

SAFETY DATA SHEET

1. Identification

Product identifier Dicyandiamide

Other means of identification

SDS Number KAS_DCD_US_EN

Recommended use Not available.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer/Supplier Koch Agronomic Services, LLC
4111 E 37th St N
Wichita, KS 67220 US
kochmsds@kochind.com
1.866.863.5550

Emergency For Chemical Emergency
Call CHEMTREC day or night
USA/Canada - 1.800.424.9300
Mexico - 1.800.681.9531
Outside USA/Canada - 1.703.527.3887
(collect calls accepted)

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Hazard symbol None.

Signal word None.

Hazard statement The mixture does not meet the criteria for classification.

Precautionary statement

Prevention Observe good industrial hygiene practices.

Response Wash hands after handling.

Storage Store away from incompatible materials.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC) None known.

3. Composition/information on ingredients

Substances

Chemical name	Common name and synonyms	CAS number	%
Dicyandiamide		461-58-5	100

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume. This Safety Data Sheet is not a guarantee of product specification or NPK value(s). NPK content is on specified sales orders, customer invoices, or product specification sheets obtained from supplier.

4. First-aid measures

Inhalation Move person to fresh air. Get medical attention if any discomfort continues.

Skin contact Wash off with plenty of water. Get medical attention if irritation develops or persists.

Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth thoroughly if dust is ingested. Get medical attention if any discomfort occurs.
Most important symptoms/effects, acute and delayed	Eye contact: Symptoms can include irritation, redness, scratching of the cornea, and tearing. Skin contact: Mild skin irritation. Dust may irritate throat and respiratory system and cause coughing.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media	High volume water jet.
Specific hazards arising from the chemical	The product is not flammable. Will burn if involved in a fire.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing should be worn when fighting chemical fires. Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace.
Fire-fighting equipment/instructions	Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do it without risk.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Avoid inhalation of dust and contact with skin and eyes. Ensure adequate ventilation. Wear suitable protective clothing. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Stop the flow of material, if this is without risk. Prevent entry into waterways, sewer, basements or confined areas. Avoid dust formation. Sweep up or vacuum up spillage and collect in suitable container for disposal. If sweeping of a contaminated area is necessary use a dust suppressant agent which does not react with the product. After removal flush contaminated area thoroughly with water.
Environmental precautions	Never return spills to original containers for re-use. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Do not allow to enter drains, sewers or watercourses.

7. Handling and storage

Precautions for safe handling	Avoid generation and spreading of dust. Avoid inhalation of dust and contact with skin and eyes. Use with adequate ventilation. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Keep container tightly closed. Store in a cool, dry, well-ventilated place. Store away from incompatible materials.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Dust	PEL	5 mg/m ³ 15 mg/m ³	Respirable fraction. Total dust.

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
Dust	TWA	5 mg/m ³ 15 mg/m ³ 50 millions of particle 15 millions of particle	Respirable fraction. Total dust. Total dust. Respirable fraction.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Dust	TWA	3 mg/m3 10 mg/m3	Respirable particles. Inhalable particles.
Biological limit values	No biological exposure limits noted for the ingredient(s).		
Appropriate engineering controls	Provide adequate general and local exhaust ventilation. Observe occupational exposure limits and minimize the risk of inhalation of dust.		
Individual protection measures, such as personal protective equipment			
Eye/face protection	Risk of contact: Wear dust goggles.		
Skin protection			
Hand protection	For prolonged or repeated skin contact use suitable protective gloves. Suitable gloves can be recommended by the glove supplier.		
Other	Normal work clothing (long sleeved shirts and long pants) is recommended.		
Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Wear air supplied respiratory protection if exposure concentrations are unknown. In case of inadequate ventilation or risk of inhalation of dust, use suitable respiratory equipment with particle filter. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA 29 CFR 1910.134 and ANSI Z88.2.		
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.		
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Handle in accordance with good industrial hygiene and safety practice.		

9. Physical and chemical properties

Appearance	White powder.
Physical state	Solid.
Form	White powder.
Color	White.
Odor	Slight.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	410 °F (210 °C)
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor density	Not applicable.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Soluble in water.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.

Viscosity Not available.

Other information

Density 1.40 g/cm³

10. Stability and reactivity

Reactivity The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability Stable when dry. Will decompose in water above 176°F (80°C).

