

### SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY

#### 1.1. Product Identifier

**Product Form:** Substance

**Product Name:** Cyclopropanecarbonitrile

**CAS No:** 5500-21-0

**Product Code:** VOLO10020

**Standard InChI:** InChI=1S/C4H5N/c5-3-4-1-2-4/h4H,1-2H2

#### 1.2. Intended Use of the Product

**Use of the substance/mixture:** For laboratory research purposes.

#### 1.3. Name, Address, and Telephone of the Responsible Party

##### Manufacturer

Volochem, Inc.

2600 Hilltop Dr.

Bldg B #C211

Richmond, CA 94806

T 510.748.0159

[www.volochem.com](http://www.volochem.com)

#### 1.4. Emergency Telephone Number

**Emergency Number** : 510-748-0159 (9a-5p M-F)

### SECTION 2: HAZARDS IDENTIFICATION

#### 2.1. Classification of the Substance or Mixture

##### Classification (GHS-US)

Flammable liquids (Category 3)

Acute toxicity, Oral (Category 3)

Acute toxicity, Dermal (Category 3)

Acute toxicity, Inhalation (Category 3)

Skin irritation (Category 2)

Eye irritation (Category 2A)

Specific target organ toxicity - single exposure (Category 3)

#### 2.2. Label Elements

##### GHS-US Labeling

**Pictogram(s):** GHS02, GHS06



**Signal word:** Danger

##### Hazard statement(s)

H226	Flammable liquid and vapor.
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H331	Toxic if inhaled.
H315	Causes skin irritation.
H319	Causes serious eye irritation.

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H335 May cause respiratory irritation.

### Precautionary statement(s)

P210 Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.  
P233 Keep container tightly closed.  
P240 Ground and bond container and receiving equipment.  
P241 Use explosion-proof equipment.  
P242 Use non-sparking tools.  
P243 Take action to prevent static discharges.  
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
P301+P330+P310 IF SWALLOWED: Rinse mouth. Immediately call a POISON CENTER/doctor.  
P321 Specific treatment: Always have on hand a cyanide first-aid kit, together with proper instructions.  
P303+P361+P353 IF ON SKIN: Take off immediately all contaminated clothing. Rinse skin with water or shower.  
P363 Wash contaminated clothing before reuse.  
P312 Call a POISON CENTER/doctor if you feel unwell.  
P332+P313 If skin irritation occurs: Get medical advice/attention.  
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P311 Call a POISON CENTER/ doctor.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337+P313 If eye irritation persists: Get medical advice/attention.  
P370+P378 In case of fire: Use alcohol-resistant foam, dry chemical, or carbon dioxide to extinguish.  
P403+P233+P235 Store in a well-ventilated place. Keep container tightly closed. Keep cool.  
P405 Store locked up.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

### 2.3. Hazards not otherwise classified (HNOC) or not covered by GHS

No additional information is available.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1. Substance

Name	Synonym(s)	Product Identifiers
Cyclopropanecarbonitrile	Cyanocyclopropane; Cyclopropyl cyanide	VOLO10020 CAS No. 5500-21-0

## SECTION 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. Move out of dangerous area.

#### 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.

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### 4.2. Most important symptoms and effects, both acute and delayed

<b>Symptoms/Injuries After Inhalation:</b>	May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
<b>Symptoms/Injuries After Skin Contact:</b>	Harmful if absorbed through skin. Causes skin irritation.
<b>Symptoms/Injuries After Eye Contact:</b>	Causes eye burns.
<b>Symptoms/Injuries After Ingestion:</b>	Harmful if swallowed.
<b>Chronic Symptoms:</b>	The chronic effects of this substance are unknown.

### 4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

May cause cyanosis. Always have on hand a cyanide first-aid kit, together with proper instructions.

Nausea, headache, vomiting, burning sensation, cough, labored breathing, shortness of breath, sore throat, redness, pain, abdominal pain, burning sensation, shock.

## SECTION 5: FIREFIGHTING MEASURES

### 5.1. Extinguishing Media

**Suitable Extinguishing Media:** For small (incipient) fires, use media such as alcohol-resistant foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

### 5.2. Special Hazards Arising From the Substance or Mixture

**Fire Hazard:** Product is combustible. Fire may release toxic gases.

**Explosion Hazard:** Product is not explosive.

**Hazardous combustion products:** Carbon oxides, nitrogen oxides (NO<sub>x</sub>)

### 5.3. Advice for Firefighters

**Firefighting Instructions:** Exercise caution when fighting any chemical fire.

**Protection During Firefighting:** Wear self contained breathing apparatus for fire fighting if necessary. Do not enter fire area without proper protective equipment, including respiratory protection.

