

INTERNATIONAL\_GASES\_AND\_CHEMICALS\_LTD

MATERIAL SAFETY DATA SHEETS

DATE: 10/06/97

SUPPLIER ADDRESS: SPEEDWELL RD  
PARKHOUSE EAST  
NEWCASTLE-U-LYME

EMERGENCY PHONE: (178) 256-5556  
NUMBER

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1. CHEMICAL PRODUCT

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PRODUCT NAME: CARBONYL SULFIDE

SYNONYMS: Carbon oxysulfide

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2. COMPOSITION, INFORMATION ON INGREDIENTS

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| Ingredient Name  | Formula | CAS#     | Concentration | Exposure Limits (PPM) |          |     |            |
|------------------|---------|----------|---------------|-----------------------|----------|-----|------------|
|                  |         |          |               | ACGIH TLV             | OSHA PEL | MAC | Other STEL |
| CARBONYL SULFIDE | COS     | 463-58-1 | 99+%          | NE                    | NE       | NE  | NE         |

Note: NE = NONE ESTABLISHED

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3. HAZARD IDENTIFICATION

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## \*\*\* EMERGENCY OVERVIEW \*\*\*

Poisonous, flammable liquid and gas under pressure.

May be fatal if inhaled.

Can form explosive mixtures with air.

May cause respiratory tract and central nervous system damage.

Can cause eye irritation.

Gas deadens sense of smell.

Symptoms of exposure may be delayed.

## POTENTIAL HEALTH EFFECTS

ROUTES OF ENTRY: Inhalation , Eye , Skin

ACUTE EFFECTS: Material is considered to be a general poison. It causes both mild irritation and systematic poisoning. Symptoms include headache, dizziness, vertigo, confusion and narcotic effects. Eye contact may cause irritation, redness, or blurred vision. Skin contact may cause irritation. Material may be absorbed by the body through skin contact which may be hydrolyzed in body fluids to produce systemic effects.

CHRONIC EFFECTS: Respiratory irritation and pulmonary edema, dermatitis, central nervous system depression, and conjunctivitis.

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: None known

OTHER EFFECTS OF OVEREXPOSURE: None

CARCINOGENICITY (US Only):

NTP - No

IARC MONOGRAPHS - No

OSHA REGULATED - No

Continued ...

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#### 4. FIRST AID MEASURES

**INHALATION:** Immediately remove victim to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen.

**EYE CONTACT:** Immediately flush with copious amounts of water for at least 15 minutes.

**SKIN CONTACT:** Immediately flush with copious amounts of water for at least 15 minutes while removing contaminated clothing.

**INGESTION:** None

**IN EVENT OF EXPOSURE, CONSULT A PHYSICIAN**

**NOTE TO PHYSICIAN:** Symptoms of exposure may be delayed.

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#### 5. FIRE FIGHTING MEASURES

**FLASH POINT:** N/Av

**AUTOIGNITION TEMPERATURE:** N/Av

**FLAMMABLE LIMITS:** Vol. %

LOWER: 12

UPPER: 28.5

**EXTINGUISHING MEDIA:** Carbon dioxide, water spray, or dry chemical.

**SPECIAL FIRE FIGHTING INSTRUCTION AND EQUIPMENT:** Wear self-contained breathing apparatus and full protective clothing. Keep fire exposed cylinders cool with water spray. If possible, stop the product flow. If possible, stop the product flow or let it burn itself out.

**HAZARDOUS COMBUSTION PRODUCTS:** Toxic carbon monoxide and sulfur dioxide may be given off during combustion.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Cylinder rupture may occur under fire conditions. After fire is extinguished, be aware that there is a possibility of reignition or explosion. Vapors may travel a considerable distance to the source of ignition and flash back. Gas-air mixtures are explosive.

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#### 6. ACCIDENTAL RELEASE MEASURES

**CLEAN UP PROCEDURES:** Evacuate and ventilate area. Remove leaking cylinder to exhaust hood or safe outdoor area. Shut off source if possible and remove source of heat.

**SPECIALIZED EQUIPMENT:** None

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#### 7. HANDLING AND STORAGE

**PRECAUTIONS TO BE TAKEN IN HANDLING:** Secure cylinder when using to protect from falling. Use suitable hand truck to move cylinders.

