

SECTION 1: IDENTIFICATION

Product Identifier

Product Name: Carbon Disulfide

CAS No: 75-15-0

Formula: CS₂

Synonyms: Carbon sulfide; carbonsulphide; Carbon sulphide; Dithioxomethane

Intended Use of the Product

For the manufacture of viscose rayon, cellophane films, rubber vulcanization accelerators, xanthates, pharmaceutical intermediates (such as thiocarbanilide and thiocyanates), mercaptoethylamine, and several fungicides, soil fumigants, insecticides and their intermediates. Carbon disulfide is used as a solvent for rubbers, waxes, fats, oils, plastics, sulfur, phosphorus, selenium, bromine and iodine.

Name, Address, and Telephone of the Responsible Party

Manufacturer

CHEMTRADE LOGISTICS INC.

155 Gordon Baker Road

Suite 300

Toronto, Ontario M2H 3N5

For MSDS Info: (416) 496-5856

www.chemtradelogistics.com

Emergency Telephone Number

Emergency number :

Canada: CANUTEC +1-613-996-6666 / US: CHEMTREC +1-800-424-9300

Chemtrade Emergency Contact: (866) 416-4404

For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident, call CHEMTREC – Day or Night

SECTION 2: HAZARDS IDENTIFICATION

Classification of the Substance or Mixture

Classification (GHS-US)

Flam. Liq. 2	H225
Acute Tox. 4 (Inhalation:dust,mist)	H332
Eye Irrit. 2A	H319
Repr. 2	H361
STOT RE 1	H372
Aquatic Acute 2	H401

Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US)



Signal Word (GHS-US) : Danger

Hazard Statements (GHS-US) : H225 - Highly flammable liquid and vapor
H319 - Causes serious eye irritation
H332 - Harmful if inhaled
H361 - Possible risk of impaired fertility., May damage the unborn child (Inhalation, Dermal)
H372 - Causes damage to organs (peripheral nervous system, central nervous system, cardiovascular system, eye) through prolonged or repeated exposure (Inhalation, Dermal)
H401 - Toxic to aquatic life

Precautionary Statements (GHS-US) : P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P210 - Keep away from heat, hot surfaces, open flames, sparks. - No smoking
P233 - Keep container tightly closed

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P240 - Ground/bond container and receiving equipment
P241 - Use explosion-proof electrical, lighting, ventilating equipment
P242 - Use only non-sparking tools
P243 - Take precautionary measures against static discharge
P260 - Do not breathe mist, spray, vapors
P264 - Wash exposed areas thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P271 - Use only outdoors or in a well-ventilated area
P273 - Avoid release to the environment
P280 - Wear eye protection, protective clothing, protective gloves
P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P308+P313 - If exposed or concerned: Get medical advice/attention
P312 - Call a POISON CENTER/doctor/physician if you feel unwell
P314 - Get medical advice and attention if you feel unwell
P337+P313 - If eye irritation persists: Get medical advice/attention
P370+P378 - In case of fire: Use appropriate media for extinction
P403+P235 - Store in a well-ventilated place. Keep cool
P405 - Store locked up
P501 - Dispose of contents/container to local, regional, national, and international regulations

Other Hazards

Other Hazards Not Contributing to the Classification: Not available

Unknown Acute Toxicity (GHS-US) Not available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substances

Mixture

Name	Product identifier	% (w/w)	Classification (GHS-US)
Carbon disulfide	(CAS No) 75-15-0	> 99.9	Flam. Liq. 2, H225 Acute Tox. 4 (Inhalation), H332 Eye Irrit. 2A, H319 Repr. 2, H361 STOT RE 1, H372 Aquatic Acute 2, H401

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

Description of First Aid Measures

General: Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.

Inhalation: When symptoms occur: go into open air and ventilate suspected area. Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER/doctor/physician if you feel unwell.

Skin Contact: Remove contaminated clothing. Drench affected area with water for at least 15 minutes.

Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Ingestion: Rinse mouth. Do NOT induce vomiting.

Most Important Symptoms and Effects Both Acute and Delayed

General: Eye irritation. Harmful if inhaled. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.

Inhalation: Harmful if inhaled.

Skin Contact: May cause skin irritation. May cause an allergic skin reaction.

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Eye Contact: Causes serious eye irritation.

Ingestion: Ingestion is likely to be harmful or have adverse effects.

Chronic Symptoms: Causes damage to organs through prolonged or repeated exposure. May damage fertility. May damage the unborn child.