### 5.4. NFPA Rating

<b>Health Hazard:</b>	4
<b>Flammability:</b>	3
<b>Reactivity Hazard:</b>	0

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1. Personal Precautions, Protective Equipment and Emergency Procedures

#### 6.1.1. For Non-emergency Personnel

**Protective Equipment:** Use appropriate personal protection equipment (PPE).

**Emergency Procedures:** Evacuate unnecessary personnel.

#### 6.1.2. For Emergency Responders

**Protective Equipment:** Equip cleanup crew with proper protection.

**Emergency Procedures:** Ventilate area.

### 6.2. Environmental Precautions

Prevent entry to sewers and public waters.

### 6.3. Methods and Material for Containment and Cleaning Up

**For Containment:** Contain and collect as any solid.

**Methods for Cleaning Up:** Collect spillage. Avoid generation of dust during clean-up of spills. Clear up spills immediately and dispose of waste safely.

### 6.4. Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection.

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### SECTION 7: HANDLING AND STORAGE

#### 7.1. Precautions for Safe Handling

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the buildup 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. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Moisture sensitive. Store under inert gas.

#### 7.3. Specific End Use(s)

For laboratory research purposes

### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

#### 8.1. Control Parameters

Components	CAS No.	Value	Control Parameters	Basis
Cyclopropanecarbonitrile	5500-21-0	PEL	5 mg/m <sup>3</sup> , as CN	OSHA
		MAK	2 mg/m <sup>3</sup>	Haz-Map

#### 8.2. Exposure Controls

##### Appropriate Engineering Controls:

Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure. Avoid high vapor concentration. Ensure adequate ventilation, especially in confined areas.

##### Personal Protective Equipment:



##### Hand 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.

##### Eye 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)

##### Respiratory Protection:

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (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).

##### Skin and 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.

##### Hygiene measures:

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

This recommendation is advisory only and must be evaluated by an Industrial Hygienist familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

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### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

#### 9.1. Information on Basic Physical and Chemical Properties

Physical State:	Liquid
Appearance:	Colorless
Odor:	No data available
Odor Threshold:	No data available
pH:	No data available
Relative Evaporation Rate (butylacetate=1):	No data available
Melting Point:	No data available
Boiling Point:	135 °C (275 °F) - lit.
Flash Point:	40 °C (104 °F) - closed cup
Auto-ignition Temperature:	No data available
Decomposition Temperature:	No data available
Flammability (solid, gas):	No data available
Vapor Pressure:	No data available
Relative Vapor Density at 20 °C:	No data available
Relative Density:	0.911 g/cm <sup>3</sup> at 25 °C (77 °F)
Specific Gravity:	No data available
Solubility:	No data available
Log Pow:	No data available
Log Kow:	No data available
Viscosity, Kinematic:	No data available
Viscosity, Dynamic:	No data available
Explosive Properties:	No data available
Oxidizing Properties:	No data available
Explosive Limits:	Not applicable

9.2. Other Information No additional information available

### SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity:	Hazardous reactions will not occur under normal conditions.
10.2. Chemical Stability:	Product is stable under recommended storage conditions.
10.3. Possibility of Hazardous Reactions:	Vapors may form explosive mixture with air.
10.4. Conditions to Avoid:	Heat, flames and sparks. Extremes of temperature and direct sunlight.
10.5. Incompatible Materials:	Strong acids, strong bases, strong oxidizing agents, strong reducing agents
10.6. Hazardous Decomposition Products:	Carbon oxides (CO, CO <sub>2</sub> ) and nitrogen oxides

### SECTION 11: TOXICOLOGICAL INFORMATION

#### 11.1. Information on Toxicological Effects

Acute Toxicity:	<b>Oral LD50</b> No data available
	<b>Inhalation LC50</b> No data available
	<b>Dermal LD50</b> No data available
	<b>Other information on acute toxicity</b> No data available