Possibility of hazardous reactions Will not occur.

Conditions to avoid Avoid dust formation. High temperatures.

Incompatible materials Strong oxidizing agents. Strong acids. Strong bases.

Hazardous decomposition products Nitrogen Oxides. Ammonia.

11. Toxicological information

Information on likely routes of exposure

Ingestion Ingestion may cause irritation and malaise.

Inhalation Dust may irritate respiratory system.

Skin contact Dust may irritate skin.

Eye contact Dust may irritate the eyes.

Symptoms related to the physical, chemical and toxicological characteristics Eye contact: Symptoms can include irritation, redness, scratching of the cornea, and tearing.
Skin contact: Mild skin irritation.
Dust may irritate throat and respiratory system and cause coughing.

Information on toxicological effects

Acute toxicity May cause discomfort if swallowed.

Product	Species	Test Results
Dicyandiamide		
Acute		
<i>Oral</i>		
LD50	Rat	> 10000 mg/kg

Skin corrosion/irritation May cause irritation through mechanical abrasion.

Serious eye damage/eye irritation May cause irritation through mechanical abrasion.

Respiratory or skin sensitization

Respiratory sensitization No data available.

Skin sensitization Not a skin sensitizer.

Germ cell mutagenicity Based on available data, the classification criteria are not met.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

Reproductive toxicity Based on available data, the classification criteria are not met.

Specific target organ toxicity - single exposure Based on available data, the classification criteria are not met.

Specific target organ toxicity - repeated exposure Based on available data, the classification criteria are not met.

Aspiration hazard Based on available data, the classification criteria are not met.

Chronic effects Frequent inhalation of dust over a long period of time increases the risk of developing lung diseases. Prolonged exposure may cause chronic effects.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence and degradability No data available.

Bioaccumulative potential No data available.

Mobility in soil This product is water soluble and may disperse in soil.

Other adverse effects Not known.

13. Disposal considerations

Disposal instructions	Do not allow this material to drain into sewers/water supplies. Dispose in accordance with all applicable regulations.
Local disposal regulations	Dispose of in accordance with local regulations.
Hazardous waste code	Not regulated.
Waste from residues / unused products	Disposal recommendations are based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information

US federal regulations This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - No Delayed Hazard - No Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No
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SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

US. Massachusetts RTK - Substance List

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. Rhode Island RTK

Not regulated.

US. California Proposition 65**US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance**

Not listed.

International Inventories

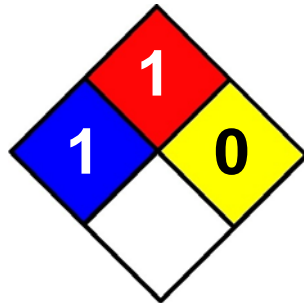
Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	09-May-2014
Revision date	-
Version #	01
Further information	HMIS® is a registered trade and service mark of the NPCA.
HMIS® ratings	Health: 1 Flammability: 1 Physical hazard: 0

NFPA Ratings

List of abbreviations	LD50: Lethal Dose, 50%. LC50: Lethal Concentration, 50%.
References	ACGIH ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices HSDB® - Hazardous Substances Data Bank ECHA registered substances database

Disclaimer	<p>NOTICE: The information presented herein is based on data considered to be accurate as of the date of preparation of this Safety Data Sheet (SDS) and was prepared pursuant to Government regulation(s) that identify specific types of information to be provided. This SDS may not be used as a commercial specification sheet of manufacturer or seller, and no warranty or representation, expressed or implied, is made as to the accuracy or comprehensiveness of the foregoing data and safety information, nor is any authorization given or implied to practice any patented invention without a license. Additional information may be needed to evaluate other uses of the product, including use of the product in combination with any materials or in any processes other than those specifically referenced. Information provided herein with respect to any hazards that may be associated with the product is not meant to suggest that use of the product in a given application will necessarily result in any exposure or risk to workers or the general public. No responsibility can be assumed by vendor for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices, or from any hazards inherent in the nature of the product. Purchasers and users assume all risk of use, storage and handling of the product in compliance with applicable federal, state and local laws and regulations. Purchasers and users of the product specifically should advise all of their employees, agents, contractors and customers who will use the product of this (M)SDS.</p>
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