blood would be considered a target organ. In addition, the central nervous system (CNS) should be considered a target organ, and the classification for this endpoint is covered under STOT SE Category 3. In several cases of acute, high-dose exposures in humans, the COHb levels have been low (7.5-13%), supporting the fact that Methylene Chloride has direct anesthetic properties, and the CNS depression is not necessarily linked to the presence of carbon monoxide.

SPECIFIC TARGET ORGAN TOXICITY (Repeated or Prolonged Exposure): Liver effects have not been reported in humans; however, liver changes have been observed in several long-term studies with laboratory animals. Inhalation of 500 to 3500 ppm Methylene Chloride for two years produced only minimal, non-proliferative changes in the liver of Sprague Dawley rats (the no-observed-effect level was equal to 200 ppm) and no liver effects in hamsters. Non-proliferative changes were noted in rats in another study after exposure to 1000 to 4000 ppm. Liver enlargement has been observed in mice exposed to 2000 and 4000 ppm of Methylene Chloride for 11 days. The EPA has calculated an RfD (0.006 mg/kg/day) and RfC (0.06 mg/m^3) for Methylene Chloride based upon the critical effect of liver toxicity as demonstrated in oral and inhalation toxicity studies in rats. Several other studies (summarized by SCOEL, 2009) indicate that liver effects are observed in repeated animal studies at doses as low as 88 mg/m^3.

INHALATION HAZARD: Case studies of Methylene Chloride poisoning during paint stripping operations have demonstrated that inhalation exposure to extremely high levels can be fatal to humans due to formation of carboxyhemoglobin in the blood.

INGESTION HAZARD: Based on the oral LD50 (950 – 1600 mg/kg) for Methylene Chloride, classification for acute oral toxicity is Category 4, harmful if swallowed, based upon classification criteria of 300 mg/kg < Oral LD50 ≤2000 mg/kg.

GERM CELL/IN-VITRO MUTAGENICITY: In general, in the in-vivo genotoxicity studies available in the literature, the strongest responses were observed in mouse lung and liver, tissues with the greatest rates of GST metabolism and the highest susceptibility to Methylene Chloride-induced tumors. The available data demonstrated a clear correlation between the observed genotoxicity in- vitro and in-vivo and the activity of GST pathway, but a role of P450 metabolic pathway in the induction of genotoxic effects cannot be ruled out. In conclusion, the available data show evidence of genotoxicity both in-vitro and in-vivo. In particular, it is noted that the effects observed in-vivo were in association with metabolic pathway operative also in humans. On this basis, the classification of category 2 is warranted.

REPRODUCTIVE TOXICITY: Epidemiological studies have identified reproductive/developmental effects for

Methylene Chloride, including oral cleft defects in mothers older than 35 years and heart defects in mothers of all ages and spontaneous abortions. However, these studies didn't directly consider co-exposures within the same model as Methylene Chloride. Some animal studies identified effects that included developmental neurotoxicity; but these were observed at higher concentrations (1,250, 4,500 or 47,000 ppm). Therefore, EPA did not carry reproductive/developmental effects forward for dose-response in their TSCA 6(a) Final Risk Determination for Methylene Chloride.

DEVELOPMENTAL TOXICITY: May cross the placenta. May be excreted in breast milk; however, there were no indications of neonatal toxicity due to exposure of the parenteral group to Methylene Chloride during gestation and lactation.

ASPIRATION HAZARD: Ingestion of liquid Methylene Chloride may cause chemical pneumonitis and is considered an aspiration hazard. Methylene Chloride is a chlorinated hydrocarbon, and the kinematic viscosity is 0.33 mm2/s, which meets the GHS classification criteria for Category 1: Hydrocarbon that has a kinematic viscosity ≤20.5 mm2/s at 40°C.

