Carbon oxide sulfide (COS) (cas 463-58-1) MSDS

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifiers

Product name : Carbonyl sulfide
Product Number : 295124
Brand : 
CAS-No. : 463-58-1

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

Identified uses : Laboratory chemicals, Manufacture of substances

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]
- Flammable gases (Category 1)
- Gases under pressure (Liquefied gas)
- Acute toxicity, Inhalation (Category 3)
- Skin irritation (Category 2)
- Eye irritation (Category 2)
- Specific target organ toxicity - single exposure (Category 3)

Classification according to EU Directives 67/548/EEC or 1999/45/EC
- Highly flammable. Harmful by inhalation. Irritating to eyes, respiratory system and skin.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008 [CLP]

Pictogram

Signal word : Danger
Hazard statement(s)
- H220 Extremely flammable gas.
- H280 Contains gas under pressure; may explode if heated.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H311 Toxic if inhaled.
- H335 May cause respiratory irritation.

Precautionary statement(s)

- P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P311 Call a POISON CENTER or doctor/physician.
- P410 + P403 Protect from sunlight. Store in a well-ventilated place.

Supplemental Hazard Statements


Hazard symbol(s)

R-phrase(s)
- R11 Highly flammable.
- R20 Harmful by inhalation.
- R36/37/38 Irritating to eyes, respiratory system and skin.

S-phrase(s)
- S16 Keep away from sources of ignition - No smoking.
- S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S38 In case of insufficient ventilation, wear suitable respiratory equipment.

2.3 Other hazards

Stench., Lachrymator.
3. **COMPOSITION/INFORMATION ON INGREDIENTS**

3.1 **Substances**
- **Synonyms**: Carbon oxysulfide
- **Formula**: COS
- **Molecular Weight**: 60.08 g/mol

<table>
<thead>
<tr>
<th>Component</th>
<th>Concentration</th>
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<tbody>
<tr>
<td>Carbonyl sulfide</td>
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<tr>
<td>CAS-No.</td>
<td>463-58-1</td>
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<tr>
<td>EC-No.</td>
<td>207-340-0</td>
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4. **FIRST AID MEASURES**

4.1 **Description of first aid measures**

**General advice**
Consult a physician. Show this safety data sheet to the doctor in attendance.

- **If inhaled**
  - If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

- **In case of skin contact**
  - Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

- **In case of eye contact**
  - Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

- **If swallowed**
  - Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 **Most important symptoms and effects, both acute and delayed**
Nausea, Headache, Vomiting. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

4.3 **Indication of any immediate medical attention and special treatment needed**
- no data available

5. **FIREFIGHTING MEASURES**

5.1 **Extinguishing media**
- **Suitable extinguishing media**
  - Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 **Special hazards arising from the substance or mixture**
- Carbon oxides, Sulphur oxides

5.3 **Advice for firefighters**
- Wear self contained breathing apparatus for fire fighting if necessary.

5.4 **Further information**
- Use water spray to cool unopened containers.

6. **ACCIDENTAL RELEASE MEASURES**

6.1 **Personal precautions, protective equipment and emergency procedures**
- Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

6.2 **Environmental precautions**
- Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 **Methods and materials for containment and cleaning up**
- Clean up promptly by sweeping or vacuum.

6.4 **Reference to other sections**
- For disposal see section 13.

7. **HANDLING AND STORAGE**

7.1 **Precautions for safe handling**
- Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
- Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

7.2 **Conditions for safe storage, including any incompatibilities**
- Store in cool place. Keep container tightly closed in a dry and well-ventilated place.
- Contents under pressure.
7.3 Specific end uses
no data available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters
Components with workplace control parameters

8.2 Exposure controls
Appropriate engineering controls
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Personal protective equipment
Eye/face protection
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Body Protection
Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a) Appearance              Form: gaseous
Colour: colourless

b) Odour                   no data available

c) Odour Threshold         no data available

d) pH                      no data available

e) Melting point/freezing point
Melting point/range: -138 °C - lit.

f) Initial boiling point and boiling range -50 °C - lit.

g) Flash point             no data available

h) Evaporation rate        no data available

i) Flammability (solid, gas) no data available

j) Upper lower explosion limit: 29 %(V)
flammmability or explosive limits

Upper explosion limit: 11.9 %(V)

k) Vapour pressure 12,044 hPa at 21 °C

l) Vapour density 2.07 - (Air = 1.0)

m) Relative density        no data available

n) Water solubility        no data available

o) Partition coefficient: n-octanol/water no data available

p) Autoignition temperature no data available

q) Decomposition temperature no data available
r) Viscosity no data available
s) Explosive properties no data available
t) Oxidizing properties no data available

9.2 Other safety information
no data available

10. STABILITY AND REACTIVITY
10.1 Reactivity no data available
10.2 Chemical stability no data available
10.3 Possibility of hazardous reactions no data available
10.4 Conditions to avoid Heat, flames and sparks. Extremes of temperature and direct sunlight.
10.5 Incompatible materials Strong oxidizing agents
10.6 Hazardous decomposition products Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION
11.1 Information on toxicological effects
Acute toxicity
LC50 Inhalation - rat - 4 h - 1070 ppm
Remarks: Behavioral: Convulsions or effect on seizure threshold. Lungs, Thorax, or Respiration: Dyspnea. Nutritional and Gross Metabolic: Weight loss or decreased weight gain.
Skin corrosion/irritation no data available
Serious eye damage/eye irritation no data available
Respiratory or skin sensitization no data available
Germ cell mutagenicity no data available
Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
Reproductive toxicity no data available
Specific target organ toxicity - single exposure Inhalation - May cause respiratory irritation.
Specific target organ toxicity - repeated exposure no data available
Aspiration hazard no data available
Potential health effects
Inhalation Toxic if inhaled. Causes respiratory tract irritation.
Ingestion May be harmful if swallowed.
Skin May be harmful if absorbed through skin. Causes skin irritation.
Eyes Causes serious eye irritation.

Signs and Symptoms of Exposure
Nausea, Headache, Vomiting. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

- Additional Information
RTECS: FG6400000

12. ECOLOGICAL INFORMATION
12.1 Toxicity no data available
12.2 Persistence and degradability no data available
Bioaccumulative potential
no data available

Mobility in soil
no data available

Results of PBT and vPvB assessment
no data available

Other adverse effects
no data available

DISPOSAL CONSIDERATIONS

Waste treatment methods
Product
Contact a licensed professional waste disposal service to dispose of this material. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging
Dispose of as unused product.

TRANSPORT INFORMATION

UN number
ADR/RID: 2204  IMDG: 2204 IATA: 2204

UN proper shipping name
ADR/RID: CARBONYL SULPHIDE IMDG: CARBONYL SULPHIDE IATA: Carbonyl sulphide
Passenger Aircraft: Not permitted for transport
Cargo Aircraft: Not permitted for transport

Transport hazard class(es)
ADR/RID: 2.3 (2.1) IMDG: 2.3 (2.1) IATA: 2.3 (2.1)

Packaging group
ADR/RID: - IMDG: - IATA: -

Environmental hazards
ADR/RID: no IMDG Marine pollutant: no IATA: no

Special precautions for user
no data available

REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

Safety, health and environmental regulations/legislation specific for the substance or mixture
no data available

Chemical Safety Assessment
no data available

OTHER INFORMATION

Further information
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information this document is based on the resent state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. guidechem shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.