

Chemical Safety Data Sheet MSDS / SDS

Carbon disulfide

Revision Date:2025-01-11 Revision Number:1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product identifier

Product name : Carbon disulfide
CBnumber : CB6279761
CAS : 75-15-0
EINECS Number : 200-843-6
Synonyms : CS₂, Carbon Disulfide

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.
Uses advised against : none

Company Identification

Company : Chemicalbook
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing
Telephone : 400-158-6606

SECTION 2: Hazards identification

GHS Label elements, including precautionary statements

Symbol(GHS)



Signal word

Danger

Precautionary statements

P201 Obtain special instructions before use.
P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off Immediately all contaminated clothing. Rinse SKIN with water/shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continuerinsing.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P370+P378 In case of fire: Use ... for extinction.

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

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

P405 Store locked up.

Hazard statements

H225 Highly Flammable liquid and vapour

H302 Harmful if swallowed

H315 Causes skin irritation

H319 Causes serious eye irritation

H332 Harmful if inhaled

H333 May be harmful if inhaled

H335 May cause respiratory irritation

H351 Suspected of causing cancer

H361 Suspected of damaging fertility or the unborn child

H370 Causes damage to organs

H372 Causes damage to organs through prolonged or repeated exposure

H373 May cause damage to organs through prolonged or repeated exposure

Disposal

WARNING.Cancer - <https://oehha.ca.gov/proposition-65/chemicals/carbon-disulfide>

SECTION 3: Composition/information on ingredients

Substance

Product name	: Carbon disulfide
Synonyms	: CS ₂ , Carbon Disulfide
CAS	: 75-15-0
EC number	: 200-843-6
MF	: CS ₂
MW	: 76.14

SECTION 4: First aid measures

Description of first aid measures

General advice

Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Immediately call in physician. If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

In case of eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media

Water Foam Carbon dioxide (CO₂) Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

Special hazards arising from the substance or mixture

Carbon oxides Sulfur oxides

Flash back possible over considerable distance., Container explosion may occur under fire conditions., Vapors may form explosive mixture with air., May explode when heated.

Combustible.

Pay attention to flashback.

Vapors are heavier than air and may spread along floors.

Development of hazardous combustion gases or vapours possible in the event of fire. Forms explosive mixtures with air at ambient temperatures.

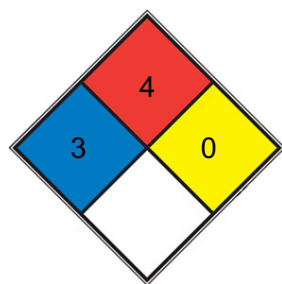
Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information

Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

NFPA 704



■ HEALTH 3

Short exposure could cause serious temporary or moderate residual injury (e.g. [liquid hydrogen](#), [sulfuric acid](#), [calcium hypochlorite](#), hexafluorosilicic acid)

Will rapidly or completely vaporize at normal atmospheric pressure and temperature, or is readily dispersed in air and will

☒ FIRE 4 burn readily. Includes pyrophoric substances. Flash point below room temperature at 22.8 °C (73 °F). (e.g. acetylene, propane, [hydrogen gas](#))

☐ REACT 0 Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium, [N2](#))

☐ SPEC.

☐ HAZ.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition.

Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

Environmental precautions

Do not let product enter drains. Risk of explosion.

Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material (e.g.

Chemizorb?). Dispose of properly. Clean up affected area.

Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

Precautions for safe handling

Advice on safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 2.2.

Conditions for safe storage, including any incompatibilities

Storage conditions

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and

sources of ignition. Keep locked up or in an area accessible only to qualified or authorized persons.

Refrigerate before opening.

Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

control parameter

Hazard composition and occupational exposure limits

Does not contain substances with occupational exposure limits.

Exposure controls

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Full contact Material: Viton?

Minimum layer thickness: 0,7 mm Break through time: 480 min

Material tested: Vitoject? (KCL 890 / Aldrich Z677698, Size M)

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Splash contact Material: butyl-rubber

Minimum layer thickness: 0,7 mm Break through time: 30 min

Material tested: Butoject? (KCL 898)

Body Protection

Flame retardant antistatic protective clothing.

Respiratory protection

Recommended Filter type: Filter B-(P3)

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer.

These measures have to be properly documented.

Control of environmental exposure

Do not let product enter drains. Risk of explosion.