TOXICOKINETICS: Methylene Chloride can be absorbed through oral ingestion and inhalation, with the gastrointestinal tract and respiratory tract being the primary sites of absorption. Methylene Chloride is quickly absorbed through inhalation exposure in humans and animals. Pulmonary uptake ranges between 40 and 60 percent, but may be up to 70 percent during the first minutes of exposure. In humans, uptake decreases as exposure duration and concentration increase. A steady-state absorption rate is generally achieved within 2 hours for exposures up to 200 ppm in humans. Methylene chloride is rapidly distributed throughout the body, including the liver, brain and subcutaneous adipose tissue, as identified in animal studies. Among fatality cases, the highest concentrations were usually found in the brain, then liver or kidneys and finally in the lungs and heart. The compound and its metabolites are eliminated from the body through exhalation and urine. Physiologically based pharmacokinetic (PBPK) models are used to understand the kinetics of these processes (see "Metabolism" below).

METABOLISM: Methylene Chloride is metabolized primarily in the liver through two pathways: the CYP2E1 pathway and the GST pathway, leading to different metabolites. In the liver, two primary pathways are involved in the metabolism of Methylene Chloride. The cytochrome P450 (CYP450) mixed function oxidase (MFO) pathway (via CYP2E1) produces CO and CO2 , and saturation occurs at approximately 400-500 ppm after inhalation exposure in humans. The CO metabolite reacts with hemoglobin to form carboxyhemoglobin (COHb). The second pathway operates via glutathione S-transferase (GST); individuals with the theta 1 isozyme (GSTT1) metabolize Methylene Chloride to form formaldehyde and formic acid. In animals, saturation occurs at >10,000 ppm after inhalation exposure. Methylene Chloride binds to the CYP reaction site with higher affinity than the GST site and COHb levels resulting from Methylene Chloride's metabolism to CO can continue to increase and can reach peak levels 5 to 6 hours after exposure. The plasma half-life is estimated to be 40 minutes after inhalation exposure by human subjects. Unmetabolized Methylene Chloride is eliminated primarily through the lungs. Urine and feces also contain small quantities of unchanged Methylene Chloride. At low doses, a large percent of Methylene Chloride is transformed into COHb and eliminated as CO. At higher doses, more of the unchanged parent compound is exhaled.

BIOLOGICAL DISTRIBUTION: After entering the body, Methylene Chloride is rapidly distributed to various tissues, including the liver, brain, and with significant accumulation in subcutaneous adipose tissue (e.g., fat) due to its lipophilic nature.

PATHOGENICITY AND ACUTE INFECTIOUSNESS (ORAL, DERMAL, AND INHALATION): Not applicable.

ENDOCRINE DISRUPTOR: Methylene Chloride is listed on The Endocrine Disruptors Exchange's (TEDX) List of Potential Endocrine Disruptors (ED) database of chemicals with the potential to affect the endocrine system. Every chemical on the TEDX List has one or more verified citations published, accessible, primary scientific research demonstrating effects on the endocrine system. Literature data concerning reproductive/developmental effects points

out directly to a potential ED-like mode of action. In particular, considering both: i) the CYP-mediated mechanism(s) supporting both hepatic and biliary tract carcinogenesis alert at low dichloromethane doses, and ii) the CYP2E1-mediated mechanism supporting the reproductive/developmental alert in the male germ line, a concern on the possibility that dichloromethane could act via an ED-like mechanism exists. A study (Mennear JH et al., 1988) on dichloromethane-mediated carcinogenesis in F344/N rats indicated that a set of endocrine-regulated tissues (mammary glands, testis, adrenals) were responding, in a non-linear dose-dependent manner, to the treatment with dichloromethane, suggesting a possible relationship with disturbed endocrine function and raising the possibility of a hormonal-mediated mechanism(s) at a realistic scenario of exposure to humans.

NEUROTOXICITY: Nervous system effects related to Methylene Chloride exposure include effects related to CNS depression in humans as well as spontaneous activity and other effects in animals. Developmental neurotoxicity has also been observed in human studies and a limited number of animal studies.

IMMUNOTOXICITY: EPA has identified one epidemiological study that addressed an immune-related endpoint. Chaigne et al. (2015) is a case control study evaluating Sjogren's syndrome, which is an autoimmune epithelitis characterized by dry eyes and mouth, physical weakness, and joint pain. However, EPA has assigned an overall data quality rating of medium due to lack of information on recruitment, participation, and exposures.

