SAFETY DATA SHEET

CAS Number: 624-92-0
Product Description: Dimethyl Disulfide

SECTION 1) CHEMICAL PRODUCT AND SUPPLIER'S IDENTIFICATION

CAS Number: 624-92-0

Product Name: Dimethyl Disulfide

Revision Date: Jun 14, 2023
Date Printed: Sep 05, 2023
Version: 1.0
Supersedes Date: N.A.

Manufacturer's Name: Thames River Chemical Corp.
Address: 5230 Harvester Road Burlington, ON, CA, L7L 4X4
Emergency Phone: CHEMTREC (800) 424-9300
Information Phone Number: 905-681-5353
Fax: 905-681-5377
Product/Recommended Uses: For laboratory or industrial use only.

SECTION 2) HAZARDS IDENTIFICATION

Classification

Flammable Liquids - Category 2

Acute toxicity Inhalation Gas (ppmV) - Category 3

Acute toxicity Oral - Category 3

Eye Irritation - Category 2B

Reproductive Toxicity - Category 2

Skin Irritation - Category 2

Skin Sensitizer - Category 1B

Specific Target Organ Toxicity - Repeated Exposure - Category 1

Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) - Category 3

Acute aquatic toxicity - Category 2

Chronic aquatic toxicity - Category 2

Safety data sheet prepared in accordance to the United States Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (29 CFR 1910.1200) and the Canadian Workplace Hazardous Materials Information System (WHMIS).

Pictograms

Signal Word

Danger

Hazardous Statements - Health

H331 - Toxic if inhaled

H301 - Toxic if swallowed

H320 - Causes eye irritation

H361 - Suspected of damaging fertility or the unborn child

H315 - Causes skin irritation

H317 - May cause an allergic skin reaction

H372 - Causes damage to organs through prolonged or repeated exposure.

H335 - May cause respiratory irritation

Hazardous Statements - Physical

H225 - Highly flammable liquid and vapor

Hazardous Statements - Environmental

H411 - Toxic to aquatic life with long lasting effects

Precautionary Statements - General

P101 - If medical advice is needed, have product container or label at hand.

P102 - Keep out of reach of children.

P103 - Read label before use.

Precautionary Statements - Prevention

P273 - Avoid release to the environment.

P271 - Use only outdoors or in a well-ventilated area.

P264 - Wash/Wash hands thoroughly after handling.

P270 - Do not eat, drink or smoke when using this product.

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P233 - Keep container tightly closed.

P240 - Ground/bond container and receiving equipment.

P241 - Use explosion-proof electrical, ventilating, lighting equipment.

P242 - Use only non-sparking tools.

P243 - Take action to prevent static discharges.

P280 - Wear protective gloves,protective clothing,eye protection/face protection.

P201 - Obtain special instructions before use.

P202 - Do not handle until all safety precautions have been read and understood.

P272 - Contaminated work clothing should not be allowed out of the workplace.

P260 - Do not breathe dust/fume/gas/mist/vapors/spray.

Precautionary Statements - Response

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P321 - Specific treatment (see first-aid on the SDS).

P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor.

P330 - Rinse mouth.

P391 - Collect spillage.

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 - If eye irritation persists: Get medical advice/attention.

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

P370 + P378 - In case of fire: Use carbon dixoxide, alcohol foam, water spray or dry chemical to extinguish.

P308 + P313 - IF exposed or concerned: Get medical advice/attention.

P302 + P352 - IF ON SKIN: Wash with plenty of water and soap.

P362 + P364 - Take off contaminated clothing. And wash it before reuse.

P333 + P313 - If skin irritation or a rash occurs: Get medical advice/attention.

P314 - Get Medical advice/attention if you feel unwell.

P312 - Call a POISON CENTER or doctor, if you feel unwell.

Precautionary Statements - Storage

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.

P405 - Store locked up.

P403 + P235 - Store in a well-ventilated place. Keep cool.

P403 + P405 - Store in a well-ventilated place. Store locked up.

Precautionary Statements - Disposal

P501 - Dispose of contents/container in accordance with local/national/international regulation. Waste management should be in full compliance with national, regional and local laws.

