



Material Safety Data Sheet

1. Product and Company Identification

Product name : **Carbonyl Sulfide**

Chemical formula : COS

Synonyms : Carbon oxide sulfide; Carbon oxysulfide; Oxycarbon Sulfide; UN 2204

Company : Specialty Gases of America, Inc
6055 Brent Dr.
Toledo, OH 43611

Telephone : 419-729-7732

Emergency : 800-424-9300

2. Composition/Information on Ingredients

Components	CAS Number	% Volume
Carbonyl Sulfide	463-58-1	100%

3. Hazards Identification

Emergency Overview

Harmful if inhaled, respiratory tract irritation, skin irritation, eye irritation, central nervous system depression. Flammable gas. May cause flash fire. May react on contact with water.

Potential Health Effects

Inhalation : Irritation, nausea, headache, symptom of drunkenness, convulsions, coma. May cause lung congestion in long term exposure.

Eye contact : Irritations, blisters, tearing.

Skin contact : Irritation, nausea, headache, symptom of drunkenness,

Ingestion : Frostbite.

Chronic Health Hazard : None.

4. First Aid Measures

General advice : None.

Eye contact : Immediately flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

Skin contact : Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get immediate medical attention. Thoroughly clean and dry contaminated clothing and shoes before reuse.

Ingestion : If a large amount is swallowed, get medical attention.

Inhalation : If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

Note to physicians : For inhalation, consider oxygen.

5. Fire-Fighting Measures

- Suitable extinguishing media : Carbon dioxide, regular dry chemical, water.
Large fires: Use regular foam or flood with fine water spray.
- Specific hazards : Severe fire hazard. Moderate explosion hazard. Gas/air mixtures are explosive. The gas is heavier than air. Vapors or gases may ignite at distant ignition sources and flash back. Let burn unless leak can be stopped immediately.
- Fire fighting : Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible, then take the following precautions: Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. For tank, rail car or tank truck: Evacuation radius: 800 meters (1/2 mile). Do not attempt to extinguish fire unless flow of material can be stopped first. Flood with fine water spray. Cool containers with water spray until well after the fire is out. Apply water from a protected location or from a safe distance. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Evacuate if fire gets out of control or containers are directly exposed to fire. Evacuation radius: 500 meters (1/3 mile). Consider downward evacuation if material is leaking. Stop flow of gas.

6. Accidental Release Measures

- Occupational spill/release : Avoid heat, flames, sparks and other sources of ignition. Stop leak if possible without personal risk. Reduce vapors with water spray. Keep unnecessary people away, isolate hazard area and deny entry. Remove sources of ignition. Ventilate closed space before entering. Notify Local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ (U.S. SARA Section 304). If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center at (800)424-8802 (USA) or (202)426-2675 (USA).
- Additional advice : None.

7. Handling and Storage

Handling

Subject to handling regulations: U.S. OSHA 29 CFR 1910.119.

Storage

Store in accordance with all current regulations and standards.

8. Exposure Controls / Personal Protection

Exposure limits

ACGIH, OSHA and NIOSH have not developed exposure limits for any of this product's components.

Engineering measures/Ventilation

Provide local exhaust or process enclosure ventilation system. Ventilation equipment should be explosion-resistant if explosive concentrations of materials are present. Ensure compliance with applicable exposure limits.

Personal protective equipment

- Respiratory protection : Under conditions of frequent use or heavy exposure, respiratory protection may be needed. Respiratory protection is ranked in order from minimum to

maximum. Consider warning properties before use.

Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode.

Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

For unknown concentrations or immediately dangerous to life or death – Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.

Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

Hand protection	:	Wear appropriate chemical resistant gloves.
Eye protection	:	Wear splash resistant safety goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.
Skin and body protection	:	Wear appropriate chemical resistant clothing.

9. Physical and Chemical Properties

Form	:	Gas.
Color	:	Colorless.
Odor	:	Distinct odor.
Molecular weight	:	60.07
Vapor pressure	:	Not available.
Vapor density	:	2.1 (air = 1)
Specific gravity	:	1.24 @ -87°C
Boiling point	:	-50°C
Melting point	:	-139°C
Water solubility	:	Soluble
Solvent solubility	:	Soluble: alcohol

10. Stability and Reactivity

Stability	:	Contact with water or moist air may form flammable and/or toxic gases or vapors.
Conditions to avoid	:	Avoid heat, flames, sparks or other sources of ignition. Minimize contact with material. Avoid inhalation of material or combustion by-products. Keep out of water supplies and sewers.
Materials to avoid	:	Bases, oxidizing materials.
Hazardous decomposition products	:	Thermal decomposition products: oxides of carbon, hydrogen sulfide.

11. Toxicological Information

The components of this material have been reviewed in various sources and the following endpoints are published:

CARBONYL SULFIDE (463-58-1) : Inhalation LC50 Rat: 1070 ppm/4H

Acute Toxicity Level

CARBONYL SULFIDE (463-58-1) : Toxic: Inhalation

Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, NTP, OSHA or DFG.

Local Effects

CARBONYL SULFIDE (463-58-1) : Irritant: Inhalation, skin, eye

Target Organs

CARBONYL SULFIDE (463-58-1) : Central nervous system

12. Ecological Information

No LOLI ecotoxicity data are available for this product's components.

13. Disposal Considerations

Waste from residues / unused products : Dispose in accordance with all applicable regulations.
Contaminated packaging : Return cylinder to supplier.

14. Transport Information

DOT (US only)

Proper shipping name : Carbonyl Sulfide
Class : 2.3
UN/ID No. : UN2204
Labeling : Poison Gas, Flammable Gas

15. Regulatory Information

U.S. Federal Regulations

This material contains one or more of the following chemicals required under SARA Section 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

CARBONYL SULFIDE (463-58-1) : 100 lb final RQ; 45.4 kg final RQ
SARA 313: 1.0% de minimis concentration
CERCLA: 100 lb final RQ; 45.4 kg final RQ

SARA 311/312

Acute: Yes
Chronic: No
Fire: Yes
Reactive: Yes
Pressure: Yes

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
CARBONYL SULFIDE	463-58-1	No	Yes	No	Yes	Yes	No

Not regulated under California Proposition 65

16. Other Information

Prepared by : Specialty Gases of America, Inc.

For additional information, please visit our website at www.americangasgroup.com.