



# Material Safety Data Sheet

## 1. Product and Company Identification

Product name : **Cyanogen Chloride, Inhibited**

Chemical formula : C-N-CL

Synonyms : Cyanogen Chloride ((CN)CL); Chlorine Cyanide; Chlorine Cyanide (CLCN); Chlorocyan; Chlorocyanide; Chlorocyanide (CLCN); Chlorocyanogen; Cyanochloride (CNCL); Cyanogen Chloride (CLCN); UN 1589

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
Cyanogen Chloride, Inhibited	506-77-4	< 99%
Water	7732-18-5	> 0.9%

### Component Related Regulatory Information

This product may be regulated, have exposure limits or other information identified as the following:  
Cyanide compounds, Cyanide compounds, inorganic, n.o.s..

## 3. Hazards Identification

### Emergency Overview

Potentially fatal if swallowed, harmful if inhaled, respiratory tract burns, skin burns, eye burns, mucous membrane burns.

Flammable gas. May cause flash fire. Containers may rupture or explode if exposed to heat.

### Potential Health Effects

Inhalation : Burns, tearing, nausea, difficulty breathing, headache, dizziness, lung congestion.

Eye contact : Burns, tearing, blurred vision.

Skin contact : Burns, bluish skin color.

Ingestion : Burns, sore throat, nausea, vomiting, diarrhea, stomach pain, difficulty breathing, bluish skin color, death.

Chronic Health Hazard : Not applicable.

## 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 medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.
- Ingestion : Contact local poison control center or physician immediately. Never make an unconscious person vomit or drink fluids. When vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention immediately.
- Inhalation : When safe to enter area, remove from exposure. Use a bag valve mask or similar device to perform artificial respiration (rescue breathing) if needed. Get medical attention immediately.
- Note to physicians : Consider amyl nitrite inhalation, 1 ampoule (0.2 mL) every 5 minutes, and oxygen.  
For ingestion, consider gastric lavage. Consider oxygen.
- Antidote : Amyl nitrite, inhalation; sodium nitrite, intravenous; sodium thiosulfate, infusion; oxygen.

## 5. Fire-Fighting Measures

- Suitable extinguishing media : Carbon dioxide, regular dry chemical.  
Large fires: Use regular foam or flood with fine water spray.
- Specific hazards : Negligible fire hazard. Containers may rupture or explode if exposed to heat.
- 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. Collect runoff for disposal as potential hazardous waste.
- Soil release : Dig holding area such as lagoon, pond or pit for containment. Dike for later disposal. Absorb with sand or other non-combustible material.
- Water release : Add an alkaline material (lime, crushed limestone, sodium bicarbonate, or soda ash). Add an oxidizing agent.
- 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 or (202)426-2675 (USA).
- Additional advice : None.

## 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. Subject to storage regulation: U.S. OSHA 29 CFR 1910.101. Keep separated from incompatible substances.

## 8. Exposure Controls / Personal Protection

### Exposure limits

ACGIH	:	0.3 ppm Ceiling
OSHA (final)	:	5 mg/m <sup>3</sup> TWA CN Prevent or reduce skin absorption
OSHA (vacated)	:	5 mg/m <sup>3</sup> TWA 0.3 ppm Ceiling; 0,6 mg/m <sup>3</sup> Ceiling
NIOSH	:	0.3 ppm Ceiling; 0,6 mg/m <sup>3</sup> Ceiling

### Engineering measures/Ventilation

Provide local exhaust or process enclosure ventilation system. 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	:	Liquefied gas.
Color	:	Colorless.
Odor	:	Irritating odor.
Molecular weight	:	61.47
Vapor pressure	:	1000 mmHg @ 2°C
Vapor density	:	2.1 (air = 1)
Specific gravity	:	1.186 (water = 1)
Boiling point	:	13°C
Melting point	:	-6°C
Water solubility	:	Soluble.
Solvent solubility	:	Soluble: alcohol, ether, organic solvents.

## **10. Stability and Reactivity**

Stability	:	Contact with water or moist air may form flammable and/or toxic gases or 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	:	Acids.

Hazardous decomposition products : Thermal decomposition products: Cyanides, hydrochloric acids, oxides of carbon, nitrogen.

## 11. Toxicological Information

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

WATER (7732-18-5) : Oral LD50 Rat: > 90 mL/kg

### Acute Toxicity Level

CYANOGEN CHLORIDE, INHIBITED(506-77-4) : Highly toxic: ingestion.  
Toxic: inhalation

### Component Carcinogenicity

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

### Local Effects

CYANOGEN CHLORIDE, INHIBITED(506-77-4) : Corrosive: inhalation, skin, eye, ingestion.

## 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): P033.  
Contaminated packaging : Return cylinder to supplier.  
Component Waste Numbers : CYANOGEN CHLORIDE, INHIBITED (506-77-4)  
RCRA: waste\_number P033

## 14. Transport Information

### DOT (US only)

Proper shipping name : Cyanogen Chloride, Stabilized  
Class : 2.3  
UN/ID No. : UN1589  
Labeling : Poison Gas; Corrosive  
Additional shipping description : Toxic-Inhalation Hazard Zone A

### Component Marine Pollutants

This material contains one of more of the following chemicals required by U.S. DOT to be identified as marine pollutants.

Component	CAS	
CYANOGEN CHLORIDE, INHIBITED	506-77-4	DOT regulated marine pollutant; DOT regulated marine pollutant

## 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.

CYANOGEN CHLORIDE, INHIBITED(506-77-4) : 10 lb final RQ; 4.54 kg final RQ  
SARA 313: 1.0% de minimis concentration (X+CN-where X = H+ or any other group where a formal dissociation can be made. For example KCN or Ca(CN)<sub>2</sub>. Chemical Category N106)  
CERCLA: 10 lb final RQ; 4.54 kg final RQ  
OSHA (safety): 500 lb TQ

### SARA 311/312

Acute: Yes  
Chronic: No  
Fire: No  
Reactive: No  
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
CYANOGEN CHLORIDE, INHIBITED	506-77-4	Yes	Yes	Yes	Yes	Yes	Yes

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](http://www.americangasgroup.com).