Acute toxicity of 100% of the mixture is unknown

SECTION 3) COMPOSITION/INFORMATION ON INGREDIENTS

CAS	Chemical Name	% By Weight
0000624-92-0	DIMETHYL DISULFIDE	100%

SECTION 4) FIRST-AID MEASURES

Inhalation

Remove source of exposure or move person to fresh air and keep comfortable for breathing. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by the POISON CENTER/doctor. Eliminate all ignition sources if safe to do so. Get Medical advice/attention if you feel unwell. If exposed/If you feel unwell/If concerned: Call a POISON CENTER or doctor. Take precautions to ensure your own safety (e.g. wear appropriate protective equipment).

Eye Contact

If eye irritation persists: Get medical advice/attention. Rinse eyes cautiously with lukewarm, gently flowing water for several minutes, while holding the eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing for a duration of 15-20 minutes. Take care not to rinse contaminated water into the unaffected eye or onto the face. Avoid direct contact. Wear chemical protective gloves, if necessary.

Skin Contact

Wash with plenty of lukewarm, gently flowing water for a duration of 15-20 minutes or until medical aid is available. Store contaminated clothing under water and wash before re-use or discard. IF exposed or concerned: Get medical advice/attention. If skin irritation or a rash occurs: Get medical advice/attention. Take off immediately all contaminated clothing, shoes and leather goods (e.g. watchbands, belts).

Ingestion

Rinse mouth. Immediately call a POISON CENTER or doctor. If breathing has stopped, immediately start cardiopulmonary resuscitation (CPR) or automated external defibrillation (AED).

Most important symptoms and effects, both acute and delayed

No data available.

Indication of any immediate medical attention and special treatment needed

Treat according to symptoms (decontamination, vital functions), no known specific antidote. Treatment should be supportive and based on the judgement of the physician in response to the reaction of the patient.

SECTION 5) FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Small Fire : Dry chemical, foam, carbon dioxide, water-spray or alcohol-resistant foam. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Large Fire : Water spray, fog or alcohol-resistant foam.

Unsuitable Extinguishing Media

Do not use straight stream of water.

Specific Hazards in Case of Fire

Runoff may pollute waterways Fire will produce irritating and toxic gases. Most vapors are heavier than air. Vapors may form explosive mixtures with air Vapors will spread along ground and collect in low or confined areas (sewers, basements, tanks) Vapors may travel to source of ignition and flash back. Many liquids are lighter than water. Containers may explode in fire. May form an ignitable vapor/air mixture in closed tanks or containers.

Fire-fighting Procedures

Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Cool containers with flooding quantities of water until well after fire is out. Caution should be exercised when using water or foam as frothing may occur, especially if sprayed into containers of hot, burning liquid. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

Special Protective Actions

Wear protective pressure self-contained breathing apparatus (SCBA) and full turnout gear.

SECTION 6) ACCIDENTAL RELEASE MEASURES

Emergency Procedure

Stay uphill and/or upstream. Ventilate closed spaces before entering. Do not touch damaged containers or spilled materials unless wearing appropriate protective clothing. Evacuate and isolate hazard area and keep unauthorized personnel away. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. A vapor-suppressing foam may be used to reduce vapors.

Recommended Equipment

Wear chemical protective clothing and positive pressure self-contained breathing apparatus (SCBA). Breathing protection is required.

Personal Precautions

Do not breathe vapor or mist. Do not get on skin, eyes or clothing.

Environmental Precautions

Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems and natural waterways by using sand, earth, or other appropriate barriers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Dike far ahead of liquid spill for later disposal.

Methods and Materials for Containment and Cleaning up

Ventilate area after clean-up is complete. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean, non-sparking tools to collect absorbed material.

SECTION 7) HANDLING AND STORAGE

General

Wash hands after use. Use good personal hygiene practices. Eating, drinking and smoking in work areas is prohibited. Remove contaminated clothing and protective equipment before entering eating areas. All containers must be properly labelled. Do not breathe vapor or mist. Eyewash stations and showers should be available in areas where this material is used and stored ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not get in eyes, on skin, or on clothing.

Ventilation Requirements

Use only with adequate ventilation to control air contaminants to their exposure limits. The use of local ventilation is recommended to control emissions near the source. Report ventilation failures immediately.

