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**MATERIAL SAFETY DATA SHEET**

**2-CYANOETHYL-N,N,N',N'-TETRAISOPROPYLPHOSPHORODIAMIDITE**

**SECTION 1 - CHEMICAL PRODUCT AND COMPANY INFORMATION**

American International Chemical, Inc. 135 Newbury Street Framingham, MA 01701	Emergency Number: Chemtrec Information Number:	800-424-9300 703-527-3887 800-238-0001
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Date: August 2007

Synonyms: Phosphitylating Reagent, Bis Phosphitylating Reagent

CAS #: 102691-36-1

DOT Hazard Class: NA 1993 (Ground Transportation) Combustible Liquid n.o.s.  
UN 1993 (Air Transportation) Flammable Liquid n.o.s.  
PG III

**SECTION 2 - COMPOSITION AND INFORMATION ON INGREDIENTS**

2-Cyanoethyl-N,N,N',N'-tetrakisopropylphosphorodiamidite, neat liquid - 100%  
C<sub>15</sub>H<sub>32</sub>N<sub>3</sub>OP

**SECTION 3 - HAZARDS IDENTIFICATION**

**EMERGENCY OVERVIEW:** Viscous, colorless or light yellow liquid. No perceptible odor. Irritating to eyes, respiratory system and skin. Heating may cause an explosion. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing. Keep in cool place. May decompose on heating. Decomposition products may be pyrophoric.

**POTENTIAL HEALTH EFFECTS:**

**Skin:** May cause skin irritation.

**Eyes:** May cause irritation or burning.

**Inhalation:** May cause irritation to the respiratory tract.

**Ingestion:** Not a hazard with normal industrial usage.

**CARCINOGENICITY:** Not Identifiable

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#### **SECTION 4 - FIRST AID MEASURES**

**Skin:** Immediately wash skin with soap and water for at least 15 minutes.

**Eyes:** Immediately flush with plenty of water for at least 15 minutes, holding eye lids apart.

**Inhalation:** Remove to the fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

**Ingestion:** Wash out mouth with water.

**On All Of The Above:** Consult a physician if symptoms persist.

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#### **SECTION 5 - FIRE FIGHTING MEASURES**

**Flash Point:** 140-160° C

**Flammable Limits:** Not Available

**Extinguishing Media:** Use media that is appropriate to treat surrounding fire.

**Special Fire Fighting Procedures:** Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Use water spray to cool fire-exposed containers. Combustible liquid.

**Unusual Fire Explosion Hazard:** Carbon Monoxide, carbon dioxide nitrogen oxides thermal decomposition will produce toxic fumes of phosphorus oxides and/or phosphine.

**Auto Ignition Temperature:** Not Available

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#### **SECTION 6 - ACCIDENTAL RELEASE MEASURES**

Evacuate area. Shut off all sources of ignition. Wear self-contained breathing apparatus, rubber boots and heavy rubber gloves. Cover with dry-lime, sand, or soda ash. Place in covered containers using non-sparking tools and transport outdoors. Ventilate area and wash spill site after material pickup is complete.

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#### **SECTION 7 - HANDLING AND STORAGE**

Wear chemical-resistant gloves, safety goggles, and other protective clothing. Safety shower and eye bath. Use only in a chemical fume hood. Do not get in eyes, on skin, or on clothing. Avoid prolonged or repeated exposure. Wash thoroughly after handling. Irritant. Keep tightly closed. Keep away from combustible materials, heat, sparks, and open flame. Store at 0-10° C for up to one year in an unopened bottle.

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#### **SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION**

**RESPIRATORY PROTECTION:** Use only in a chemical fume hood.

**VENTILATION REQUIREMENTS:** Use only in a chemical fume hood.

**SKIN AND EYE PROTECTION:** Use rubber or neoprene gloves, chemical goggles and clothing sufficient to protect skin and eyes from liquid.

**WORK, HYGIENIC PRACTICES:**

2-CYANOETHYL-N,N,N',N'-TETRAISOPROPYLPHOSPHORODIAMIDITE

As required to protect skin and eyes from liquid, safety showers and/or eyewash should be available. Do not leave food or smoke in work area. Wash thoroughly and remove or clean any contaminated clothing.

EXPOSURE LIMITS: None Established

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## **SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES**

Boiling Point: 116-119° C / 0.2mm Hg

Vapor Pressure (MM Hg): Not Applicable

Vapor Density (AIR=1): Not Applicable

Specific Gravity (H<sub>2</sub>O=1): 0.949

Percent Volatile by Volume (%): Not Applicable

Melting Point: Not Applicable

Evaporation Rate (Butyl Acetate=1): Not Applicable

Solubility in Water: Insoluble

pH: Not Applicable

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## **SECTION 10 - STABILITY AND REACTIVITY**

CHEMICAL STABILITY: Stable under normal temperatures and pressures.

HAZARDOUS POLYMERIZATION: Will not occur under normal conditions.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon Monoxide, carbon dioxide nitrogen oxides thermal decomposition will produce toxic fumes of phosphorus oxides and/or phosphine.

KEEP AWAY FROM: Strong acids or bases. May decompose on exposure to moist air or water. Heat-sensitive.

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## **SECTION 11 - TOXICOLOGICAL INFORMATION**

Not Available

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## **SECTION 12 - ECOLOGICAL INFORMATION**

2-CYANOETHYL-N,N,N',N'-TETRAISOPROPYLPHOSPHORODIAMIDITE

Not Available

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**SECTION 13 - DISPOSAL CONSIDERATIONS**

Dispose of in accordance with all federal, state and local regulations.

RCRA WASTE #: D003

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**SECTION 14 - TRANSPORTATION INFORMATION**

D.O.T. SHIPPING NAME:.....Air Transportation: Flammable Liquid n.o.s.

.....Ground Transportation: Combustible Liquid n.o.s.

TECHNICAL SHIPPING NAME:.....2-Cyanoethyl-N,N,N',N'-

Tetraisopropylphosphorodiamidite

U.N./NUMBER .....1993

D.O.T. HAZARD CLASS AND GROUP NUMBER:....Air Transportation: 3, III

....Ground Transportation: Combustible, III

D.O.T. PLACARD..... Air Transportation: Flammable

.....Ground Transportation: Combustible

PRODUCT LABEL.....Flammable

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**SECTION 15 - REGULATORY INFORMATION**

OSHA STATUS: Not listed

TSCA STATUS: Not Listed, used for research

CERCLA REPORTABLE REQUIREMENTS: (RQ) None

SARA TITLE III INFORMATION:

Section 302 Extremely Hazardous Substance Not listed

Section 313 Toxic Chemicals: Not listed

Section 311/312 Hazard Category: Fire Hazard, Acute Health Hazard.

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**SECTION 16 - OTHER INFORMATION**

Reason for Issue: Changed Date

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