



SIGMA-ALDRICH

Material Safety Data Sheet

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Section 1 - Product and Company Information

Product Name Diethyl chlorophosphite, 95%
Product Number D91659
Brand Aldrich Chemical

Company Sigma-Aldrich
Street Address 3050 Spruce Street
City, State, Zip, Country SAINT LOUIS, MO 63103 US
Technical Phone: 800-325-5832
Fax: 800-325-5052
Emergency Phone: 314-776-6555

Section 2 - Composition/Information on Ingredient

| <u>Substance Name</u> | <u>CAS #</u> | <u>SARA 313</u> | <u>EC no</u> | <u>Annex I Index Number</u> |
|-------------------------|--------------|-----------------|--------------|-----------------------------|
| DIETHYL CHLOROPHOSPHITE | 589-57-1 | No | 209-652-2 | |

Formula C₄H₁₀ClO₂P
Synonyms

Section 3 - Hazards Identification

Emergency Overview

Flammable (USA) Highly Flammable (EU). Corrosive.
Reacts violently with water. Harmful by inhalation, in contact with skin and if swallowed. Causes burns.

HMIS Rating Special Hazard(s) : Water reactive

NFPA Rating Special Hazard(s) : Water reactive

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

Immediate Treatment- Work Site

In case of contact, immediately flush eyes or skin with copious amounts of water for at least 15 minutes while removing contaminated clothing and shoes.

Oral Exposure

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

Inhalation Exposure

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

Eye Exposure

Assure adequate flushing of the eyes by separating the eyelids with fingers.

Section 5 - Fire Fighting Measures

Explosion Hazards

Vapor may travel considerable distance to source of ignition and flash back.
Container explosion may occur under fire conditions.

Conditions of Flammability

Water hydrolyzes material liberating acidic gas which in contact with metal surfaces can generate flammable and/or explosive hydrogen gas.

Flash Point: 33.8 °F 1 °C

Autoignition Temp: N/A

Extinguishing Media

Suitable

Carbon dioxide, dry chemical powder, or appropriate foam.

Unsuitable

Do not use water.

Firefighting

Protective Equipment

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Specific Hazard(s)

Extremely flammable. Vapor may travel considerable distance to source of ignition and flash back. Emits toxic fumes under fire conditions.

Exposure Hazard(s)

Material

Corrosive.

Section 6 - Accidental Release Measures

Procedure to be Followed in Case of Leak or Spill

Evacuate area. Shut off all sources of ignition.

Procedure(s) of Personal Precaution(s)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

Methods for Cleaning Up

Cover with dry-lime, sand, or soda ash. Place in covered containers using nonsparking tools and transport outdoors. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

Handling

User Exposure

Do not breathe vapor. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

Storage

Suitable

Keep tightly closed. Keep away from heat, sparks, and open flame. Handle and store under nitrogen. Store at 2-8°C

Incompatible Materials

Do not allow contact with water

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Section 8 - Exposure Controls / PPE

Engineering Controls

Safety shower and eye bath. Use only in a chemical fume hood.

Personal Protective Equipment

Other

Wear appropriate government approved respirator, chemical resistant gloves, safety goggles, other protective clothing. Faceshield (8-inch minimum).

General Hygiene Measures

Wash thoroughly after handling. Wash contaminated clothing before reuse. Discard contaminated shoes.

Section 9 - Physical/Chemical Properties

Appearance

| | |
|--------------|--------------|
| Color | Form |
| Colorless | Clear liquid |

Molecular Weight 156.55 AMU

| Property | Value | At Temperature or Pressure |
|-----------------|--------------|-----------------------------------|
|-----------------|--------------|-----------------------------------|

| | | |
|------------------------------|-------------------------|--------------------|
| pH | N/A | |
| BP/BP Range | 56 - 57.5 °C | 30 mmHg |
| MP/MP Range | N/A | |
| Freezing Point | N/A | |
| Vapor Pressure | N/A | |
| Vapor Density | N/A | |
| Saturated Vapor Conc. | N/A | |
| SG/Density | 1.089 g/cm ³ | |
| Bulk Density | N/A | |
| Odor Threshold | N/A | |
| Volatile% | N/A | |
| VOC Content | N/A | |
| Water Content | N/A | |
| Solvent Content | N/A | |
| Evaporation Rate | N/A | |
| Viscosity | N/A | |
| Partition Coefficient | N/A | |
| Decomposition Temp. | N/A | |
| Flash Point °F | 33.8 °F | Method: closed cup |
| Flash Point °C | 1 °C | Method: closed cup |

Explosion Limits N/A

| | |
|--------------------------|-------|
| Flammability | N/A |
| Autoignition Temp | N/A |
| Refractive Index | 1.437 |
| Solubility | N/A |

N/A = not available

Section 10 - Stability and Reactivity

Stability

Conditions to Avoid

Do not allow water to enter container because of violent reaction.

Materials to Avoid

Strong oxidizing agents, Strong bases

Hazardous Decomposition Products

Hazardous Decomposition Products

Carbon monoxide, Carbon dioxide, Hydrogen chloride gas, Thermal decomposition may produce toxic fumes of phosphorus oxides and/or phosphine

Section 11 - Toxicological Information

Route of Exposure

Multiple Routes

Harmful if swallowed, inhaled, or absorbed through skin.

Signs and Symptoms of Exposure

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

RTECS Number: N/A

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable.

Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: Flammable liquids, corrosive, n.o.s.

UN#: 2924

Class: 3

Packing Group: Packing Group II

Hazard Label: Flammable liquid

Hazard Label: Corrosive

PIH: Not PIH

IATA

Proper Shipping Name: Flammable liquid, corrosive, n.o.s.

IATA UN Number: 2924

Hazard Class: 3

Packing Group: II

Section 15 - Regulatory Information

EU Additional Classification

Symbol of Danger: F+ C

Indication of Danger

Highly Flammable. Corrosive.

Risk Statements **R:** 11 14 34 37

Highly flammable. Reacts violently with water. Causes burns. Irritating to respiratory system.

Safety Statements **S:** 7/8 16 26 36/37/39 45

Keep container tightly closed and dry. Keep away from sources of ignition- no smoking. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. In

case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

US Classification and Label Text

Indication of Danger

Flammable (USA) Highly Flammable (EU) Corrosive.

Risk Statements

Reacts violently with water. Harmful by inhalation, in contact with skin and if swallowed. Causes burns.

Safety Statements

Keep away from sources of ignition - no smoking. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Take off immediately all contaminated clothing. Wear suitable protective clothing, gloves, and eye/face protection.

United States Regulatory Information

SARA Listed: No

Canada Regulatory Information

WHMIS Classification

This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: No

NDSL: Yes

Section 16 - Other Information

Disclaimer

For R&D use only. Not for drug, household or other uses.

Warranty

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. SigmaAldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2008 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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