

Carbon Disulfide

Safety Data Sheet

According to U.S. Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations and according to Canada's Hazardous Products Regulation, February 11, 2015.

Revision Date: 03/21/2017

Date of Issue: 05/02/2015

Version: 2.0

SECTION 1: IDENTIFICATION

Product Identifier

Product Form: Substance

Product Name: Carbon Disulfide

CAS No: 75-15-0

Formula: CS₂

Synonyms: Carbon sulfide; Dithioxomethane

Intended Use of the Product

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.

Name, Address, and Telephone of the Responsible Party

Manufacturer

CHEMTRADE LOGISTICS INC.

155 Gordon Baker Road

Suite 300

Toronto, Ontario M2H 3N5

For SDS Info: (416) 496-5856

www.chemtradelogistics.com

Emergency Telephone Number

Emergency Number :

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

INTERNATIONAL: +1-703-741-5970

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

GHS Classification

Flam. Liq. 2 H225

Acute Tox. 4 H332

(Inhalation:dust,mist)

Eye Irrit. 2A H319

Repr. 2 H361

STOT RE 1 H372

Aquatic Acute 2 H401

Full text of hazard classes and H-statements : see section 16

Label Elements

GHS Labeling

Hazard Pictograms



Signal Word

: Danger

Hazard Statements

: H225 - Highly flammable liquid and vapor.

H319 - Causes serious eye irritation.

H332 - Harmful if inhaled.

H361 - Suspected of damaging fertility or the unborn child (Inhalation).

H372 - Causes damage to organs (cardiovascular system, central nervous system,

Carbon Disulfide

Safety Data Sheet

According to U.S. Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations and according to Canada's Hazardous Products Regulation, February 11, 2015.

Precautionary Statements

- peripheral nervous system) through prolonged or repeated exposure.
H401 - Toxic to aquatic life.
- : 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, 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, and lighting equipment.
 - P242 - Use only non-sparking tools.
 - P243 - Take precautionary measures against static discharge.
 - P260 - Do not breathe vapors, mist, or spray.
 - P264 - Wash hands, forearms, and other 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 protective gloves, protective clothing, and eye protection.
 - P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
 - P304+P340 - IF INHALED: Remove person to fresh air and keep 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 or doctor if you feel unwell.
 - P314 - Get medical advice/attention if you feel unwell.
 - P337+P313 - If eye irritation persists: Get medical advice/attention.
 - P370+P378 - In case of fire: Use appropriate media (see section 5) to extinguish.
 - P403+P235 - Store in a well-ventilated place. Keep cool.
 - P405 - Store locked up.
 - P501 - Dispose of contents/container in accordance with local, regional, national, provincial, territorial and international regulations.

Other Hazards

Exposure may aggravate pre-existing eye, skin, or respiratory conditions.

Unknown acute toxicity

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Name	Product Identifier	%*	GHS Ingredient Classification
Carbon disulfide	(CAS No) 75-15-0	> 99.9	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

Full text of H-phrases: see section 16

*Percentages are listed in weight by weight percentage (w/w%) for liquid and solid ingredients. Gas ingredients are listed in volume by volume percentage (v/v%).

SECTION 4: FIRST AID MEASURES

Description of First-aid Measures

General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

Carbon Disulfide

Safety Data Sheet

According to U.S. Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations and according to Canada's Hazardous Products Regulation, February 11, 2015.

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. Get medical advice/attention.

Skin Contact: Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Obtain medical attention if irritation develops or persists.

Eye Contact: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.

Ingestion: Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

Most Important Symptoms and Effects Both Acute and Delayed

General: Causes serious eye irritation. Harmful if inhaled. Suspected of damaging fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure.

Inhalation: Inhalation is likely to cause adverse health effects including but not limited to: irritation, difficulty breathing, and unconsciousness.

Skin Contact: Prolonged exposure may cause skin irritation.

Eye Contact: Contact causes severe irritation with redness and swelling of the conjunctiva.

Ingestion: Ingestion may cause adverse effects.

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

Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. 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). Water may be ineffective but water should be used to keep fire-exposed container cool.

Unsuitable Extinguishing Media: Do not use a heavy water stream. A heavy water stream may spread burning liquid.

Special Hazards Arising From the Substance or Mixture

Fire Hazard: Highly flammable liquid and vapor.

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

Reactivity: Reacts violently with strong oxidizers. Increased risk of fire or explosion.

Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Use water spray or fog for cooling exposed containers. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

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

Hazardous Combustion Products: Sulfur oxides. Hydrogen sulfide. Carbon oxides.

Other Information: Do not allow run-off from fire fighting to enter drains or water courses.

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: Do not get in eyes, on skin, or on clothing. Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking. Use special care to avoid static electric charges. Do not breathe vapor, mist or spray.