Indication of Any Immediate Medical Attention and Special Treatment Needed

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

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Dry chemical powder, alcohol-resistant foam, carbon dioxide (CO₂). Use extinguishing media appropriate for surrounding fire.

Unsuitable Extinguishing Media: Do not use water jet. Use of heavy stream of water may spread fire.

Special Hazards Arising From the Substance or Mixture

Fire Hazard: Highly flammable liquid and vapor.

Explosion Hazard: May form flammable/explosive vapor-air mixture.

Reactivity: Hazardous reactions will not occur under normal conditions.

Advice for Firefighters

Precautionary Measures Fire: Not available

Firefighting Instructions: Exercise caution when fighting any chemical fire.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Reference to Other Sections

Refer to section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Use special care to avoid static electric charges. Keep away from heat/sparks/open flames/hot surfaces. – No smoking. Handle in accordance with good industrial hygiene and safety practice. Do not allow product to spread into the environment.

For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel. Evacuate unnecessary personnel.

For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection. Use appropriate personal protection equipment (PPE).

Emergency Procedures: Ventilate area.

Environmental Precautions

Prevent entry to sewers and public waters. Avoid release to the environment.

Methods and Material for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Do not take up in combustible material such as: saw dust or cellulosic material.

Methods for Cleaning Up: Collect spillage. Clear up spills immediately and dispose of waste safely.

Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

Additional Hazards When Processed: Handle empty containers with care because residual vapors are flammable.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Do not eat, drink or smoke when using this product.

Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical, ventilating, lighting equipment.

Storage Conditions: Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep in fireproof place. Keep container tightly closed. Store locked up.

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Storage Area: Store in a well-ventilated place. Keep cool.

Specific End Use(s) For the manufacture of viscose rayon, cellophane films, rubber vulcanization accelerators, xanthates, pharmaceutical intermediates (such as thiocarbonyl and thiocyanates), mercaptoethylamine, and several fungicides, soil fumigants, insecticides and their intermediates. Carbon disulfide is used as a solvent for rubbers, waxes, fats, oils, plastics, sulfur, phosphorus, selenium, bromine and iodine.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Carbon disulfide (75-15-0)		
USA ACGIH	ACGIH TWA (ppm)	1 ppm
USA OSHA	OSHA PEL (TWA) (ppm)	20 ppm
USA OSHA	OSHA PEL (Ceiling) (ppm)	30 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	3 mg/m ³
USA NIOSH	NIOSH REL (TWA) (ppm)	1 ppm
USA NIOSH	NIOSH REL (STEL) (mg/m ³)	30 mg/m ³
USA NIOSH	NIOSH REL (STEL) (ppm)	10 ppm
USA IDLH	US IDLH (ppm)	500 ppm
Alberta	OEL TWA (mg/m ³)	3.1 mg/m ³
Alberta	OEL TWA (ppm)	1 ppm
British Columbia	OEL STEL (ppm)	12 ppm
British Columbia	OEL TWA (ppm)	4 ppm
Manitoba	OEL TWA (ppm)	1 ppm
New Brunswick	OEL TWA (mg/m ³)	31 mg/m ³
New Brunswick	OEL TWA (ppm)	10 ppm
Newfoundland & Labrador	OEL TWA (ppm)	1 ppm
Nova Scotia	OEL TWA (ppm)	1 ppm
Nunavut	OEL STEL (mg/m ³)	62 mg/m ³
Nunavut	OEL STEL (ppm)	20 ppm
Nunavut	OEL TWA (mg/m ³)	31 mg/m ³
Nunavut	OEL TWA (ppm)	10 ppm
Northwest Territories	OEL STEL (mg/m ³)	62 mg/m ³
Northwest Territories	OEL STEL (ppm)	20 ppm
Northwest Territories	OEL TWA (mg/m ³)	31 mg/m ³
Northwest Territories	OEL TWA (ppm)	10 ppm
Ontario	OEL TWA (ppm)	1 ppm
Prince Edward Island	OEL TWA (ppm)	1 ppm
Québec	VECD (mg/m ³)	36 mg/m ³
Québec	VECD (ppm)	12 ppm
Québec	VEMP (mg/m ³)	12 mg/m ³
Québec	VEMP (ppm)	4 ppm
Saskatchewan	OEL STEL (ppm)	15 ppm
Saskatchewan	OEL TWA (ppm)	10 ppm
Yukon	OEL STEL (mg/m ³)	90 mg/m ³
Yukon	OEL STEL (ppm)	30 ppm
Yukon	OEL TWA (mg/m ³)	60 mg/m ³
Yukon	OEL TWA (ppm)	20 ppm

Exposure Controls

Appropriate Engineering Controls: Ensure all national/local regulations are observed. Gas detectors should be used when flammable gases/vapours may be released. Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof equipment.

