



American International Chemical, Inc.

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MATERIAL SAFETY DATA SHEET

4,5-DICYANOIMIDAZOLE IN ACETONITRILE, 0.7 M ACTIVATOR SOLUTION

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: June 2008

Synonyms: DCI Activator Solution, DCI in Acetonitrile

CAS #: Not Applicable

DOT Hazard Class: Acetonitrile Solution.
3, UN1648, II

SECTION 2 - COMPOSITION AND INFORMATION ON INGREDIENTS

<u>Component</u>	<u>CAS #</u>	<u>% (Weight)</u>
4,5-Dicyanoimidazole	1122-28-7	<11%
Acetonitrile	75-05-8	>89%

SECTION 3 - HAZARDS IDENTIFICATION

WARNING! FLAMMABLE LIQUID AND VAPOR. MAY BE HARMFUL OR FATAL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. AFFECTS CARDIOVASCULAR SYSTEM, CENTRAL NERVOUS SYSTEM, LIVER AND KIDNEYS. CAN CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT.

NFPA Hazard Ratings (Acetonitrile): Health - 1, Flammability - 3, Reactivity - 0

NOTE: NFPA ratings involve data and interpretations that may vary from company to company. They are intended only for rapid, general identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this material, all the information contained in this MSDS must be considered.

SECTION 3 - HAZARDS IDENTIFICATION Continued:

4,5-Dicyanoimidazole in Acetonitrile, 0.7 M
Activator Solution

Symptoms of Exposure: Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: stomach or intestinal upset (nausea, vomiting, diarrhea) irritation (nose, throat, airways), headache, central nervous system depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness), muscle weakness, kidney effects, effects on heart rate, loss of coordination, cyanosis (causes blue coloring of the skin and nails from lack of oxygen), lung edema (fluid buildup in the lung tissue).

Target Organ Effects: Overexposure to this material (or its components) has been suggested as a cause of the following effects in humans: central nervous system effects, blood abnormalities, cardiac abnormalities kidney damage, liver damage, lung damage.

Developmental Information: This material (or a component) has been shown to cause harm to the fetus in laboratory animal studies. Harm to the fetus occurs only at exposure levels that harm the pregnant animal. The relevance of these findings to humans is uncertain.

Cancer Information: Based on the available information, this material cannot be classified with regard to carcinogenicity. This material is not listed as a carcinogen by the International Agency for Research on Cancer, the National Toxicology Program, or the Occupational Safety and Health Administration.

Primary Route(s) of Entry: Inhalation, Skin absorption, Skin contact.

SECTION 4 - FIRST AID MEASURES

Inhalation: If inhaled, remove to fresh air. If breathing is labored or with coughing, give 100% supplemental oxygen. If not breathing, begin artificial respiration. DO NOT GIVE MOUTH-TO-MOUTH RESUSCITATION.

Ingestion: If swallowed, get medical attention immediately; do not induce vomiting. Never give anything by mouth to an unconscious person. If not breathing, begin artificial respiration. DO NOT GIVE MOUTH-TO-MOUTH RESUSCITATION.

Skin Contact: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

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

SECTION 5 - FIRE FIGHTING MEASURES

Flash Point: 42.0 °F (5.5 °C) (Acetonitrile)
Explosive Limit: Lower 4.4%; Upper 16.0% (Acetonitrile)
Autoignition Temperature: 975.2 °F (524 °C) (Acetonitrile)

Hazardous Products of Combustion may form: hydrogen cyanide, toxic fumes.

SECTION 5 - FIRE FIGHTING MEASURES Continued:

4,5-Dicyanoimidazole in Acetonitrile, 0.7 M
Activator Solution

Fire and Explosion Hazards: Material is highly volatile and readily gives off vapors which may travel along the ground or be moved by ventilation and ignited by pilot lights, other flames, sparks, heaters, smoking, electric motors, static discharge, or other ignition sources at locations distant from material handling point.

Extinguishing Media: alcohol foam, water fog, carbon dioxide, dry chemical.

Fire Fighting Instructions: Water may be used to keep fire-exposed containers cool until fire is out. Wear a self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode with appropriate turn-out gear and chemical resistant personal protective equipment. Refer to the personal protective equipment section of this MSDS.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Isolate hazard area and deny entry to unnecessary or unprotected personnel.

Wear suitable protective equipment listed under Exposure Controls, Personal Protection below.

Eliminate any ignition sources until the area is determined to be free from explosion or fire hazards.

Contain spilled liquid with sand or earth. Place in a disposal container. Avoid runoff into storm sewers and ditches which lead to waterways

SECTION 7 - HANDLING AND STORAGE

Avoid contact with skin, eyes and clothing. Use with adequate ventilation. Use normal personal hygiene and housekeeping. Keep container closed. Store in cool, dry area away from ignition sources and oxidizers.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

RESPIRATORY PROTECTION: Use NIOSH/MSHA approved respirators.

VENTILATION REQUIREMENTS: Use in an approved fume hood or with adequate ventilation.

SKIN AND EYE PROTECTION: Use PVA or equivalent gloves, chemical goggles and clothing sufficient to protect skin.

