

**SIGMA-ALDRICH****Material Safety Data Sheet**Date Printed: 07/22/2008
Date Updated: 02/05/2006
Version 1.40**Section 1 - Product and Company Information**

Product Name Diethylphosphoramidous dichloride, 97%
Product Number 362891
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
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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> |
|-----------------------------------|--------------|-----------------|--------------|-----------------------------|
| DIETHYLPHOSPHORAMIDOUS DICHLORIDE | 1069-08-5 | No | | |

Formula C₄H₁₀Cl₂NP
Synonyms

Section 3 - Hazards Identification**Emergency Overview**

Corrosive.
Causes burns.
Combustible.

HMIS Rating
Health: 3 Flammability: 2 Reactivity: 2 Special Hazard(s) : Water reactive

NFPA Rating
Health: 3 Flammability: 2 Reactivity: 2 Special Hazard(s) : Water reactive

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

Section 4 - First Aid Measures**Oral Exposure**

If swallowed, wash out mouth with water provided person is conscious. Call a physician. Do not induce vomiting.

Inhalation Exposure

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

Dermal Exposure

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

Eye Exposure

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures**Explosion Hazards**

Container explosion may occur under fire conditions.

Flash Point: 181 °F 83 °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)

Combustible liquid. Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures**Procedure to be Followed in Case of Leak or Spill**

Evacuate area.

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 or soda ash, pick up, keep in a closed container, and hold for waste disposal. 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 and open flame. Handle and store under nitrogen. Store at 2-8°C.

Incompatible Materials

Do not allow contact with water.

Special Requirements

Heat- and moisture-sensitive.

Section 8 - Exposure Controls / PPE**Engineering Controls**

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

Personal Protective Equipment**Respiratory**

Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows airpurifying respirators are appropriate use a fullface respirator with multipurpose

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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 fullface supplied air respirator.

Hand

Compatible chemical-resistant gloves.

Eye

Chemical safety goggles.

Other

Faceshield (8-inch minimum).

General Hygiene Measures

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

Section 9 - Physical/Chemical Properties

Appearance

Physical State

Liquid

Molecular Weight 174.01 AMU

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

| | | |
|----|-----|--|
| pH | N/A | |
|----|-----|--|

| | | |
|-------------|--------|----------|
| BP/BP Range | 179 °C | 760 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 | 1.196 g/cm3 | |
|------------|-------------|--|

| | | |
|--------------|-----|--|
| 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 | 181 °F | Method: closed cup |
|----------------|--------|--------------------|

| | | |
|----------------|-------|--------------------|
| Flash Point °C | 83 °C | Method: closed cup |
|----------------|-------|--------------------|

Explosion Limits N/A

Flammability N/A

Autoignition Temp N/A

Refractive Index 1.497

Solubility N/A

N/A = not available

Section 10 - Stability and Reactivity

Stability

Stable

Stable.

Materials to Avoid

Water, Alcohols, Strong bases, Amines

Hazardous Decomposition Products

Hazardous Decomposition Products

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

Hazardous Polymerization

Hazardous Polymerization

Will not occur.

Section 11 - Toxicological Information

Route of Exposure

Skin Contact

Causes burns.

Skin Absorption

May be harmful if absorbed through the skin.

Eye Contact

Causes burns.

Inhalation

Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. May be harmful if inhaled.

Ingestion

May be harmful if swallowed.

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.

RTECS Number: N/A

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation

Contact a licensed professional waste disposal service to dispose of this material.

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: Corrosive liquid, acidic, organic, n.o.s.

UN#: 3265

Class: 8

Packing Group: Packing Group II

Hazard Label: Corrosive
PIH: Not PIH

IATA

Proper Shipping Name: Corrosive liquid, acidic, organic, n.o.s.

IATA UN Number: 3265

Hazard Class: 8

Packing Group: II

Section 15 - Regulatory Information

EU Additional Classification

Symbol of Danger: C

Indication of Danger

Corrosive.

Risk Statements R: 34

Causes burns.

Safety Statements S: 26 36/37/39 45 43

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). In case of fire, never use water.

US Classification and Label Text

Indication of Danger

Corrosive.

Risk Statements

Causes burns.

Safety Statements

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). In case of fire, never use water.

US Statements

Combustible.

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: No

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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