Storage Room Requirements

Keep containers securely sealed when not in use. Containers that have been opened must be carefully resealed to prevent leakage. Indoor storage should meet OSHA standards and appropriate fire codes. Empty containers retain residue and may be dangerous. Store in cool, dry, well-ventilated areas away from heat, direct sunlight and strong oxidizers. Store in approved containers and protect against physical damage. Take precautionary measures against electrostatic discharge. To avoid fire or explosion, dissipate static electricity during transfer by ground and bonding containers and equipment before transferring material. Use non-sparking ventilation systems, approved explosion-proof equipment and intrinsically safe electrical systems in areas where this product is used and stored.

SECTION 8) EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye protection

Wear eye protection with side shields or goggles. Wear indirect-vent, impact and splash resistant goggles when working with liquids.

Skin Protection

Use of gloves approved to relevant standards made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Use of an apron and over-boots of chemically impervious materials such as neoprene or nitrile rubber. Launder soiled clothes or properly disposed of contaminated material, which cannot be decontaminated.

Respiratory protection

If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker, a respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 should be followed. Check with respiratory protective equipment suppliers.

Appropriate Engineering Controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

Chemical Name	CAN_ONsmg	CAN_ONtmg	CAN_ONsppm	CAN_ONtppm	CAN_QCVEMP ppm - CANADA_QUEBEC VALEUR D'EXPOSITION MOYENNE PONDÉRÉE_ppm	CAN_QCVEMP mg - CANADA_QUEBEC VALEUR D'EXPOSITION MOYENNE PONDÉRÉE_mg	CAN_QCVECD ppm - CANADA_QUEBEC VALEUR D'EXPOSITION DE COURTE DURÉE_ppm	CAN_QCVECD mg - CANADA_QUEBEC VALEUR D''EXPOSITION DE COURTE DURÉE_mg
DIMETHYL DISULFIDE								

Chemical Name	CAN_ALtppm	CAN_ALtmg	CAN_ALsmg	CAN_AL_Notation	CAN_AL_Carcinogen	CAN_ALsppm	CANsmg	CANsppm
DIMETHYL DISULFIDE								

Chemical Name	CANtmg	CANtppm	OSHA STEL (mg/m3)	OSHA STEL (ppm)	OSHA TWA (mg/m3)	OSHA TWA (ppm)	OSHA Carcinogen	OSHA Tables (Z1, Z2, Z3)
DIMETHYL DISULFIDE								

Chemical Name	OSHA Skin designation	ACGIH STEL (mg/m3)	ACGIH STEL (ppm)	ACGIH TWA (mg/m3)	ACGIH TWA (ppm)	ACGIH TLV Basis	ACGIH Carcinogen	ACGIH Notations
DIMETHYL DISULFIDE					0.5	URT irr; CNS impair		Skin

(C) - Ceiling limit, CNS - Central nervous system, impair - Impairment, irr - Irritation, URT - Upper respiratory tract

SECTION 9) PHYSICAL AND CHEMICAL PROPERTIES

Density	8.85 lb/gal
Specific Gravity	1.06

Appearance	Light yellow liquid
Odor Description	Unpleasant odour
Odor Threshold	N/A
pH	N/A
Melting/Freezing Point	-85.00 °C
Low Boiling Point	109 (1.013 hPa) °C
High Boiling Point	N/A
Flash Point	15 (PMCC) °C
Vapor Pressure	30 (at 20°C) hPa
Vapor Density	3.25 (Air = 1)
Evaporation Rate	N/A
Upper Explosion Level	16.1% (V)
Lower Explosion Level	1.1% (V)
Water Solubility	2.7 g/l (20°C)
Coefficient Water/Oil	log Pow 1.91
Viscosity	N/A

SECTION 10) STABILITY AND REACTIVITY

Stability

Stable under normal storage and handling conditions.

Conditions To Avoid

Avoid all possible sources of ignition, heat, sparks, flame, build up of static electricity and contact with incompatible materials.

Hazardous Reactions/Polymerization

Will not occur.

Incompatible Materials

Strong bases, acids, and oxidizing agents.

Hazardous Decomposition Products

Oxides of carbon.