WORK, HYGIENIC PRACTICES:

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:

4,5-Dicyanoimidazole: Not Available

OSHA – VPEL:

<u>Component</u>	<u>TWA</u>		<u>STEL</u>	
	<u>PPM</u>	<u>MG/M³</u>	<u>PPM</u>	<u>MG/M³</u>
Acetonitrile	40	70	60	105

ACGIH-TLV:

<u>Component</u>	<u>TWA</u>		<u>STEL</u>	
	<u>PPM</u>	<u>MG/M³</u>	<u>PPM</u>	<u>MG/M³</u>
Acetonitrile	40	67	60	101

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point (@760mmHg): 117.1 °F (Acetonitrile)

Vapor Pressure (MM Hg): 72.80 mmHg (Acetonitrile)

Vapor Density (AIR=1): 1.410 (Acetonitrile)

Specific Gravity (H₂O=1): 0.787 (Acetonitrile)

Percent Volatile by Volume (%): 100% (Acetonitrile)

Melting Point: -43.3 °F (Acetonitrile)

Evaporation Rate (Butyl Acetate=1): 2.33 (Acetonitrile)

Solubility in Water: Soluble

pH: Not Available

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 Dioxide, Carbon Monoxide, Hydrogen Cyanide, and Nitrogen Oxides.

KEEP AWAY FROM: Heat, contact with ignition sources, strong mineral acids, strong oxidizers, weak alkalis.

SECTION 11 - TOXICOLOGICAL INFORMATION

Oral rat LD50: 2460mg/kg (Acetonitrile)

Skin rat LD50: 1250uL/kg (Acetonitrile)

Inhalation rat LC50: 7551 ppm/8H

SECTION 12 - ECOLOGICAL INFORMATION

Environmental Fate: When released into the soil, this material may biodegrade to a moderate extent. When released into the soil, this material is expected to leach into groundwater. When released into the soil, this material may evaporate to a moderate extent. When released into water, this material may biodegrade to a moderate extent. When released into water, this material may evaporate to a moderate extent. This material has an estimated bioconcentration factor (BCF) of less than 100. This material is not expected to significantly bioaccumulate. When released into the air, this material is not expected to react with photochemically produced hydroxyl radicals. When released into the air, this material may be removed from the atmosphere to a moderate extent by wet deposition. When released into the air, this material is expected to have a half-life of greater than 30 days.

Environmental Toxicity: This material is not expected to be toxic to aquatic life. The LC50/96-hour values for fish are over 100 mg/l.

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste should be sent to a RCRA approved waste facility. Dispose of in accordance with all federal, state and local regulations.

SECTION 14 - TRANSPORTATION INFORMATION

D.O.T. SHIPPING NAME: Acetonitrile Solution
TECHNICAL SHIPPING NAME: SAME
U.N./NUMBER: UN1648
D.O.T. HAZARD CLASS AND GROUP NUMBER: 3, II
D.O.T. PLACARD: Flammable
PRODUCT LABEL: DCI Activator Solution
OTHER INFORMATION: None.

SECTION 15 - REGULATORY INFORMATION

OSHA STATUS: 4,5-Dicyanoimidazole – Not listed
Acetonitrile – Not listed

TSCA STATUS: This product is a mixture. The CAS numbers of Acetonitrile is listed on the TSCA inventory. That of 4,5-Dicyanoimidazole is not listed.

CERCLA REPORTABLE REQUIREMENTS: (RQ)
4,5-Dicyanoimidazole – None
Acetonitrile – 5000

SARA TITLE III INFORMATION:
Section 302 Extremely Hazardous Substance: Not listed

Section 311/312 Hazard Category: Acetonitrile: Fire hazard, Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard.

SARA 313 Components - 40 CFR 372.65

Section 313 Component(s)	CAS Number	%
ACETONITRILE	75-05-8	> 89
4,5-Dicyanoimidazole	1124-28-7	< 11

State and Local Regulations
California Proposition 65

The following statement is made in order to comply with the California Safe Drinking Water and Toxic Enforcement Act of 1986: This product contains the following substance(s) known to the state of California to cause cancer.

SECTION 15 - REGULATORY INFORMATION Continued:

4,5-Dicyanoimidazole in Acetonitrile, 0.7 M
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ACRYLONITRILE

New Jersey RTK Label Information
ACETONITRILE 75-05-8

Pennsylvania RTK Label Information
ACETONITRILE (environmental hazard, generic environmental hazard) 75-05-8

SECTION 16 - OTHER INFORMATION

Cyanide antidote kits (such as Eli Lilly Co. Kit No M-76 - cyanide package) are available by prescription. To obtain a kit you must: 1) obtain a prescription from your physician; 2) go to a local pharmacy and ask the pharmacist to order the kit for you. There is an expiration date on the kit. It must be replaced before it expires; 3) place this kit with your safety or first aid supplies. Do not lock it in a desk or cabinet as valuable time may be wasted trying to get the kit if a cyanide exposure occurs; 4) read the instructions provided and train your employees in the proper use of amyl nitrite as first aid.

NFPA Rating: Health (1) Fire (3) Reactivity (0)

Reason for Issue: New Product

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