Health Hazards of Significance Not Mentioned in GHS Classification

• Methylene Chloride can be metabolized to carbon monoxide (CO), which is then very tightly bound to hemoglobin. This complex is called carboxyhemoglobin (COHb) and results in a reduction in the oxygen carrying capacity of the blood
• Exposure in an enclosed or poorly ventilated area may be very harmful
• May cross the placenta. May be excreted in breast milk; however, there were no indications of neonatal toxicity due to exposure of the parenteral group to Methylene Chloride during gestation and lactation.
• This material may be absorbed across the skin causing systemic effects

SECTION 12. ECOLOGICAL INFORMATION

ECOTOXICITY (EC, IC, and LC):

Ecotoxicity - Available LOLI Data for Components: As noted in table below:

Component:	*Freshwater Fish:*	*Invertebrate Toxicity:*	*Algae Toxicity:*	*Other Toxicity:*
Methylene Chloride (Dichloromethane) 75-09-2 (100 %)	*LC50 Pimephales promelas: 140.8 - 277.8 mg/L 96h flow-through *LC50 Pimephales promelas: 262 - 855 mg/L 96h static *LC50 Lepomis macrochirus: 193 mg/L 96h flow-through *LC50 Lepomis macrochirus: 193 mg/L 96h static	*EC50 Daphnia magna: 1532 - 1847 mg/L 48h *EC50 Daphnia magna: 190 mg/L 48h	*EC50 Pseudokirchneriella subcapitata (96 h) >500 mg/L *EC50 Pseudokirchneriella subcapitata (72 h) >500 mg/L	*LC50 Eisenia foetida (48 h filter paper) =0.3 mg/cm2 *LC50 Eisenia foetida (48 h filter paper) =304 mg/cm2
Stabilizer 1 (< 0.01 %)	*LC50 Pimephales promelas: 23.03 -	No data available	*EC50 Desmodesmus subspicatus (72 h)	No data available

	42.07 mg/L 96h static *LC50 Lepomis macrochirus: 24.99 - 44.69 mg/L 96h static *LC50 Pimephales promelas: 3.96 - 5.18 mg/L 96h flow-through *LC50 Poecilia reticulata: 48.87 - 68.76 mg/L 96h static		>500 mg/L	
Stabilizer 2 (< 0.01 %)	*LC50 Oncorhynchus mykiss: 4.99 mg/L 96h semi-static *LC50 Oncorhynchus mykiss: 8.41 mg/L 96h semi-static, closed	*EC50 Daphnia magna: 3 mg/L 48h	No data available	No data available

Aquatic Toxicity:
The acute effect concentrations of Methylene Chloride for all three trophic levels exceed the screening criterion of 100 mg/L. It can therefore be considered that Methylene Chloride is not acutely toxic towards aquatic organisms For rapidly biodegradable substances, chronic NOEC values above 1 mg/L and/or acute LC50 values above 100 mg/L do not result in classification. Since it was highly volatile and diffused rapidly into the air, and the bioaccumulation was low, it was not classified for chronic aquatic toxicity

Fish Toxicity:
LC50 (Static) Fathead minnow = 310 mg/L (96 hr)
LC50 (Static) Bluegill sunfish = 220 mg/L (96 hr)

Invertebrate Toxicity:
LC50 Mysid Shrimp = 256 mg/L 96 hour(s)
224 mg/L 48 hour(s) LC50 Daphnia Magna

FATE AND TRANSPORT:

PERSISTENCE: Due to its high Henry's Law constant and vapor pressure (435 mmHg at 25°C), Methylene Chloride is expected to volatilize from surface water and soil. The EPI Suite™ module that estimates volatilization from lakes and rivers (water volatilization model) was run using default settings to evaluate the volatilization half-life of Methylene Chloride in surface water and estimated that the half-life of Methylene Chloride in a model river will be 1.1 hours and the half-life in a model lake will be less than 4 days. In the atmosphere, Methylene Chloride will slowly react with hydroxyl radicals (•OH), with an indirect photolysis half-life of 79 days. Due to its persistence, Methylene Chloride is expected to be subject to local and long-range atmospheric transport. Based on its vapor density (2.93 relative to air), volatilized Methylene Chloride is expected to remain near ground level in very calm conditions, but with mixing will readily disperse into the air.

