

## 1: Identification

### Product identifier

Product name: **Carbon disulfide**

Stock number: 32472

CAS Number:

75-15-0

EC number:

200-843-6

Index number:

006-003-00-3

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

Identified use: SU24 Scientific research and development

### Details of the supplier of the safety data sheet

#### Manufacturer/Supplier:

Alfa Aesar, A Johnson Matthey Company

Johnson Matthey Catalog Company, Inc.

30 Bond Street

Ward Hill, MA 01835-8099

Tel: 800-343-0660

Fax: 800-322-4757

Email: tech@alfa.com

www.alfa.com

Information Department: Health, Safety and Environmental Department

#### Emergency telephone number:

During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660. After normal business hours, call Carechem 24 at (866) 928-0789.

Distributed by:



4621 Technology Drive, Golden, CO 80403

ph: (303) 762-0800 fax: (303) 762-1240

Part #: C1055

## 2: Hazard(s) identification

### Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.



GHS08 Health hazard

Repr. 2 H361 Suspected of damaging fertility or the unborn child.

STOT RE 1 H372 Causes damage to the peripheral nervous system, the kidneys, the liver, the heart, the digestive system, the blood, the brain and the endocrine system through prolonged or repeated exposure. Route of exposure: Oral, Inhalative.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

### Classification according to Directive 67/548/EEC or Directive 1999/45/EC

T; Toxic

R48/23: Toxic; danger of serious damage to health by prolonged exposure through inhalation.

Xn; Harmful

R62-63: Possible risk of impaired fertility. Possible risk of harm to the unborn child.

Xi; Irritant

R36/38: Irritating to eyes and skin.

F; Highly flammable

R11: Highly flammable.

Information concerning particular hazards for human and environment: Not applicable

Hazards not otherwise classified Stench

### Label elements

Labelling according to Regulation (EC) No 1272/2008 The substance is classified and labeled according to the CLP regulation.

### Hazard pictograms



GHS02 GHS07 GHS08

Signal word **Danger**

### Hazard statements

H225 Highly flammable liquid and vapor.

H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H361 Suspected of damaging fertility or the unborn child.

H372 Causes damage to the peripheral nervous system, the kidneys, the liver, the heart, the digestive system, the blood, the brain and the endocrine system through prolonged or repeated exposure. Route of exposure: Oral, Inhalative.

### Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P303+P361+P353 If on skin (or hair): 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. Continue rinsing.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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Product name: **Carbon disulfide**

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**WHMIS classification**

B2 - Flammable liquid  
D1B - Toxic material causing immediate and serious toxic effects  
D2A - Very toxic material causing other toxic effects



**Classification system**

HMIS ratings (scale 0-4)  
(Hazardous Materials Identification System)

HEALTH	3	Health (acute effects) = 3
FIRE	3	Flammability = 3
REACTIVITY	1	Physical Hazard = 1

**Other hazards**

Results of PBT and vPvB assessment

PBT: Not applicable.  
vPvB: Not applicable.

**3: Composition/information on ingredients**

Chemical characterization: Substances

CAS# Description:

75-15-0 Carbon disulfide

Identification number(s):

EC number: 200-843-6

Index number: 006-003-00-3

**4: First-aid measures**

Description of first aid measures

**After inhalation**

Supply fresh air. If required, provide artificial respiration. Keep patient warm.

Seek immediate medical advice.

**After skin contact**

Immediately wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

**After eye contact** Rinse opened eye for several minutes under running water. Then consult a doctor.

**After swallowing** Seek medical treatment.

**Information for doctor**

Most important symptoms and effects, both acute and delayed No further relevant information available.

Indication of any immediate medical attention and special treatment needed No further relevant information available.

**5: Fire-fighting measures**

Extinguishing media

Suitable extinguishing agents Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Special hazards arising from the substance or mixture

If this product is involved in a fire, the following can be released:

Carbon monoxide and carbon dioxide

Sulfur oxides (SOx)

Hydrogen sulfide

**Advice for firefighters**

**Protective equipment:**

Wear self-contained respirator.

Wear fully protective impervious suit.

**6: Accidental release measures**

Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Keep away from ignition sources

**Environmental precautions:**

Do not allow product to reach sewage system or any water course.

Do not allow to penetrate the ground/soil.

**Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose of contaminated material as waste according to section 13.

Ensure adequate ventilation.

**Prevention of secondary hazards:** Keep away from ignition sources.

**Reference to other sections**

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

**7: Handling and storage**

**Handling**

**Precautions for safe handling**

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

**Information about protection against explosions and fires:**

Protect against electrostatic charges.