For Non-Emergency Personnel

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

Emergency Procedures: Evacuate unnecessary personnel. Stop leak if safe to do so.

For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit. Ventilate area. Eliminate ignition sources.

Environmental Precautions

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

Carbon Disulfide

Safety Data Sheet

According to U.S. Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations and according to Canada's Hazardous Products Regulation, February 11, 2015.

Methods and Materials for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. As an immediate precautionary measure, isolate spill or leak area in all directions. Ventilate area.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill. Absorb and/or contain spill with inert material. Do not take up in combustible material such as: saw dust or cellulosic material. Use only non-sparking tools.

Reference to Other Sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

Additional Hazards When Processed: Handle empty containers with care because residual vapors are flammable. Handle in accordance with standard industrial practices, and ensure appropriate usage.

Precautions for Safe Handling: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Take precautionary measures against static discharge. Use only non-sparking tools. Use only outdoors or in a well-ventilated area. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes, on skin, or on clothing. Do NOT breathe (vapor, mist, spray). Avoid contact with eyes, skin and clothing.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures.

Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations. Take action to prevent static discharges. Ground and bond container and receiving equipment. Use explosion-proof electrical, ventilating, and lighting equipment.

Storage Conditions: Store in a dry, cool place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials. Store in a well-ventilated place. Keep container tightly closed. Keep in fireproof place.

Incompatible Materials: Strong acids, strong bases, halogens, nitrous gases (NOx), metals (Zn, Na, K), oxidants.

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

For substances listed in section 3 that are not listed here, there are no established Exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), OSHA (PEL), Canadian provincial governments, or the Mexican government.

Carbon disulfide (75-15-0)		
Mexico	OEL TWA (mg/m ³)	30 mg/m ³
Mexico	OEL TWA (ppm)	10 ppm
USA ACGIH	ACGIH TWA (ppm)	1 ppm
USA ACGIH	ACGIH chemical category	Skin - potential significant contribution to overall exposure by the cutaneous route, Not Classifiable as a Human Carcinogen
USA ACGIH	Biological Exposure Indices (BEI)	0.5 mg/g Kreatinin Parameter: 2-Thioxothiazolidine-4-carboxylic acid - Medium: urine - Sampling time: end of shift (background, nonspecific)
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

Carbon Disulfide

Safety Data Sheet

According to U.S. Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations and according to Canada's Hazardous Products Regulation, February 11, 2015.

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 (ppm)	15 ppm
Nunavut	OEL TWA (ppm)	10 ppm
Northwest Territories	OEL STEL (ppm)	15 ppm
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: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed. Gas detectors should be used when flammable gases or vapors may be released. Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof equipment. Gas detectors should be used when toxic gases may be released.

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



Materials for Protective Clothing: Chemically resistant materials and fabrics. Wear fire/flame resistant/retardant clothing.

Hand Protection: Wear protective gloves.

Eye Protection: Chemical safety goggles.

Skin and Body Protection: Wear suitable protective clothing.

Respiratory Protection: If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.

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
Odor	: Disagreeable
Odor Threshold	: 0.1 ppm
pH	: Not available
Evaporation Rate	: 10.9 (Butyl Acetate = 1)

Carbon Disulfide

Safety Data Sheet

According to U.S. Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations and according to Canada's Hazardous Products Regulation, February 11, 2015.

Melting Point	: Not applicable
Freezing Point	: -111.66 °C (-168.99 °F)
Boiling Point	: 46.12 °C (115.02 °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
Specific Gravity	: 1.266
Solubility	: Water: Partially soluble in the following materials: cold water. Soluble in all proportions in ethanol, methanol, diethyl ether, benzene, chloroform, carbon tetrachloride and oils.
Partition Coefficient: N-Octanol/Water	: Not available
Viscosity	: Not available

SECTION 10: STABILITY AND REACTIVITY

Reactivity: Reacts violently with strong oxidizers. Increased risk of fire or explosion.

Chemical Stability: Extremely flammable liquid and vapor. May form flammable or explosive vapor-air mixture.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

Conditions to Avoid: Direct sunlight, extremely high or low temperatures, heat, hot surfaces, sparks, open flames, incompatible materials, and other ignition sources.

Incompatible Materials: Strong acids, strong bases, halogens, nitrous gases (NOx), metals (Zn, Na, K), oxidants.

Hazardous Decomposition Products: None expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on Toxicological Effects - Product

Acute Toxicity (Oral): Not classified

Acute Toxicity (Dermal): Not classified

Acute Toxicity (Inhalation): Inhalation:dust,mist: Harmful if inhaled.

LD50 and LC50 Data:

Carbon Disulfide (75-15-0)	
ATE (Dust/Mist)	1.50 mg/l/4h

Skin Corrosion/Irritation: Not classified

Eye Damage/Irritation: Causes serious eye irritation.