Exposure limits

NIOSH REL: TWA 1 ppm, STEL 10 ppm, IDLH 500 ppm; OSHA PEL: TWA 20 ppm, C 30 ppm; ACGIH TLV: TWA 10 ppm.

SECTION 9: Physical and chemical properties

Information on basic physicochemical properties

Appearance	colorless clear, liquid
Odour	odorless
Odour Threshold	Not applicable
pH	No data available
Melting point/freezing point	Melting point: -111,5 °C Freezing point:< -76 °C - OECD Test Guideline 102
Initial boiling point and boiling range	42,2 °C at 997 - 998 hPa - OECD Test Guideline 103
Flash point	-30 °C - c.c.
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	Upper explosion limit: 60 %(V) Lower explosion limit: 1 %(V)
Vapour pressure	274 hPa at 25 °C - OECD Test Guideline 104
Vapour density	2.67 (vs air)
Relative density	1.26
Water solubility	2,9 g/l at 20 °C - OECD Test Guideline 105- soluble
Partition coefficient: n-octanol/water	log Pow: 2,7 at 25 °C - OECD Test Guideline 117 - Bioaccumulation is not expected.
Autoignition temperature	No data available
Decomposition temperature	415 °C, 89,7 kJ/mol -
Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
Explosive properties	No data available
Oxidizing properties	No data available
Henry's Law Constant	24.25 (atm·m ³ /mol) at 24 °C (Elliott, 1989)
λ _{max}	λ: 386 nm A _{max} : ≤1.0 λ: 388 nm A _{max} : 0.50 λ: 394 nm A _{max} : 0.25 λ: 403 nm A _{max} : 0.10 λ: 410 nm A _{max} : 0.05 λ: 500-750 nm A _{max} : 0.01

Other safety information

Surface tension 71,9 mN/m at 1g/l at 19,5 °C
- OECD Test Guideline 115

SECTION 10: Stability and reactivity

Reactivity

Vapors may form explosive mixture with air.

Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

Possibility of hazardous reactions

Risk of explosion with:

nitrogen oxides permanganic acid Oxidizing agents

halogen-halogen compounds halogen oxides

Iron

ferric oxide Chlorine hydrazines

powdered aluminium chlorine oxides Potassium

potassium permanganate Lithium

sodium nitrogen dioxide azides

Risk of ignition or formation of inflammable gases or vapours with:

Fluorine phosphorus sulfur

Activated charcoal Powdered metals Reducing agents Exothermic reaction with: Zinc

Acids

Conditions to avoid

Warming.

Incompatible materials

rubber, various plastics

Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - female - > 2.000 mg/kg (OECD Test Guideline 423)

LC50 Inhalation - Rat - male and female - 4 h - 10,35 mg/l (OECD Test Guideline 403)

Dermal

Skin corrosion/irritation

Skin - Rabbit

Result: Severe irritations

Remarks: (Regulation (EC) No 1272/2008, Annex VI) (IUCLID)

Serious eye damage/eye irritation

Eyes - Human

Result: Severe irritations

Remarks: (Regulation (EC) No 1272/2008, Annex VI) (IUCLID)

Respiratory or skin sensitization

(OECD Test Guideline 429)

Germ cell mutagenicity

Test Type: In vitro mammalian cell gene mutation test Test system: mouse lymphoma cells

Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 476

Result: negative

Test Type: Micronucleus test Species: Mouse

Cell type: Red blood cells (erythrocytes) Application Route: inhalation (vapor) Method: OECD Test Guideline 474 Result: negative

Carcinogenicity

No data available

Reproductive toxicity

Suspected of damaging the unborn child. Suspected of damaging fertility.

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

Causes damage to organs through prolonged or repeated exposure. - Peripheral nervous system, Central nervous system, Cardio-vascular system, Eyes

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Aspiration hazard

No data available

Toxicity

LC50 inhal (rat) 25,000 mg/m³ (2 h)

STEL (OSHA) 12 ppm (36 mg/m³)-skin

PEL (OSHA) 4 ppm (12 mg/m³)

TLV-TWA (ACGIH) 10 ppm (31 mg/m³)-skin

SECTION 12: Ecological information

Toxicity

Toxicity to fish

semi-static test LC50 - Danio rerio (zebra fish) - 3 mg/l - 96 h (OECD Test Guideline 203)