**PRECAUTIONS TO BE TAKEN IN STORAGE:** Store in well ventilated areas. Keep valve protection cap on cylinders when not in use.

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#### 8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

**ENGINEERING CONTROLS:** Provide adequate general and local exhaust ventilation to maintain concentrations below flammable limits.

##### PERSONAL PROTECTION

**EYE/FACE PROTECTION:** Safety glasses

**SKIN PROTECTION:** Impervious gloves, coveralls, boots, and/or other resistant protective clothing.

**RESPIRATORY PROTECTION:** In case of leakage, use self-contained breathing apparatus.

**OTHER PROTECTIVE EQUIPMENT:** Safety shoes when handling cylinders.

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#### 9. PHYSICAL AND CHEMICAL PROPERTIES

**APPEARANCE:** Colorless

**ODOR:** Rotten egg smell.

**PHYSICAL STATE:** Gas

**VAPOR PRESSURE:** @25 deg.C: 9412 mm Hg

**VAPOR DENSITY (AIR=1):** 2.1

**BOILING POINT (C):** -50

**SOLUBILITY IN WATER:** Soluble

**SPECIFIC GRAVITY (H2O=1):** @20 deg. C:

1.24

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EVAPORATION RATE: Gas  
ODOR THRESHOLD: N/Av

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## 10. STABILITY AND REACTIVITY

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STABILITY: Stable under normal storage conditions.

CONDITIONS TO AVOID: Storage in poorly ventilated areas. Storage near a heat source.

MATERIALS TO AVOID: Alkaline materials and oxidizing agents.

HAZARDOUS POLYMERIZATION: Will not occur.

HAZARDOUS DECOMPOSITION: Hydrogen sulfide and carbon monoxide.

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## 11. TOXICOLOGICAL INFORMATION

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LETHAL CONCENTRATION (LC50): 1700 ppm, Rat 1 hour.

LETHAL DOSE 50 (LD50): N/Av

TERATOGENICITY: N/Av

REPRODUCTIVE EFFECTS: N/Av

MUTAGENICITY: N/Av

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## 12. ECOLOGICAL INFORMATION

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No adverse ecological effects are expected.

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## 13. DISPOSAL CONSIDERATIONS

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WASTE DISPOSAL METHOD: Dispose of non-refillable cylinders in accordance with federal, state and local regulations. Allow gas to vent slowly to atmosphere in an unconfined area or exhaust hood. If the cylinders are the refillable type, return cylinders to supplier with any valve outlet plugs or caps secured and valve protection caps in place.

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## 14. TRANSPORT INFORMATION

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CONCENTRATION: 99+%

DOT DESCRIPTION (US ONLY):

PROPER SHIPPING NAME: Carbonyl sulfide  
HAZARD CLASS: 2.3 (poison), Hazard Zone C

IDENTIFICATION NUMBER: UN2204

REPORTABLE QUANTITIES: 100 lb.

LABELING: POISON GAS, FLAMMABLE GAS

ADR/RID (EU Only): Class 2, 2TF

SPECIAL PRECAUTIONS: Cylinders should be transported in a secure upright position in a well ventilated truck.

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## 15. REGULATORY INFORMATION

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OSHA: Process Safety Management: Material is not listed in appendix A of 29 CFR 1910.119 as highly hazardous chemical.

TSCA: Material is listed in TSCA inventory.

SARA: The threshold planning quantity for material is 10,000 lbs.

EU NUMBER: N/Av

NUMBER IN ANNEX 1 OF DIR 67/548: Not listed in annex 1.

EU CLASSIFICATION: N/Av

R: 13,26

S: 7/9,16,45

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## 16. OTHER INFORMATION

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OTHER PRECAUTIONS: Protect containers from physical damage. Do not deface cylinders or labels. Cylinders should be refilled by qualified producers of compressed gas. Shipment of a compressed gas cylinder which has not been filled by the owner or with his written consent is a violation of federal law (49 CFR).

ABBREVIATIONS:

N/Av - Not Applicable

N/Av - Not Available

SA - Simple Asphyxiant

NE - None Established

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