SECTION 11) TOXICOLOGICAL INFORMATION

Acute Toxicity

Toxic if inhaled

Toxic if swallowed

The Acute Toxicity Estimate (ATE) for an oral exposure to this mixture is -1 mg/kg body weight

The Acute Toxicity Estimate (ATE) for a dermal exposure to this mixture is >5000 mg/kg body weight

The Acute Toxicity Estimate (ATE) for an inhalation (vapour) exposure to this mixture is >20 mg/l

Aspiration Hazard

Based on available data, the classification criteria are not met.

Carcinogenicity

Based on available data, the classification criteria are not met.

Germ Cell Mutagenicity

Based on available data, the classification criteria are not met.

Reproductive Toxicity

Suspected of damaging fertility or the unborn child

Respiratory/Skin Sensitization

May cause an allergic skin reaction

Serious Eye Damage/Irritation

Causes eye irritation

Skin Corrosion/Irritation

Causes skin irritation

Specific Target Organ Toxicity - Repeated Exposure

Causes damage to organs through prolonged or repeated exposure.

Specific Target Organ Toxicity - Single Exposure

May cause respiratory irritation

Likely Routes of Exposure

Inhalation, Ingestion, Skin contact, Eye contact

SECTION 12) ECOLOGICAL INFORMATION

Toxicity

Toxic to aquatic life

Toxic to aquatic life with long lasting effects

Persistence and Degradability

No data available.

Bioaccumulative Potential

No data available.

Mobility in Soil

No data available.

Other Adverse Effects

No data available.

SECTION 13) DISPOSAL CONSIDERATIONS

Waste Disposal

It is the responsibility of the user of the product to determine at the time of disposal whether the product meets local criteria for hazardous waste. Waste management should be in full compliance with national, state and local laws. Empty Containers retain product residue which may exhibit hazards of material, therefore do not pressurize, cut, glaze, weld or use for any other purposes.

SECTION 14) TRANSPORT INFORMATION

	Transport Canada Information	U.S. DOT Information	IMDG Information	IATA Information
UN number:	UN2381	UN2381	UN2381	UN2381
Proper shipping name:	Dimethyl disulfide	Dimethyl disulfide	Dimethyl disulfide	Dimethyl disulfide
Hazard class:	3 (6.1)	3 (6.1)	3 (6.1)	3 (6.1)
Packaging group:	II	II	II	II
Hazardous substance (RQ):	No Data Available	No Data Available		
Marine Pollutant:	No Data Available	No Data Available	No Data Available	
Note / Special Provision:	No Data Available	No Data Available	No Data Available	No Data Available
Toxic-Inhalation Hazard:	No Data Available	No Data Available		

ERG: 130

SECTION 15) REGULATORY INFORMATION

CAS	Chemical Name	% By Weight	Regulation List
0000624-92-0	DIMETHYL DISULFIDE	100%	DSL, TSCA, AICS, CN_IECSC - Inventory of Existing Chemical Substances Produced or Imported in China, EU_EINECS - European_EC_Inventory_EINECS, EU_EC_Inventory - European_EC_Inventory, PH_PICCS - Philippines, The Philippine Inventory of Chemicals and Chemical Substances, KR_KECI - Korean Existing Chemicals Inventory

SECTION 16) OTHER INFORMATION

Glossary

ACGIH - American Conference of Governmental Industrial Hygienists; CAS - Chemical Abstracts Service ; Chemtrec - Chemical Transportation Emergency Center; DSL - Domestic Substances List; ESL- Effects screening levels; GHS - "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations; HMIS - Hazardous Material Information Service; IATA - Dangerous Goods Regulations (DGR) for the air transport (IATA); IMDG - International Maritime Dangerous Goods Code; LC - Lethal Concentration; LD - Lethal Dose; NFPA - National Fire Protection Association; OEL - Occupational Exposure Limits; OSHA- Occupational Safety and Health Administration, US Department of Labor; PEL - Permissible Exposure Limit; SARA 313 - Superfund Amendments and Reauthorization Act, Section 313; SCBA - Self Contained Breathing Apparatus; ppm - parts per million; STEL - Short-term exposure limit; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act Public Law 94-469; TWA - Time-weighted average; US DOT- US Department of Transportation.

Version 1.0:

Revision Date: Jun 14, 2023

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