Skin Corrosion/Irritation: No data available

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<b>Serious Eye Damage/Irritation:</b>	No data available
<b>Respiratory or Skin Sensitization:</b>	No data available
<b>Germ Cell Mutagenicity:</b>	No data available
<b>Carcinogenicity:</b>	Not classified
<b>Reproductive Toxicity:</b>	No data available
<b>Specific Target Organ Toxicity (Single Exposure):</b>	Inhalation – May cause respiratory irritation.
<b>Specific Target Organ Toxicity (Repeated Exposure):</b>	No data available
<b>Aspiration Hazard:</b>	No data available
<b>Symptoms/Injuries After Inhalation:</b>	May be fatal if inhaled. Causes respiratory tract irritation.
<b>Symptoms/Injuries After Skin Contact:</b>	Toxic if absorbed through skin. Causes skin irritation.
<b>Symptoms/Injuries After Eye Contact:</b>	Causes eye irritation.
<b>Symptoms/Injuries After Ingestion:</b>	May be harmful if swallowed.
<b>Chronic Symptoms:</b>	The chronic effects of this substance are unknown.

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

No data available

### 12.2. Persistence and Degradability

No data available

### 12.3. Bioaccumulative Potential

Does not bioaccumulate.

### 12.4. Mobility in Soil

No data available

### 12.5. Other Adverse Effects

No data available

## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1. Waste Treatment Methods

**Waste Disposal Recommendations:** Contact a licensed professional waste disposal service to dispose of this material. Dispose of waste material in accordance with all local, regional, national, and international regulations.

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### SECTION 14: TRANSPORT INFORMATION

In Accordance With ICAO/IATA/IMDG/DOT

<b>14.1.</b>	<b>UN Number:</b>	3275
<b>14.2.</b>	<b>UN Proper Shipping Name:</b>	Nitriles, toxic, flammable, n.o.s. (Cyclopropanecarbonitrile)
<b>14.3.</b>	<b>Transport Hazard Class(es):</b>	6.1 (3)
<b>14.4.</b>	<b>Packing Group:</b>	II
<b>14.5.1.</b>	<b>Marine Pollutant:</b>	No
<b>14.5.2.</b>	<b>Reportable Quantity:</b>	No
<b>14.6.1.</b>	<b>Toxic Inhalation Hazard:</b>	No
<b>14.6.2.</b>	<b>Mode Specific Comments:</b>	See below
<b>14.6.2.1.</b>	<b>Ground Transportation - DOT (US):</b>	None
<b>14.6.2.2.</b>	<b>Marine Transportation – IMDG:</b>	EMS-No: F-E, S-D
<b>14.6.2.3.</b>	<b>Air Transportation - IATA/ICAO:</b>	None

### SECTION 15: REGULATORY INFORMATION

#### 15.1 US Federal Regulations

EPA TSCA Inventory

Listed

**SARA 302 Components**

Not listed

**SARA 313 Components**

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Components**

Fire Hazard, Acute Health Hazard

#### 15.2 US State Regulations

**California Proposition 65 List 2014**

Not listed

**Maine Chemicals of High Concern List 2012**

Not listed

**Massachusetts Right to Know Hazardous Substance List 2014**

Not listed

**New Jersey Right to Know Hazardous Substance List 2010**

Not listed

**Pennsylvania Right to Know Hazardous Substance List 2010**

Not listed

### SECTION 16: OTHER INFORMATION

#### 16.1 Other Classifications

HMIS

Health Hazard: 4

Flammability: 3

Physical hazards: 0

Revision date : 1/3/2015

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**Other Information** : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

*Volochem chemicals are for research purposes only and are NOT intended for use as drugs, food additives, household goods, or pesticides. The information herein is believed to be correct, but does not claim to be all inclusive and should be used only as a guide. Neither the above named supplier nor any of its affiliates or subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All chemical reagents must be handled with the recognition that their chemical, physiological, toxicological, and hazardous properties have not been fully investigated or determined. All chemical reagents should be handled only by individuals who are familiar with their potential hazards and who have been fully trained in proper safety, laboratory, and chemical handling procedures. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Our SDS are based only on data available at the time of shipping and are subject to change without notice as new information is obtained. Avoid long storage periods since the product is subject to degradation with age and may become more dangerous or hazardous. It is the responsibility of the user to request updated SDS for products that are stored for extended periods. Disposal of unused product must be undertaken by qualified personnel who are knowledgeable in all applicable regulations and follow all pertinent safety precautions including the use of appropriate protective equipment (e.g. protective goggles, protective clothing, breathing equipment, face mask, fume hood). For proper handling and disposal, always comply with federal, state and local regulations.*

SDS US (GHS HazCom) - US Only