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Carcinogenicity: Not classified

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

Reproductive Toxicity: Suspected of damaging fertility or the unborn child (Inhalation).

Specific Target Organ Toxicity (Single Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Effects After Inhalation: Inhalation is likely to cause adverse health effects including but not limited to: irritation, difficulty breathing, and unconsciousness.

Symptoms/Effects After Skin Contact: Prolonged exposure may cause skin irritation.

Symptoms/Effects After Eye Contact: Contact causes severe irritation with redness and swelling of the conjunctiva.

Symptoms/Effects After Ingestion: Ingestion may cause adverse effects.

Carbon Disulfide

Safety Data Sheet

According to U.S. Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations and according to Canada's Hazardous Products Regulation, February 11, 2015.

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

Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

Carbon disulfide (75-15-0)	
LC50 Inhalation Rat	10.35 mg/l (Exposure time: 4 h)
LC50 Inhalation Rat	1.8 mg/l/4h
ATE (Dust/Mist)	1.50 mg/l/4h

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)
LC50 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.

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: Avoid release to the environment. This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

SECTION 14: TRANSPORT INFORMATION

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.

TRANSPORTATION CLASSIFICATION	DOT	TDG	IMDG	IATA
Identification Number	UN1131	UN1131	UN1131	UN1131
Proper Shipping Name	CARBON DISULFIDE	CARBON DISULFIDE	CARBON DISULFIDE	CARBON DISULFIDE
Transport Hazard Class(es)	3 (6.1)	3 (6.1)	3 (6.1)	3 (6.1)
				
Packing Group	I	I	I	Not applicable

Carbon Disulfide

Safety Data Sheet

According to U.S. Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations and according to Canada's Hazardous Products Regulation, February 11, 2015.

Environmental Hazards	Marine Pollutant : No	Marine Pollutant : No	Marine Pollutant : No	Marine Pollutant: N/A
Emergency Response	ERG Number : 131	ERAP Index: 1000	EMS: F-E, S-D	ERG code (IATA): 3HP
Additional Information	Not applicable	Not applicable	Not applicable	Not applicable

SECTION 15: REGULATORY INFORMATION

US Federal Regulations

Chemical Name (CAS No.)	CERCLA RQ	EPCRA 304 RQ	SARA 302 TPQ	SARA 313
Carbon disulfide (75-15-0)	100 lb	100 lb	10000 lb	Yes

SARA 311/312

Carbon Disulfide (75-15-0)
Fire hazard. Immediate (acute) health hazard. Delayed (chronic) health hazard.

US TSCA Flags

Chemical Name (CAS No.)	US TSCA Flags/ Other Information
Carbon disulfide (75-15-0)	TP - TP - indicates a substance that is the subject of a proposed Section 4 test rule under TSCA.

US State Regulations

California Proposition 65

Chemical Name (CAS No.)	Carcinogenicity	Developmental Toxicity	Female Reproductive Toxicity	Male Reproductive Toxicity
Carbon disulfide (75-15-0)	No	Yes	Yes	Yes

State Right-To-Know Lists

Carbon disulfide (75-15-0)
U.S. - Massachusetts - Right To Know List - Yes U.S. - New Jersey - Right to Know Hazardous Substance List - Yes U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List - Yes U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances - No U.S. - Pennsylvania - RTK (Right to Know) List - Yes

Canadian Regulations

Carbon disulfide (75-15-0)
Listed on the Canadian DSL (Domestic Substances List) Not listed on the Canadian NDSL (Non-Domestic Substances List)

International Inventories/Lists

Chemical Name (CAS No.)	Australia AICS	Turkey CICR	Korea ECL	EU EINECS	EU ELINCS	EU SVHC	EU NLP	Mexico INSQ
Carbon disulfide (75-15-0)	Yes	No	Yes	Yes	No	No	No	Yes
Chemical Name (CAS No.)	China IECS	Japan ENCS	Japan ISHL	Japan PDSCL	Japan PRTR	Philippines PICCS	New Zealand NZIOC	US TSCA
Carbon disulfide (75-15-0)	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes

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

Revision Date : 03/21/2017

Carbon Disulfide

Safety Data Sheet

According to U.S. Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations and according to Canada's Hazardous Products Regulation, February 11, 2015.

Revision Summary

Section	Change	Date Changed
4	Language modified	01/20/2017
5	Language modified	01/20/2017
6	Language modified	01/20/2017
7	Language modified	01/20/2017
8	Language modified	01/20/2017
9	Language modified	01/20/2017
10	Language modified	01/20/2017
11	Language modified	01/20/2017
12.	Language modified	01/20/2017
13	Language modified	01/20/2017
14	Language modified	01/20/2017
15	Language modified	01/20/2017
16	Language modified	01/20/2017

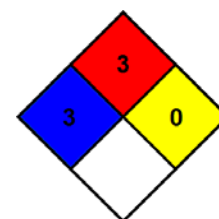
Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200 and Canada's Hazardous Products Regulations (HPR).

