

CLIP, Chemical Laboratory Information Profile

"Only when you know the hazards, can you take the necessary precautionary measures."

Carbon Disulfide**CAS No.: 75-15-0**

Synonym: Carbon bisulfide

Physical Properties**Exposure Limits**

Extremely flammable highly volatile colorless liquid with a strong disagreeable odor.

Vapor pressure at 20 °C: 308 torr

Melting point: -110 °C

Boiling point: 46 °C

ACGIH TLV: 10 ppm

OSHA PEL: 20 ppm

OSHA STEL/C: 30 ppm

Hazardous Characteristics

Overall toxicity	Flammability	Destructive to skin/eye	Absorbed through skin	Sensitizer?	Self-reactive?	Incompatible with:
3	4	3	3	No	No	Hot surfaces, compressed air, oxidizing agents, Group I metals.*

0: None (or very low); 1: Slight; 2: Moderate; 3: High; 4: Severe.

***Reactivity Hazards**

Carbon disulfide catches fire spontaneously upon contact with a hot surface at temperatures approximating or exceeding 100 °C. It reacts violently and explosively with compressed air and with oxidizing agents. Mixtures of carbon disulfide and Group I metals are explosively shock sensitive. See Bretherick's *Handbook of Reactive Chemical Hazards* for details and for other incompatibilities.

Cited as known to be or reasonably anticipated to be carcinogenic in NTP-9? No

Identified as a reproductive toxin in Frazier and Hage, *Reproductive Hazards of the Workplace?* Yes

Typical symptoms of acute exposures:

On the skin, inflammation, pain. In the eyes, pain, blurred vision. If inhaled, headache, dizziness, dullness, drowsiness.

Principal target organ(s) or system(s):

Eyes, skin, respiratory system, vascular system, central nervous system.

Storage Requirements

Store under water or an inert gas in a dark, cool, dry, well-ventilated location, away from ignition sources and separated from oxidizing agents.

Additional Remarks

The vapor is heavier than air and can travel long distances; when CS₂ mixes with air and an ignition source is present, it will explode at all temperatures warmer than -30 °C. Since carbon disulfide is a poor conductor of electricity, pouring the liquid, or even stirring or otherwise agitating it, can generate a static electrical spark with sufficient energy to ignite the vapor-air mixture above the liquid. At ordinary temperatures, the vapor pressure of carbon disulfide greatly exceeds the limits established by OSHA and ACGIH. Accordingly, users will be likely to be over-exposed to the vapors of this compound unless appropriate precautions are rigidly maintained; see the MSDS for details.

Notes**ReadMe**

This Chemical Laboratory Information Profile is *not* a Material Safety Data Sheet. It is a brief summary for teachers and their students that describes some of the hazards of this chemical as it is typically used in laboratories. On the basis of your knowledge of these hazards and before using or handling this chemical, *you need to select the precautions and first-aid procedures to be followed*. For that information as well as for other useful information, refer to Material Safety Data Sheets, container labels, and references in the scientific literature that pertain to this chemical.

Reproductive Toxins

Some substances that in fact are reproductive toxins are not yet recognized as such. For the best readily available and up-to-date information, refer to "DART/ETIC". See the TOXNET home page at <http://www.sis.nlm.nih.gov> and click on "Toxicology search". *Note that some of the data in DART/ETIC have not been peer-reviewed.* See also Linda M. Frazier and Marvin L. Hage, *Reproductive Hazards of the Workplace*; Wiley, 1998; and T. H. Shepard, *Catalog of Teratogenic Agents*, 9th ed.; Johns Hopkins University Press, 1998.

Abbreviations

ACGIH TLV—American Conference of Governmental Industrial Hygienists—Threshold Limit Value. C—Ceiling. CAS—Chemical Abstracts Service. mg/m³—milligrams per cubic meter. NA—Not applicable. NE—Not established. NI—No information. NTP-9—National Toxicology Program, Ninth Annual Report on Carcinogens. OSHA PEL—Occupational Safety and Health Administration—Permissible Exposure Limit. ppm—parts per million. STEL/C—Short-term exposure limit and ceiling.

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