Fumes can combine with air to form an explosive mixture.

Keep ignition sources away.

**Conditions for safe storage, including any incompatibilities**

**Storage**

Requirements to be met by storerooms and receptacles: Store in a cool location.

**Information about storage in one common storage facility:**

Store away from oxidizing agents.

Store away from amines.

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Product name: **Carbon disulfide**

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**Further information about storage conditions:**  
Keep container tightly sealed.  
Store in cool, dry conditions in well sealed containers.  
**Specific end use(s)** No further relevant information available.

**8: Exposure controls/personal protection**

**Additional information about design of technical systems:**  
Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

**Control parameters**

**Components with limit values that require monitoring at the workplace:**

**75-15-0 Carbon disulfide (100.0%)**

PEL (USA)	Long-term value: 20 ppm Ceiling limit value: 30: 100* ppm Skin; *30-min peak per 8-hr shift
REL (USA)	Short-term value: 30 mg/m <sup>3</sup> , 10 ppm Long-term value: 3 mg/m <sup>3</sup> , 1 ppm Skin
TLV (USA)	Long-term value: 3.13 mg/m <sup>3</sup> , 1 ppm Skin, BEI
EL (Canada)	Short-term value: 12 ppm Long-term value: 4 ppm Skin
EV (Canada)	Long-term value: 1 ppm Skin

**Ingredients with biological limit values:**

**75-15-0 Carbon disulfide (100.0%)**

BEI (USA)	0.5 mg/g creatinine Medium: urine Time: end of shift Parameter: 2-Thioxothiazolidine-4-carboxylic acid (background, nonspecific)
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**Additional information:** No data

**Exposure controls**

**Personal protective equipment**

**General protective and hygienic measures**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Maintain an ergonomically appropriate working environment.

**Breathing equipment:** Use suitable respirator when high concentrations are present.

**Recommended filter device for short term use:**

Use a respirator with organic vapor/acid gas cartridges as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards such as NIOSH (USA) or CEN (EU).

**Protection of hands:**

Impervious gloves

Check protective gloves prior to each use for their proper condition.

The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.

**Material of gloves** Fluorocarbon rubber (Viton)

**Penetration time of glove material (in minutes)** 480

**Glove thickness** 0.7 mm

**Eye protection:** Safety glasses

**Body protection:** Protective work clothing.

**9: Physical and chemical properties**

**Information on basic physical and chemical properties**

**General Information**

**Appearance:**

<b>Form:</b>	Liquid
<b>Odor:</b>	Unpleasant
<b>Odor threshold:</b>	Not determined.
<b>pH-value:</b>	Not determined.

**Change in condition**

<b>Melting point/Melting range:</b>	-112 °C (-170 °F)
<b>Boiling point/Boiling range:</b>	46 °C (115 °F)
<b>Sublimation temperature / start:</b>	Not determined

<b>Flash point:</b>	-30 °C (-22 °F)
<b>Flammability (solid, gaseous)</b>	Not determined.
<b>Ignition temperature:</b>	95 °C (203 °F)
<b>Decomposition temperature:</b>	Not determined
<b>Auto igniting:</b>	Not determined.

**Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures is possible.

**Explosion limits:**

<b>Lower:</b>	1 Vol %
<b>Upper:</b>	60 Vol %
<b>Vapor pressure at 20 °C (68 °F):</b>	400 hPa (300 mm Hg)
<b>Density at 20 °C (68 °F):</b>	1.26 g/cm <sup>3</sup> (10.515 lbs/gal)
<b>Relative density</b>	Not determined.
<b>Vapor density</b>	Not determined.
<b>Evaporation rate</b>	Not determined.
<b>Solubility in / Miscibility with</b>	
<b>Water at 20 °C (68 °F):</b>	2.2 g/l
<b>Partition coefficient (n-octanol/water):</b>	Not determined.
<b>Viscosity:</b>	
<b>dynamic:</b>	Not determined.
<b>kinematic:</b>	Not determined.

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USA

Product name: **Carbon disulfide**

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**Other information** No further relevant information available.