Personal Protective Equipment: Gloves. Protective goggles. Protective clothing. Insufficient ventilation: wear respiratory protection.

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Materials for Protective Clothing: Chemically resistant materials and fabrics.

Hand Protection: Wear chemically resistant protective gloves.

Eye Protection: Chemical goggles or safety glasses.

Skin and Body Protection: Not available

Respiratory Protection: Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.

Thermal Hazard Protection: Wear suitable protective clothing.

Other Information: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

Physical State	: Liquid
Appearance	: Colorless, Clear
Odor	: Disagreeable
Odor Threshold	: 0.1 ppm
pH	: Not available
Relative Evaporation Rate (butylacetate=1)	: 10.9
Melting Point	: Not applicable
Freezing Point	: -111.66 °C (-169°F)
Boiling Point	: 46.12 °C (115°F)
Flash Point	: -30.15 °C (-22.3°F) Pensky-Martens Closed Cup
Critical temperature	: 272.9 °C (523.2°F)
Auto-ignition Temperature	: 90 °C (194°F)
Decomposition Temperature	: Not available
Flammability (solid, gas)	: Not applicable
Lower Flammable Limit	: 1 - 3 %
Upper Flammable Limit	: 50 %
Vapor Pressure	: 39.7 kPa (297.6 mm Hg)
Relative Vapor Density at 20 °C	: 2.6 Air = 1
Relative Density	: Not available
Specific Gravity	: 1.266
Solubility	: Water: Partial Ethanol: Soluble Ether: Soluble Organic solvent: Soluble
Partition coefficient: n-octanol/water	: Not available
Viscosity	: Not available
Explosion Data – Sensitivity to Mechanical Impact	: Not expected to present an explosion hazard due to mechanical impact.
Explosion Data – Sensitivity to Static Discharge	: Static discharge could act as an ignition source.

SECTION 10: STABILITY AND REACTIVITY

Reactivity: Hazardous reactions will not occur under normal conditions.

Chemical Stability: Product is stable. Highly flammable liquid and vapor. May form flammable/explosive vapor-air mixture.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

Conditions to Avoid: Direct sunlight. Extremely high or low temperatures. Open flame.

Incompatible Materials: Oxidizers. Reducing agents. Metals. Alkalis. Strong acids. Strong bases. Strong oxidizers.

Hazardous Decomposition Products: Carbon oxides (CO, CO₂). Sulphur oxides. May release flammable gases.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on Toxicological Effects - Product

Acute Toxicity: Harmful if inhaled.

LD50 and LC50 Data: Not available

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Skin Corrosion/Irritation: Not classified

Serious Eye Damage/Irritation: Causes serious eye irritation.

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Teratogenicity: Not available

Carcinogenicity: Not classified

Specific Target Organ Toxicity (Repeated Exposure): Causes damage to organs (peripheral nervous system, central nervous system, cardiovascular system, eye) through prolonged or repeated exposure (Inhalation, Dermal).

Reproductive Toxicity: Possible risk of impaired fertility., May damage the unborn child (Inhalation, Dermal).

Specific Target Organ Toxicity (Single Exposure): Not classified

Aspiration Hazard: Not classified

Potential Adverse Human Health Effects and Symptoms: Harmful if inhaled.

Symptoms/Injuries After Inhalation: Harmful if inhaled.

Symptoms/Injuries After Skin Contact: May cause skin irritation. May cause an allergic skin reaction.

Symptoms/Injuries After Eye Contact: Causes serious eye irritation.

Symptoms/Injuries After Ingestion: Ingestion is likely to be harmful or have adverse effects.

Chronic Symptoms: Causes damage to organs through prolonged or repeated exposure. May damage fertility. May damage the unborn child.

Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

Carbon disulfide (75-15-0)	
LD50 Oral Rat	3188 mg/kg
LC50 Inhalation Rat (mg/l)	10.35 mg/l (Exposure time: 4 h)

SECTION 12: ECOLOGICAL INFORMATION

Toxicity

Ecology - General: Toxic to aquatic life.