GHS Full Text Phrases:

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

NFPA 704

- NFPA Health Hazard** : 3 - Short exposure could cause serious temporary or residual injury even though prompt medical attention was given.
- NFPA Fire Hazard** : 3 - Liquids and solids that can be ignited under almost all ambient conditions.
- NFPA Reactivity Hazard** : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS Rating

- Health** : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given
* Chronic - Chronic (long-term) health effects may result from repeated overexposure
- Flammability** : 3 Serious Hazard
- Physical** : 0 Minimal Hazard
- PPE** : See Section 8

Abbreviations and Acronyms

AICS - Australian Inventory of Chemical Substances

ACGIH - American Conference of Governmental Industrial Hygienists

AIHA - American Industrial Hygiene Association

LC50 - Median Lethal Concentration

LD50 - Median Lethal Dose

LOAEL - Lowest Observed Adverse Effect Level

Carbon Disulfide

Safety Data Sheet

According to U.S. Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations and according to Canada's Hazardous Products Regulation, February 11, 2015.

ATE - Acute Toxicity Estimate	LOEC - Lowest-observed-effect Concentration
BCF - Bioconcentration factor	Log Pow - Octanol/water Partition Coefficient
BEI - Biological Exposure Indices (BEI)	NFPA 704 – National Fire Protection Association - Standard System for the Identification of the Hazards of Materials for Emergency Response
CAS No. - Chemical Abstracts Service number	NIOSH - National Institute for Occupational Safety and Health
CERCLA RQ - Comprehensive Environmental Response, Compensation, and Liability Act - Reportable Quantity	NLP - Europe No Longer Polymers List
CICR - Turkish Inventory and Control of Chemicals	NOAEL - No-Observed Adverse Effect Level
DOT – 49 CFR – US Department of Transportation – Code of Federal Regulations Title 49 – Transportation.	NOEC - No-Observed Effect Concentration
EC50 - Median effective concentration	NZIOC - New Zealand Inventory of Chemicals
ECL - Korea Existing Chemicals List	OEL - Occupational Exposure Limits
EINECS - European Inventory of Existing Commercial Chemical Substances	OSHA – Occupational Safety and Health Administration
ELINCS - European List of Notified Chemical Substances	PEL - Permissible Exposure Limits
EmS - IMDG Emergency Schedule Fire & Spillage	PICCS - Philippine Inventory of Chemicals and Chemical Substances
ENCS - Japanese Existing and New Chemical Substances Inventory	PDSCL - Japan Poisonous and Deleterious Substances Control Law
EPA – Environmental Protection Agency	PPE – Personal Protective Equipment
EPCRA 304 RQ – EPCRA 304 Extremely Hazardous Substance Emergency Planning and Community Right-to-Know-Act – Reportable Quantity	PRTR - Japan Pollutant Release and Transfer Register
ERAP Index – Emergency Response Assistance Plan Quantity Limit	REL - Recommended Exposure Limit
Erc50 - EC50 in Terms of Reduction Growth Rate	SADT - Self Accelerating Decomposition Temperature
ERG code (IATA) - Emergency Response Drill Code as found in the International Civil Aviation Organization (ICAO)	SARA - Superfund Amendments and Reauthorization Act
ERG No. - Emergency Response Guide Number	SARA 302 - Section 302, 40 CFR Part 355
HCCL - Hazard Communication Carcinogen List	SARA 311/312 - Sections 311 and 312, 40 CFR Part 370 Hazard Categories
HMIS – Hazardous Materials Information System	SARA 313 - Section 313, 40 CFR Part 372
IARC - International Agency for Research on Cancer	SRCL - Specifically Regulated Carcinogen List
IATA - International Air Transport Association – Dangerous Goods Regulations	STEL - Short Term Exposure Limit
IDLH - Immediately Dangerous to Life or Health	SVHC – European Candidate List of Substance of Very High Concern
IECSC - Inventory of Existing Chemical Substances Produced or Imported in China	TDG – Transport Canada Transport of Dangerous Goods Regulations
IMDG - International Maritime Dangerous Goods Code	TLM - Median Tolerance Limit
INSQ - Mexican National Inventory of Chemical Substances	TLV - Threshold Limit Value
ISHL - Japan Industrial Safety and Health Law	TPQ - Threshold Planning Quantity
	TSCA – United States Toxic Substances Control Act
	TWA - Time Weighted Average
	WEEL - Workplace Environmental Exposure Levels

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