



Material Safety Data Sheet

1. Product and Company Identification

Product name : **Phosgene**

Chemical formula : CCL2O

Synonyms : Carbon oxychloride; Carbonyl chloride; Chloroformyl chloride; Carbon dichloride oxide; Carbon dichloride; Carbonic acid dichloride; UN 1076

Company : Med Tech Gases, Inc.
20 Hall Street
Medford, MA 02155

Telephone : 800-FINE-GAS

Emergency : 800-424-9300

2. Composition/Information on Ingredients

Components	CAS Number	% Volume
Phosgene	75-44-5	100%

3. Hazards Identification

Emergency Overview

Containers may rupture or explode if exposed to heat. May react on contact with water. Potentially fatal if inhaled, respiratory tract burns, skin burns, eye burns.

Potential Health Effects

Inhalation : Irritation (possibly severe), lack of sense of smell, vomiting, chest pain, difficulty breathing, headache, dizziness, bluish skin color, lung congestion, lung damage, death.

Eye contact : Burns, tearing, eye damage.

Skin contact : Irritation (possibly severe).

Ingestion : No information on significant adverse effects.

Chronic Health Hazard : None known.

4. First Aid Measures

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

Skin contact : If frostbite occurs, immediately flush with plenty of lukewarm water (105-115°F; 41-46°C). DO NOT USE HOT WATER. If warm water is not available, gently wrap affected parts in blankets. Get immediate medical attention.

Ingestion : If a large amount is swallowed, get immediate 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 : Regular dry chemical, carbon dioxide.
Large fires: Use regular foam or flood with fine water spray.
- Specific hazards : Negligible fire hazard.
- Fire fighting : Do not get water inside container. 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. Keep unnecessary people away, isolate hazard area and deny entry.

6. Accidental Release Measures

- Air release : Reduce vapors with water spray. Stay upwind and keep out of low areas.
- Soil release : Trap spilled material at bottom in deep water pockets, excavated holding areas or within sand bag barriers. Dike for later disposal. Dilute slowly and cautiously with water. Add an alkaline material (lime, crushed limestone, sodium bicarbonate, or soda ash).
- Water release : Add an alkaline material (lime, crushed limestone, sodium bicarbonate, or soda ash).
- Occupational spill/release : Stop leak if possible without personal risk. Reduce vapors with water spray. Do not get water directly on material. Do not get water inside container. Keep unnecessary people away, isolate hazard area and deny entry. Small spills: Flood with water. Large spills: Dike for later disposal. Stay upwind and keep out of low areas. Ventilate closed spaces before entering. Evacuation radius: 150 feet. 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 : Leaks can be detected with detector paper.

7. Handling and Storage

Handling

Secure cylinder when using to protect from falling. Use suitable hand truck to move cylinders.

Storage

Store in accordance with all current regulations and standards. Notify State Emergency Response Commission for storage or use at amounts greater than or equal to the TPQ (U.S. EPA SARA Section 302). SARA Section 303 requires facilities storing a material with a TPQ to participate in local emergency response planning (U.S. EPA 40 CFR 355 Part B). Protect from physical damage. Store outside or in a detached building. Keep separated from incompatible substances. Store in a well-ventilated area.

8. Exposure Controls / Personal Protection

Exposure limits

- ACGIH : 0.1 ppm TWA
- OSHA (final) : 0.1 ppm TWA; 0.4 mg/m³ TWA
- OSHA (vacated) : 0.1 ppm TWA; 0.4 mg/m³ TWA
- NIOSH : 0.1 ppm TWA; 0.4 mg/m³ TWA
0.2 ppm Ceiling 15 min; 0.8 mg/m³ Ceiling 15 min

IDLH

2 ppm

Engineering measures/Ventilation

Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

Personal protective equipment

- Respiratory protection : The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA.
1 ppm – Any supplied-air respirator.
2 ppm – Any self-contained breathing apparatus with a full facepiece.
Any supplied-air respirator with a full facepiece.
Emergency or planned entry into unknown concentrations or IDLH conditions –
Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.
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.
Escape – Any air-purifying full-facepiece respirator (gas mask) with a chin-style, front-mounted or back-mounted organic vapor canister.
Any appropriate escape-type, self-contained breathing apparatus.
- Hand protection : Wear appropriate chemical resistant gloves.
- Eye protection : Wear splash resistant safety goggles with a faceshield. 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 : Hay-like odor, pungent odor.
Molecular weight : 98.91
Vapor pressure : 1180 mmHg @ 20°C
Vapor density : 3.4 (air = 1)
Boiling point : 8°C
Melting point : -126°C
Specific gravity : 1.4 (water = 1)
Water solubility : Hydrolyzes.
Solvent solubility : Soluble: benzene, toluene, acetic acid, liquid hydrocarbons.

10. Stability and Reactivity

- Stability : Contact with water or moist air may form flammable and/or toxic gases of vapors.
- Conditions to avoid : Minimize contact with material. Avoid inhalation of material or combustion by-products. Containers may rupture or explode if exposed to heat.
- Materials to avoid : Bases, metals, combustible materials, oxidizing materials.
- Hazardous decomposition products : Thermal decomposition products: miscellaneous decomposition products.

11. Toxicological Information

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

PHOSGENE (75-44-5) : Inhalation LC50 Rat: 0.084 mg/L/30M

Acute Toxicity Level

PHOSGENE (75-44-5) : Highly toxic: Inhalation

Component Carcinogenicity

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

Local Effects

PHOSGENE (75-44-5) : Corrosive: Inhalation, skin, eye

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. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): P095.
Contaminated packaging : Return cylinder to supplier.
Component Waste Numbers : RCRA: waste_number P095

14. Transport Information

DOT (US only)

Proper shipping name : Phosgene
Class : 2.3
UN/ID No. : UN1076
Labeling : Poison Gas, Corrosive
Additional Info : Toxic-Inhalation Hazard Zone A

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.

PHOSGENE (75-44-5) : SARA 302: 10 lb TQ
10 lb final RQ; 4.54 kg final RQ
SARA 313: 1.0% de minimis concentration
CERCLA: 10 lb final RQ; 4.54 kg final RQ
OSHA (safety): 100 lb TQ

SARA 311/312

Acute: Yes
Chronic: No

Fire: No
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
PHOSGENE	75-44-5	Yes	Yes	Yes	Yes	Yes	Yes

Not regulated under California Proposition 65