



Health	2
Fire	1
Reactivity	0
Personal Protection	E

Material Safety Data Sheet Cyanamide MSDS

Section 1: Chemical Product and Company Identification

Product Name: Cyanamide

Catalog Codes: SLC4507

CAS#: 420-04-2

RTECS: GS5950000

TSCA: TSCA 8(b) inventory: Cyanamide

CI#: Not available.

Synonym: Alzogur; Amidocyanogen; Carbamonitrile; Carboiimide; Carbimide; Cyanogen nitride; Cyanomine; Cyanogenamide; Hydrogen cyanamide; N-Cyanoamine

Chemical Name: Cyanamide

Chemical Formula: CH₂N₂

Contact Information:

Sciencelab.com, Inc.

14025 Smith Rd.

Houston, Texas 77396

US Sales: **1-800-901-7247**

International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call:

1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Cyanamide	420-04-2	100

Toxicological Data on Ingredients: Cyanamide: ORAL (LD50): Acute: 125 mg/kg [Rat]. 388 mg/kg [Mouse]. 150 mg/kg [Rabbit]. DERMAL (LD50): Acute: 590 mg/kg [Rabbit]. 84 mg/kg [Rat].

Section 3: Hazards Identification

Potential Acute Health Effects:

Hazardous in case of skin contact (irritant, sensitizer, permeator), of eye contact (irritant), of ingestion, of inhalation. Severe over-exposure can result in death.

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to the nervous system, skin. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Section 4: First Aid Measures

Eye Contact:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.

Skin Contact:

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Serious Skin Contact:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Inhalation:

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

Serious Inhalation:

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

Ingestion:

If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: May be combustible at high temperature.

Auto-Ignition Temperature: Not available.

Flash Points: CLOSED CUP: 141°C (285.8°F). (Setaflash)

Flammable Limits: Not available.

Products of Combustion: These products are carbon oxides (CO, CO₂), nitrogen oxides (NO, NO₂...).

Fire Hazards in Presence of Various Substances: Slightly flammable to flammable in presence of open flames and sparks, of heat.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions:

SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Special Remarks on Fire Hazards: When heated to decomposition it emits toxic fumes of hydrogen chloride, and nitrogen oxides.

Special Remarks on Explosion Hazards: Not available.

Section 6: Accidental Release Measures

Small Spill: Use appropriate tools to put the spilled solid in a convenient waste disposal container.

Large Spill:

Poisonous solid. Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. Call

for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage

Precautions:

Keep away from heat. Keep away from sources of ignition. Do not ingest. Do not breathe dust. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, reducing agents, metals, acids, alkalis.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area. Refrigerate

Section 8: Exposure Controls/Personal Protection

Engineering Controls:

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection:

Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:

TWA: 2 (mg/m³) [Canada] TWA: 2 (mg/m³) from ACGIH (TLV) [United States] TWA: 2 (mg/m³) from NIOSH [United States] TWA: 2 (mg/m³) from OSHA (PEL) [United States] TWA: 2 (mg/m³) [France] TWA: 2 (mg/m³) [Belgium] TWA: 2 (mg/m³) [Switzerland] TWA: 2 (mg/m³) [United Kingdom (UK)]³ Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance:

Solid. (Deliquescent solid. Deliquescent crystals solid.)

Odor: Not available.

Taste: Not available.

Molecular Weight: 42.04 g/mole

Color: Not available.

pH (1% soln/water): Not available.

Boiling Point: 83°C (181.4°F)

Melting Point: 45.5°C (113.9°F)

Critical Temperature: Not available.

Specific Gravity: 1.282 (Water = 1)

Vapor Pressure: Not applicable.

Vapor Density: 1.45 (Air = 1)

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water.

Solubility: Soluble in cold water.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability:

Stable below 25 deg. C, Will polymerize at temperatures above 40 C., incompatible materials, moisture, flames (ignition sources)

Incompatibility with various substances: Reactive with oxidizing agents, reducing agents, metals, acids, alkalis.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity:

Also incompatible with temperatures above 104 F (40 C), 1,2-phenylene diamine salts, moisture. Contact with acid or acid fumes, emits toxic fumes. It is thermally unstable. At higher temperatures, particularly above the melting point (at approximately 122 deg. C), decomposition (polymerization) to dicyandiamide and urea becomes rapid. Above 40 deg. C, violent thermal decomposition will occur. It attacks various metals; i.e, brass, copper, iron, lead, and tin plate.

Special Remarks on Corrosivity: Not available.

Polymerization:

Will not occur if stored at temperatures below 25 deg. C. However it will occur at higher temperatures, particularly above 40 deg. C.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Dermal contact. Inhalation. Ingestion.

Toxicity to Animals:

Acute oral toxicity (LD50): 125 mg/kg [Rat]. Acute dermal toxicity (LD50): 84 mg/kg [Rat].

Chronic Effects on Humans: May cause damage to the following organs: the nervous system, skin.

Other Toxic Effects on Humans: Hazardous in case of skin contact (irritant, sensitizer, permeator), of ingestion, of inhalation.

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: May cause adverse reproductive effects based on animal test data

Special Remarks on other Toxic Effects on Humans:

Acute Potential Health Effects: Skin: Causes severe skin irritation. It may produce severe dermatitis on moist skin. Harmful if absorbed through the skin. Eyes: Causes severe eye irritation, lacrimation. May cause conjunctivitis, ulceration of the cornea. Inhalation: Causes respiratory tract and mucous membrane irritation. May affect behavior/central nervous system (headache, dizziness, vertigo). It may also result in transitory redness of face, increased respirations, tachycardia, and hypotension. May cause dyspnea, sensation of chest pressure or discomfort, pneumonitis or pulmonary edema. Ingestion: Harmful if swallowed. Causes gastrointestinal/digestive tract irritation with nausea, vomiting. May affect behavior/central nervous system/nervous system (headache, dizziness, vertigo, twitching). It may also result in transitory redness of face, increased respirations, tachycardia, and hypotension. May also cause salivation, miosis, lacrimation. It does not cause cyanide poisoning. Chronic Potential Health Effects: Prolonged or repeated ingestion and inhalation may have similar effects as acute inhalation and ingestion. Prolonged or repeated inhalation may cause chronic rhinitis, ulceration of the nasal septum. Prolonged or repeated skin contact can cause allergic contact dermatitis.

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are less toxic than the product itself.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

DOT Classification: CLASS 6.1: Poisonous material.

Identification: : Cyanide, inorganic solid, n.o.s (Cyanamide) UNNA: 1588 PG: III

Special Provisions for Transport: Not available.

Section 15: Other Regulatory Information

Federal and State Regulations:

Illinois toxic substances disclosure to employee act: Cyanamide Rhode Island RTK hazardous substances: Cyanamide
Pennsylvania RTK: Cyanamide Florida: Cyanamide Minnesota: Cyanamide Massachusetts RTK: Cyanamide New Jersey:
Cyanamide TSCA 8(b) inventory: Cyanamide

Other Regulations: OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

Other Classifications:

WHMIS (Canada):

CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC). CLASS D-2B: Material causing other toxic effects (TOXIC).

DSCL (EEC):

R21- Harmful in contact with skin. R25- Toxic if swallowed. R36/38- Irritating to eyes and skin. R43- May cause sensitization by skin contact. S3- Keep in a cool place. S22- Do not breathe dust. S36/37- Wear suitable protective clothing and gloves. S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 1

Reactivity: 0

Personal Protection: E

National Fire Protection Association (U.S.A.):

Health: 4

Flammability: 1

Reactivity: 0

Specific hazard:

Protective Equipment:

Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

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