BIODEGRADATION: Methylene Chloride will not rapidly biodegrade in aerobic environments. Overall, Methylene Chloride biodegradation rates in aerobic environments may vary based on factors including microorganism consortia present and microorganisms' previous exposure and adaptation to Methylene Chloride or other halogenated substances. In agreement with the experimental data for anaerobic biodegradation of Methylene

Chloride, the BIOWIN model of anaerobic biodegradation (BIOWIN 7) predicts that Methylene Chloride will biodegrade rapidly under anaerobic conditions.

BIOCONCENTRATION: Bioconcentration potential in aquatic organisms is low with BCF of 2.

BIOACCUMULATIVE POTENTIAL: The bioconcentration potential of Methylene Chloride is low; the EPI Suite™ BCFBAF model estimates bioconcentration factors of 2.6 to 3.1 and a bioaccumulation factor of 2.6. Based on these estimated bioconcentration factor and bioaccumulation potential, Methylene Chloride does not bioaccumulate in biological organisms.

MOBILITY IN SOIL: Methylene Chloride is not expected to partition to or accumulate in soil; rather, it is expected to volatilize to air or migrate through soil into groundwater based on its physical-chemical properties (log KOC = 1.4, Henry's Law constant = 0.00325 atm-m3 /mole, vapor pressure = 435 mmHg at 25°C).

PBT and vPvB assessment: The overall conclusions - based on the available data under EU REACH registration- of the preliminary PBT assessment are that the (screening) criteria for PBT/vPvB are not met and that further testing in the scope of the final PBT assessment is not considered to be required.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste from material:
Reuse or reprocess, if possible. Keep out of water supplies, sewers, and soil. Small spills should be absorbed with a compatible absorbent material and placed in clean, dry stainless-steel drum to offer for disposal. Incineration is the preferred method for disposal of large quantities by mixing with a combustible solvent and spraying into an incinerator equipped with acid scrubbers to remove hydrogen chloride gases formed. Complete combustion will convert carbon monoxide to carbon dioxide. Care should be taken for the presence of phosgene. Dispose in accordance with all applicable regulations. Generators of waste (equal to or greater than 100 kg/mo) containing this contaminant, EPA hazardous waste numbers U080 and F002, must conform with USEPA regulations in storage, transportation, treatment, and disposal of waste.

Container Management:
Dispose of container in accordance with applicable local, regional, national, and/or international regulations. Container rinsate must be disposed of in compliance with applicable regulations.

Contaminated Material:
Wastewater from contaminant suppression, cleaning of protective clothing/equipment, or contaminated sites should be contained and evaluated for subject chemical or decomposition product concentrations. Concentrations shall be lower than applicable environmental discharge or disposal criteria. Alternatively, pretreatment and/or discharge to a permitted wastewater treatment facility is acceptable only after review by the governing authority and assurance that "pass through" violations will not occur. Consideration to the potential exposure(s) to remediation workers should be evaluated (inhalation, dermal, and ingestion) and controlled. In addition, all generators must determine if their waste is hazardous and must oversee the ultimate fate of the waste during treatment, transfer, and disposal. If it is not practicable to manage the chemical in this fashion, it must be evaluated in accordance with EPA 40 CFR Part 261, specifically Subpart B, in order to determine the appropriate local, state, and federal requirements for disposal. Potential candidate for liquid injection incineration, with a temperature range of 650 to 1600°C and a residence time of 0.1 to 2 seconds; for rotary kiln incineration with a temperature range of 820 to 1600°C and residence times of seconds for liquids and gases, hours for solids; and for fluidized bed incineration, with a temperature range of 450 to

980°C and residence times of seconds for liquids and gases, longer for solids.