**10: Stability and reactivity**

**Reactivity** No information known.  
**Chemical stability** Stable under recommended storage conditions.  
**Thermal decomposition / conditions to be avoided:** Decomposition will not occur if used and stored according to specifications.  
**Possibility of hazardous reactions** Reacts with strong oxidizing agents  
**Conditions to avoid** No further relevant information available.  
**Incompatible materials:**  
 Oxidizing agents  
 Amines  
**Hazardous decomposition products:**  
 Carbon monoxide and carbon dioxide  
 Sulfur oxides (SOx)  
 Hydrogen sulfide

**11: Toxicological information**

**Information on toxicological effects**  
**Acute toxicity:** The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for this substance.  
**LD/LC50 values that are relevant for classification:**

Oral	LD50	1200 mg/kg (rat)
Inhalative	LC50/2H	25000 mg/m <sup>3</sup> /2H (rat)

**Skin irritation or corrosion:** Causes skin irritation.  
**Eye irritation or corrosion:** Causes serious eye damage.  
**Sensitization:** No sensitizing effects known.  
**Germ cell mutagenicity:** The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance.  
**Carcinogenicity:**  
 ACGIH A4: Not classifiable as a human carcinogen: Inadequate data on which to classify the agent in terms of its carcinogenicity in humans and/or animals.  
**Reproductive toxicity:**  
 Suspected of damaging fertility or the unborn child.  
 The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for this substance.  
**Specific target organ system toxicity - repeated exposure:**  
 Causes damage to the peripheral nervous system, the kidneys, the liver, the heart, the digestive system, the blood, the brain and the endocrine system through prolonged or repeated exposure. Route of exposure: Oral, Inhalative.  
**Specific target organ system toxicity - single exposure:** No effects known.  
**Aspiration hazard:** No effects known.  
**Subacute to chronic toxicity:** The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance.  
**Additional toxicological information:** To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.



**12: Ecological information**

**Toxicity**  
**Aquatic toxicity:** No further relevant information available.  
**Persistence and degradability** No further relevant information available.  
**Bioaccumulative potential** No further relevant information available.  
**Mobility in soil** No further relevant information available.  
**Additional ecological information:**  
**General notes:**  
 Do not allow undiluted product or large quantities to reach ground water, water course or sewage system.  
 Avoid transfer into the environment.  
**Results of PBT and vPvB assessment**  
 PBT: Not applicable.  
 vPvB: Not applicable.  
**Other adverse effects** No further relevant information available.

**13: Disposal considerations**

**Waste treatment methods**  
**Recommendation** Consult state, local or national regulations to ensure proper disposal.  
**Uncleaned packagings:**  
**Recommendation:** Disposal must be made according to official regulations.

**14: Transport information**

<b>UN-Number</b> DOT, IMDG, IATA	UN1131
<b>UN proper shipping name</b> DOT IMDG, IATA	RQ Carbon disulfide CARBON DISULPHIDE
<b>Transport hazard class(es)</b> DOT	
	
<b>Class</b>	3 Flammable liquids.
<b>Label</b>	3+6.1
<b>Class</b>	3 (FT1) Flammable liquids
<b>Label</b>	3+6.1
<b>IMDG, IATA</b>	
	
<b>Class</b>	3 Flammable liquids.
<b>Label</b>	3+6.1

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USA



Product name: **Carbon disulfide**

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Packing group  
DOT, IMDG, IATA

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Environmental hazards:

Not applicable.

Special precautions for user

Warning: Flammable liquids

EMS Number:

F-E, S-D

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.

Transport/Additional information:

DOT

Hazardous substance:

100 lbs, 45.4 kg

Marine Pollutant (DOT):

No

UN "Model Regulation":

UN1131, Carbon disulfide, 3 (6.1), I

### 15: Regulatory information

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

National regulations

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.  
All components of this product are listed on the Canadian Domestic Substances List (DSL).

SARA Section 313 (specific toxic chemical listings)

75-15-0 | Carbon disulfide

California Proposition 65

Prop 65 - Chemicals known to cause cancer Substance is not listed.

Prop 65 - Developmental toxicity

75-15-0 | Carbon disulfide

Prop 65 - Developmental toxicity, female

75-15-0 | Carbon disulfide

Prop 65 - Developmental toxicity, male

75-15-0 | Carbon disulfide

Information about limitation of use: For use only by technically qualified individuals.

Other regulations, limitations and prohibitive regulations

Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006. Substance is not listed.

The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.

Substance is not listed.

Annex XIV of the REACH Regulations (requiring Authorisation for use) Substance is not listed.

REACH - Pre-registered substances Substance is listed.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

### 16: Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing SDS: Global Marketing Department

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

HMIS: Hazardous Materials Identification System (USA)

WHMIS: Workplace Hazardous Materials Information System (Canada)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

vPvB: very Persistent and very Bioaccumulative

ACGIH: American Conference of Governmental Industrial Hygienists (USA)

OSHA: Occupational Safety and Health Administration (USA)

NTP: National Toxicology Program (USA)

IARC: International Agency for Research on Cancer

EPA: Environmental Protection Agency (USA)