Toxicity to daphnia and other aquatic invertebrates

EC50 - Daphnia magna (Water flea) - 2,1 mg/l - 48 h (OECD Test Guideline 202)

Toxicity to algae

static test EC50 - Chlorella pyrenoidosa - 21 mg/l - 96 h (OECD Test Guideline 201)

Toxicity to bacteria

static test EC50 - Bacteria - 13 mg/l - 24 h

Remarks: (ECHA)

Persistence and degradability

Biodegradability aerobic - Exposure time 28 d

Chemical Oxygen Demand (COD)

Result: > 80 % - Readily biodegradable. (OECD Test Guideline 301D)

1,47 mg/g Remarks: (IUCLID)

Bioaccumulative potential

No data available

Mobility in soil

No data available

Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Toxics Screening Level

The current ITSL for carbon disulfide (700µg/m³) was established on August 2, 1995 (see attached).

Other adverse effects

Additional ecological information

Hazard for drinking water supplies.

Discharge into the environment must be avoided.

Stability in water - > 1 yr

Remarks: (IUCLID)

SECTION 13: Disposal considerations

Waste treatment methods

Incompatibilities

Incompatible with oxidizer; contact may cause fires or explosions. Keep away from alkaline materials, strong bases, strong acids, oxoacids, epoxides. Reacts violently with oxidants to produce oxides of sulfur and carbon monoxide, and causing fire and explosion hazard. Attacks some forms of plastic, rubber, and coating.

Product

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

Waste Disposal

The pure liquid presents an acute fire and explosion hazard. The following disposal procedure is suggested: All equipment or contact surfaces should be grounded to avoid ignition by static charges. Absorb on vermiculite, sand, or ashes and cover with water. Transfer underwater in buckets to an open area. If quantity is large, Carbon disulfide may be recovered by distillation and repackaged for use.

SECTION 14: Transport information

UN number

ADR/RID: 1131 IMDG: 1131 IATA: 1131

UN proper shipping name

ADR/RID: CARBON DISULPHIDE IMDG: CARBON
DISULPHIDE

IATA: Carbon disulphide

Passenger Aircraft: Not permitted for transport Cargo Aircraft: Not permitted
for transport

14.3	Transport hazard class(es) ADR/RID: 3 (6.1) IMDG: 3 (6.1)	IATA: 3 (6.1)
14.4	Packaging group ADR/RID: I IMDG: I	IATA: -
14.5	Environmental hazards ADR/RID: no IMDG Marine pollutant: no	IATA: no
14.6	Special precautions for user No data available	

SECTION 15: Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

Regulations on the Safety Management of Hazardous Chemicals

China Catalog of Hazardous chemicals 2015: Listed. website: <https://www.mem.gov.cn/>

Measures for Environmental Management of New Chemical Substances

Vietnam National Chemical Inventory: Listed. website: <https://chemicaldata.gov.vn/>

United States Toxic Substances Control Act (TSCA) Inventory: Listed. website: <https://www.epa.gov/>

Philippines Inventory of Chemicals and Chemical Substances (PICCS): Listed. website: <https://emb.gov.ph/>

New Zealand Inventory of Chemicals (NZIoC): Listed. website: <https://www.epa.govt.nz/>

Korea Existing Chemicals List (KECL): Listed. website: <http://ncis.nier.go.kr>

European Inventory of Existing Commercial Chemical Substances (EINECS): Listed. website: <https://echa.europa.eu/>

EC Inventory: Listed.

Chinese Chemical Inventory of Existing Chemical Substances (China IECSC): Listed. website: <https://www.mee.gov.cn/>

SECTION 16: Other information

Abbreviations and acronyms

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

CAS: Chemical Abstracts Service

EC50: Effective Concentration 50%

IATA: International Air Transportation Association

IMDG: International Maritime Dangerous Goods

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

STEL: Short term exposure limit

TWA: Time Weighted Average

References

- 【1】 CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- 【2】 ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- 【3】 ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>
- 【4】 eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website:
http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en
- 【5】 ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>
- 【6】 Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- 【7】 HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- 【8】 IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>
- 【9】 IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>
- 【10】 Sigma-Aldrich, website: <https://www.sigmaaldrich.com/>

Other Information

Depending on the degree of exposure, periodic medical examination is suggested.

Disclaimer:

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.