SECTION 14. TRANSPORT INFORMATION

LAND TRANSPORT

U.S. DOT 49 CFR 172.101:

UN NUMBER: UN1593
PROPER SHIPPING NAME: Dichloromethane
HAZARD CLASS/ DIVISION: 6.1
PACKING GROUP: III
LABELING REQUIREMENTS: 6.1
RQ (Lbs.): RQ 1,000 Lbs. (Dichloromethane)

CANADIAN TRANSPORTATION OF DANGEROUS GOODS:

UN NUMBER: UN1593
SHIPPING NAME: Dichloromethane
CLASS OR DIVISION: 6.1
PACKING/RISK GROUP: III
LABELING REQUIREMENTS: 6.1

MARITIME TRANSPORT (IMO / IMDG)

UN NUMBER: UN1593
PROPER SHIPPING NAME: Dichloromethane
HAZARD CLASS / DIVISION: 6.1
Packing Group: III
LABELING REQUIREMENTS: 6.1
MARINE POLLUTANT: No

AIR TRANSPORT (ICAO / IATA)

Special Instructions CAO: IATA Certificate for shipping personnel is required

SECTION 15. REGULATORY INFORMATION

U.S. REGULATIONS

OSHA REGULATORY STATUS:
This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4):
Regulated as noted in table below.

Component	U.S. DOT Hazardous Substances/ RQs	CERCLA Hazardous Substances / RQs	CERCLA Section 302 EHS EPCRA RQs	Section 302 Threshold Planning Quantity (TPQ)
Methylene Chloride (Dichloromethane) 75-09-2 (100 %)	1000 lbs(RQ)	1000 lb	Not listed	Not Listed

SARA EHS Chemical (40 CFR 355.30)

If a release is reportable under EPCRA, notify the state emergency response commission and local emergency planning committee. If the TPQ is met, facilities are subject to reporting requirements under EPCRA Sections 311 and 312.

SARA HAZARD CATEGORIES ALIGNED WITH GHS (2018):

Health Hazard - Carcinogen
Health Hazard - Germ Cell Mutagenicity
Health Hazard - Acute Toxin (any route of exposure)
Health Hazard - Skin Corrosion or Irritation
Health Hazard - Serious eye damage or eye irritation
Health Hazard - Specific Target Organ Toxicity (STOT) Single Exposure (SE)
Health Hazard - Specific Target Organ Toxicity (STOT) Repeat Exposure (RE)
Health Hazard - Aspiration Hazard
Health Hazard - HNOC

EPCRA SECTION 313 (40 CFR 372.65):

The following chemicals are listed in 40 CFR 372.65 and may be subject to Community Right-to Know Reporting requirements.

Component	SARA 313 - Emission Reporting	SARA 313 PBT
Methylene Chloride (Dichloromethane) 75-09-2 (100)	0.1% (de minimis concentration)	Not Listed
Stabilizer 1 (< 0.01)	1.0% (de minimis concentration)	Not Listed

DEPARTMENT OF HOMELAND SECURITY (DHS)- Chemical Facility Anti-Terrorism Standards (6 CFR 27):

No components in this material are regulated under DHS

OSHA SPECIFICALLY REGULATED SUBSTANCES:

OSHA 29 CFR 1910.1052 (Methylene Chloride); The U.S. Department of Labor, Occupational Safety and Health Administration specifically regulates manufacturing, handling and processing of Methylene Chloride. Such regulations have been published at 29 CFR 1910.1052.

OSHA PROCESS SAFETY (PSM) (29 CFR 1910.119):

Not regulated.

Component	EPA RMP Toxic or Flammable TPQ	PSM - Highly Hazardous Substances, Toxics and Reactives	Flash Point
Stabilizer 2 (< 0.01)	Not Listed	Not Listed	

FDA: This material should not be used in food applications.

EPA'S CLEAN WATER AND CLEAN AIR ACTS:

Regulated as noted in table below.

