



# Safety Data Sheet (Dicyandiamide)

DATE PREPARED: 10/12/2012  
REVISION NUMBER: 10/12/2012

## Section 1 – Company Information

**Parchem - fine & specialty chemicals**  
**415 Huguenot Street**  
**New Rochelle, NY 10801**  
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🌐 [parchem.com](http://parchem.com) ✉ [info@parchem.com](mailto:info@parchem.com)

EMERGENCY RESPONSE NUMBER:  
CHEMTEL - Parchem CCN# M1S0007152  
Toll Free US & Canada: (800)255-3924  
All other Origins: (813) 248-0585  
Collect Calls Accepted

## Section 2 – Product Identification/ Information on Ingredients

PRODUCT NAME Dicyandiamide  
CAS NUMBER 461-58-5  
SYNONYM Cyanoguanidine; Dicyanodiamide; 1-Cyanoguanidine; N-Cyanoguanidine;  
Dicyandiamine; Dicyandiamin  
FORMULA  $C_2H_4N_4$

PRODUCT	CAS NUMBER	% BY WEIGHT
Dicyandiamide	461-58-5	100%

## Section 3 – Hazards Identification

**Appearance:** white powder.

**Caution!** Harmful. Methemoglobin former - can cause cyanosis. May be harmful if swallowed. May cause irritation. May cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood).

**Target Organs:** Blood.

### Potential Health Effects

**Eye:** May cause eye irritation.

**Skin:** May cause skin irritation. Long-term exposure may cause eczema.

**Ingestion:** May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May be harmful if swallowed. May form methemoglobin which in sufficient concentration causes cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood).

**Inhalation:** May cause respiratory tract irritation. May cause irritation of the mucous membranes.

**Chronic:** Absorption into the body leads to the formation of methemoglobin which in sufficient concentrations causes cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood). Prolonged or repeated contact may cause possible eczema. Effects may be delayed 2-4 hours or so.

## Section 4 – First Aid Measures

**Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.



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**Skin:** Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

**Ingestion:** Never give anything by mouth to an unconscious person. Get medical aid immediately. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

**Inhalation:** Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

**Notes to Physician:** Treat symptomatically and supportively.

### Section 5 – Fire Fighting Measures

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Dust can be an explosion hazard when exposed to heat or flame.

**Extinguishing Media:** Use water spray, dry chemical, carbon dioxide, or appropriate foam.

**Flash Point:** Not applicable.

**Autoignition Temperature:** Not applicable.

**Explosion Limits, Lower:** Not available.

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 1; Flammability: 0; Instability: 1

### Section 6 – Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Sweep up, then place into a suitable container for disposal. Avoid generating dusty conditions. Provide ventilation.

### Section 7 – Handling & Storage

**Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation.

**Storage:** Keep container closed when not in use. Store in a cool, dry area away from incompatible substances.

### Section 8 – Exposure Controls & Personal Protection

**Engineering Controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.



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## Exposure Limits:

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Dicyandiamide	none listed	none listed	none listed

**OSHA Vacated PELs:** Dicyandiamide: No OSHA Vacated PELs are listed for this chemical.

## Personal Protective Equipment

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate protective gloves and clothing to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

## Section 9 – Physical & Chemical Properties

**Physical State:** Powder

**Appearance:** white

**Odor:** no odor

**pH:** Not available.

**Vapor Pressure:** Negligible.

**Vapor Density:** Not available.

**Evaporation Rate:** Not available.

**Viscosity:** Not available.

**Boiling Point:** Not available.

**Freezing/Melting Point:** 208.00 - 211.00 deg C

**Decomposition Temperature:** Not available.

**Solubility:** 2.26% @ 13 °C

**Specific Gravity/Density:** 1.400

**Molecular Formula:** C<sub>2</sub>H<sub>4</sub>N<sub>4</sub>

**Molecular Weight:** 84.08

## Section 10 – Stability & Reactivity Data

**Chemical Stability:** Stable under normal temperatures and pressures.

**Conditions to Avoid:** Incompatible materials, strong oxidants, mixture with ammonium nitrate, potassium chlorate and related compounds are powerful explosives..

**Incompatibilities with Other Materials:** Strong oxidizing agents, strong acids, strong bases, ammonium nitrate, potassium chlorates.

**Hazardous Decomposition Products:** Hydrogen cyanide, nitrogen oxides, carbon monoxide, carbon dioxide, cyanide fumes, ammonia.

**Hazardous Polymerization:** Has not been reported.



### Section 11 – Toxicological Information

**RTECS#:**

**CAS#** 461-58-5: ME9950000

**LD50/LC50:**

CAS# 461-58-5:

Oral, mouse: LD50 = >10 gm/kg;

**Carcinogenicity:**

CAS# 461-58-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**Epidemiology:** No information found

**Teratogenicity:** No information found

**Reproductive Effects:** No information found

**Mutagenicity:** No information found

**Neurotoxicity:** No information found

**Other Studies:**

### Section 12 – Ecological Information

**Ecotoxicity:** No data available. No information available.

**Environmental:** May have high mobility in soil, biodegradation in soil may be an important process. Volatilization is not expected to be important from moist soil surfaces. In water, should not adsorb to suspended solids and sediment, not expected to volatilize from surface. Bioconcentration in aquatic organisms is low, biodegradation may occur under both aerobic and anaerobic conditions. Will exist solely as a vapor in the ambient atmosphere. Degraded by reaction with photochemically produced hydroxyl radicals.

**Physical:** Degradation in air: half-life (estimated) = 9 hours.

**Other:** No information available.

### Section 13 – Disposal Consideration

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P-Series:** None listed.

**RCRA U-Series:** None listed.



Section 14 – Transportation Data

	US DOT	Canada TDG
<b>Shipping Name:</b>	Not regulated as a hazardous material	No information available.
<b>Hazard Class:</b>		
<b>UN Number:</b>		
<b>Packing Group:</b>		

Section 15 – Regulatory Information

**US FEDERAL**

**TSCA:** CAS# 461-58-5 is listed on the TSCA inventory.

**Health & Safety Reporting List:** None of the chemicals are on the Health & Safety Reporting List.

**Chemical Test Rules:** None of the chemicals in this product are under a Chemical Test Rule.

**Section 12b:** None of the chemicals are listed under TSCA Section 12b.

**TSCA Significant New Use Rule:** None of the chemicals in this material have a SNUR under TSCA.

**CERCLA Hazardous Substances and corresponding RQs:** None of the chemicals in this material have an RQ.

**SARA Section 302 Extremely Hazardous Substances:** None of the chemicals in this product have a TPQ.

**Section 313** No chemicals are reportable under Section 313.

**Clean Air Act:**

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

**Clean Water Act:**

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

**OSHA:** None of the chemicals in this product are considered highly hazardous by OSHA.

**STATE:** CAS# 461-58-5 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

**California Prop 65:** California No Significant Risk Level: None of the chemicals in this product are listed.

**European/International Regulations:**

**European Labeling in Accordance with EC Directives**

**Hazard Symbols:** XN

**Risk Phrases:** R 20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

**Safety Phrases:** S 24/25 Avoid contact with skin and eyes.

**WGK (Water Danger/Protection):** CAS# 461-58-5: 1



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**Canada - DSL/NDSL:** CAS# 461-58-5 is listed on Canada's DSL List.

**Canada - WHMIS:** This product has a WHMIS classification of D1B, D2B.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

**Canadian Ingredient Disclosure List:**

Section 16 – Other Information
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Disclaimer

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.