Carbon disulfide (75-15-0)	
LC50 Fish 1	3 (3 - 5.8) mg/l (Exposure time: 96 h - Species: Poecilia reticulata [semi-static])
EC50 Daphnia 1	2.1 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC 50 Fish 2	4 mg/l (Exposure time: 96 h - Species: Poecilia reticulata [static])

Persistence and Degradability

Carbon Disulfide (75-15-0)	
Persistence and Degradability	Not established. May cause long-term adverse effects in the environment.

Bioaccumulative Potential

Carbon Disulfide (75-15-0)	
Bioaccumulative Potential	Not established.

Carbon disulfide (75-15-0)	
BCF fish 1	4.3 (4.3 - 8)

Mobility in Soil Not available

Other Adverse Effects

Other Information: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

Additional Information: Handle empty containers with care because residual vapors are flammable.

Ecology – Waste Materials: This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

SECTION 14: TRANSPORT INFORMATION

14.1 In Accordance with DOT

Proper Shipping Name : CARBON DISULFIDE

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Hazard Class : 3
Identification Number : UN1131
Label Codes : 3,6.1
Packing Group : I
ERG Number : 131



14.2 In Accordance with IMDG

Proper Shipping Name : CARBON DISULPHIDE
Hazard Class : 3
Identification Number : UN1131
Packing Group : I
Label Codes : 3,6.1
EmS-No. (Fire) : F-E
EmS-No. (Spillage) : S-D



14.3 In Accordance with IATA

Proper Shipping Name : CARBON DISULPHIDE
Identification Number : UN1131
Hazard Class : 3
Label Codes : 3,6.1
ERG Code (IATA) : 3HP



14.4 In Accordance with TDG

Proper Shipping Name : CARBON DISULPHIDE
Packing Group : I
Hazard Class : 3
Identification Number : UN1131
Label Codes : 3,6.1



SECTION 15: REGULATORY INFORMATION

US Federal Regulations

Carbon Disulfide (75-15-0)	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard Fire hazard
Carbon disulfide (75-15-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on SARA Section 302 (Specific toxic chemical listings) Listed on SARA Section 313 (Specific toxic chemical listings)	
EPA TSCA Regulatory Flag	T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA.
SARA Section 302 Threshold Planning Quantity (TPQ)	10000
SARA Section 313 - Emission Reporting	1.0 %

US State Regulations

Carbon disulfide (75-15-0)	
U.S. - California - Proposition 65 - Developmental Toxicity	WARNING: This product contains chemicals known to the State of California to cause birth defects.
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	WARNING: This product contains chemicals known to the State of California to cause (Female) reproductive harm.
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	WARNING: This product contains chemicals known to the State of California to cause (Male) reproductive harm.
Carbon disulfide (75-15-0)	
U.S. - Massachusetts - Right To Know List	

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U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

Canadian Regulations

Carbon Disulfide (75-15-0)

WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects
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Carbon disulfide (75-15-0)

Listed on the Canadian DSL (Domestic Substances List) inventory.

Listed on the Canadian Ingredient Disclosure List

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision date : 05/02/15

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

Acute Tox. 4 (Inhalation)	Acute toxicity (inhalation) Category 4
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Aquatic Acute 2	Hazardous to the aquatic environment - Acute Hazard Category 2
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Liq. 2	Flammable liquids Category 2
Repr. 2	Reproductive toxicity Category 2
STOT RE 1	Specific target organ toxicity (repeated exposure) Category 1
H225	Highly flammable liquid and vapor
H319	Causes serious eye irritation
H332	Harmful if inhaled
H361	Suspected of damaging fertility or the unborn child
H372	Causes damage to organs through prolonged or repeated exposure
H401	Toxic to aquatic life

Party Responsible for the Preparation of This Document

CHEMTRADE LOGISTICS, INC.

For MSDS Info: (416) 496-5856

Handle product with due care and avoid unnecessary contact. This information is supplied under U.S. OSHA'S "Right to Know" (29 CFR 1910.1200) and Canada's WHMIS regulations. Although certain hazards are described herein, we cannot guarantee these are the only hazards that exist. The information contained herein is based on data available to us and is believed to be true and accurate but it is not offered as a product specification. No warranty, expressed or implied, regarding the accuracy of this data, the hazards connected with the use of the product, or the results to be obtained from the use thereof, is made and Chemtrade and its affiliates assume no responsibility. Chemtrade is a member of the CIAC (Chemistry Industry Association of Canada) and adheres to the codes and principles of Responsible Care™.

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North America GHS US 2012 & WHMIS 2