Component	Clean Water Act - Priority	CAA - ODS CLASS 1 AND	CAA - Volatile Organic	CAA - HON Rule - Organic	CAA - Hazard Air Pollutants	CAA - Urban HAPs List	SNAP - Substitutes	EPA RMP Toxic or

	Pollutants	CLASS 2	Compounds (VOCs) in SOCMI	HAPs		(Integrated Urban Strategy)	for ODS	Flammable TPQ
Methylene Chloride (Dichloromethane) 75-09-2 (100 %)	Present	Not Listed	Present	Present	Present	Present	Not Listed	Not Listed
Stabilizer 1 (< 0.01 %)	Not Listed	Not Listed	Present	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Stabilizer 2 (< 0.01 %)	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed

NATIONAL INVENTORY STATUS

U.S. INVENTORY STATUS: Toxic Substance Control Act (TSCA):

Component	TSCA Inventory	TSCA ACTIVE LIST	TSCA 12(b)	TSCA/Section 4	TSCA/Section 5	TSCA/Section 6	TSCA/Section 8
Methylene Chloride (Dichloromethane) 75-09-2 (100 %)	Listed	ACTIVE R	Section 6 (0.1 %)	Not listed	Not Listed	Chemicals subject to Risk Evaluation	Listed
Stabilizer 1 (< 0.01 %)	Listed	ACTIVE	Section 4 (1 %)	40 CFR 799.5000	Not Listed	Not Listed	Listed
Stabilizer 2 (< 0.01 %)	Listed	ACTIVE	Not Listed	Not listed	Not Listed	Not Listed	Not listed

Toxic Substance Control Act (TSCA) Restriction of Use:
- This chemical/product is not and cannot be distributed in commerce (as defined in TSCA section 3(5)) or processed (as defined in TSCA section 3(13)) for consumer paint or coating removal.
- After February 3, 2025, this chemical substance (as defined in TSCA section 3(2))/ product cannot be distributed in commerce to retailers. After January 28, 2026, this chemical substance (as defined in TSCA section 3(2))/product is and can only be distributed in commerce or processed with a concentration of Methylene Chloride equal to or greater than 0.1% by weight for the following purposes: (1) Processing as a reactant; (2) Processing for incorporation into a formulation, mixture, or reaction product; (3) Processing for repackaging; (4) Processing for recycling; (5) Industrial or commercial use as a laboratory chemical; (6) Industrial or commercial use as a bonding agent for solvent welding; (7) Industrial and commercial use as a paint and coating remover from safety critical, corrosion-sensitive components of aircraft and spacecraft; (8) Industrial and commercial use as a processing aid; (9) Industrial and commercial use for plastic and rubber products manufacturing; (10) Industrial and commercial use as a solvent that becomes part of a formulation or mixture, where that formulation or mixture will be used inside a manufacturing process, and the solvent (Methylene Chloride) will be reclaimed; (11) Industrial and commercial use in the refinishing for wooden furniture, decorative pieces, and architectural fixtures of artistic, cultural or historic value until May 8, 2029; (12) Industrial and commercial use in adhesives and sealants in aircraft, space vehicle, and turbine applications for structural and safety critical non-structural applications until May 8, 2029; (13) Disposal; and (14) Export.
- (R) Indicates a substance that is the subject of a TSCA Section 6 risk management rule

TSCA 12(b): Methylene Chloride is subject to TSCA 12(b) annual reporting requirements (per country)
De minimis reporting level: 0.1%
TSCA Section(s): 6(a).

Canadian Chemical Inventory: All components of this product are listed on either the DSL or the NDSL.

Component	DSL	NDSL
Methylene Chloride (Dichloromethane) 75-09-2 (100)	Listed	Not Listed
Stabilizer 1 (< 0.01)	Listed	Not Listed

Stabilizer 2 (< 0.01)	Listed	Not Listed

STATE REGULATIONS

California Proposition 65:
This product contains a chemical known to the State of California to cause cancer, and/or birth defects, and/or other reproductive harm as listed under Proposition 65 State Drinking Water and Toxic Enforcement Act.

Component	U.S. - California - Proposition 65 - Carcinogens List	CA. Prop. 65 Teratogen	California Proposition 65 CRT List - Male reproductive toxin:	California Proposition 65 CRT List - Female reproductive toxin:	Massachusetts Right to Know Hazardous Substance List	Rhode Island Right to Know Hazardous Substance List
Methylene Chloride (Dichloromethane) 75-09-2 (100 %)	Listed	Not listed	Not Listed	Not Listed	Listed	Listed
Stabilizer 1 (< 0.01 %)	Not listed	Not listed	Not Listed	Not Listed	Listed	Listed
Stabilizer 2 (< 0.01 %)	Not listed	Not listed	Not Listed	Not Listed	Listed	Not Listed

Component	New Jersey Right to Know Hazardous Substance List	New Jersey Special Health Hazards Substance List	New Jersey - Environmental Hazardous Substance List	Pennsylvania Right to Know Hazardous Substance List	Pennsylvania Right to Know Special Hazardous Substances	Pennsylvania Right to Know Environmental Hazard List
Methylene Chloride (Dichloromethane)	1255	Not Listed	Listed	Listed	Present	Present
Stabilizer 1	0565	flammable - third degree	Listed	Listed	Not Listed	Present
Stabilizer 2	3365	Not Listed	Not Listed	Listed	Not Listed	Not Listed

CANADIAN REGULATIONS

This product has been classified in accordance with the hazard criteria of the Workplace Hazardous Materials Information System (WHMIS 2015) which includes the amended Hazardous Products Act (HPA) and the Hazardous Product Regulations (HPR).

Component	Canada - CEPA - Schedule I - List of Toxic Substances	Canada - NPRI	Canada - CEPA - Greenhouse Gases (GHG) Subject to Mandatory Reporting	Canadian Chemical Inventory:	NDSL
Methylene Chloride (Dichloromethane) 75-09-2 (100)	Present (037)	Part 1, Group A Substance (065)	Not Listed	Listed	Not Listed
Stabilizer 1 (< 0.01)	Present (065) Schedule 1, Part 1 Substance	Part 1, Group A Substance (058)	Not Listed	Listed	Not Listed
Stabilizer 2 (< 0.01)	Present (065) Schedule 1, Part 3 Substance	Not Listed	Not Listed	Listed	Not Listed

SECTION 16. OTHER INFORMATION

METHYLENE CHLORIDE, TECHNICAL GRADE

Prepared by: Occidental Chemical Corporation - HES&S Product Stewardship Department

Rev. Date: 27-Sep-2024

Reason for Revision:
• Revision includes requirements outlined in EPA's Methylene Chloride Risk Management Rule: United States EPA requirements as noted in 40CFR CHAPTER I SUBCHAPTER R PART 751 SUBPART B (https://www.ecfr.gov/current/title40/part-751/subpart-B)
• SDS format adopts revisions to the OSHA's 2024 Hazard Communication Rule 29CFR 1910.1200 and ensures classification with at a minimum the seventh revised edition of GHS and certain elements from the eighth revised edition (Revision 8)
• SDS format adopts revisions to the Hazardous Products Regulations (HPR) to include revisions to “Section 9: Physical and chemical properties” and ensures classification with at a minimum the seventh revised edition of GHS and certain elements from the eighth revised edition (Revision 8)

IMPORTANT:
Important: The information presented herein, while not guaranteed, was prepared by technical personnel and is true and accurate to the best of our current knowledge. NO WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, OR WARRANTY OR GUARANTY OF ANY OTHER KIND, EXPRESS OR IMPLIED, IS MADE REGARDING PERFORMANCE, SAFETY, SUITABILITY, STABILITY OR OTHERWISE. This information is not intended to be all-inclusive as to the manner and conditions of use, handling, storage, disposal, and other factors that may involve other or additional legal, environmental, safety or performance considerations, and Occidental Chemical Corporation assumes no liability whatsoever for the use of or reliance upon this information. Appropriate handling and use of the product remains the responsibility of the customer. No suggestions for use are intended as, and nothing herein shall be construed as, a recommendation to infringe any existing patents or to violate any Federal, State, local or foreign laws.

OSHA Standard 29 CFR 1910.1200 requires that information be provided to employees regarding the hazards of chemicals by means of a hazard communication program including labeling, safety data sheets, training and access to written records. We request that you, and it is your legal duty to, make all information in this Safety Data Sheet available to your employees.

End of Safety Data Sheet