Green Chemicals Co., Ltd.
Address: No.6,DingLan Road, AoYang Industrial Park, FuNing,YanCheng, P.R.China
Contact: Manager Jiang Tel: +86-515-87883661 E-mail:market@greenchem-china.com

MATERIAL SAFETY DATA SHEET

Version 2.0
Revision Date: 05/11/2020

1. CHEMICAL PRODUCT & COMPANY INFORMATION

Product name	Dicyanodiamide
other names	Metformin impurity A
Company Information:	Green Chemicals Co., Ltd
location:	No.6, DingLan Road, AoYang Industrial Park, FuNing,YanCheng, P.R.China
Phone Number:	+86-51-87883661
Email:	market@greenchem-china.com
Website:	www.greenchem-china.com/
Use:	For industrial use only

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Not classified.

2.2 GHS label elements, including precautionary statements

Pictogram(s)	No symbol.
Signal word	No signal word.
Hazard statement(s)	None
Precautionary statement(s)	
Prevention:	None
Response：	None
Storage：	None
Disposal：	None

2.3 Other hazards which do not result in classification

none

3. Composition/information on ingredients

3.1 Substances

Chemical name	Common names and synonyms	CAS Number	EC Number	Concentration
Dicyanodiamide	Dicyanodiamide	461-58-5	none	100%

4. First-aid measures

4.1 Description of necessary first-aid measures：

General advice:

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled:

Fresh air, rest.

In case of skin contact:

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact:

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

If swallowed:

Rinse mouth. Give one or two glasses of water to drink.

4.2 Most important symptoms/effects, acute and delayed

no data available

4.3 Indication of immediate medical attention and special treatment needed, if necessary

no data available

5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

In case of fire in the surroundings, use appropriate extinguishing media.

5.2 Specific hazards arising from the chemical no data available

5.3 Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

6.2 Environmental precautions

Sweep spilled substance into sealable containers. If appropriate, moisten first to prevent dusting. Then store and dispose of according to local regulations.

6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal. Sweep up and shovel. Keep in suitable, closed containers for disposal.

7. Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use.Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Separated from strong oxidants and strong acids.

8. Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure limit values:

no data available

Biological limit values:

no data available

8.2 Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Wear impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique(without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Respiratory protection

Wear dust mask when handling large quantities.

Thermal hazards

no data available

9. Physical and chemical properties

Physical state	White crystalline powder
Colour	MONOCLINIC PRISMATIC CRYSTALS FROM WATER OR ALCOHOL
Odour	Odorless
Melting point/ freezing point	-45°C(lit.)
Boiling point or initial boiling point and boiling range	60°C/17mmHg(lit.)
Flammability	Not combustible. Gives off irritating or toxic fumes (or gases) in a fire.
Lower and upper explosion limit/ flammability limit	no data available
Flash point	82°C(lit.)
Auto-ignition temperature	no data available
Decomposition temperature	no data available
pH	no data available
Kinematic temperature	no data available
Solubility	In water:32 g/L (20 °C)
Partition coefficient n-octanol/water (log value)	Log P= -1.15
Vapour pressure	0.068mmHg at 25°C
Density and/or relative density	1.4
Relative vapour density	no data available
Partical characteristics	no data available

10. Stability and reactivity

10.1 Reactivity	no data available
10.2 Chemical stability	STABLE WHEN DRY
10.3 Possibility of hazardous reactions	NON-FLAMMABLE.
10.4 Conditions to avoid	no data available
10.5 Incompatible materials	no data available
10.6 Hazardous decomposition products	no data available

11. Toxicological information

11.1 Acute toxicity

Oral:	no data available
Inhalation:	no data available
Dermal:	no data available
11.2 Skin corrosion/irritation	no data available
11.3 Serious eye damage/irritation	no data available
11.4 Respiratory or skin sensitization	no data available
11.5 Germ cell mutagenicity	no data available
11.6 Carcinogenicity	no data available
11.7 Reproductive toxicity	no data available
11.8 STOT-single exposure	no data available
11.9 STOT-repeated exposure	no data available
11.10 Aspiration hazard	no data available

12. Ecological information

12.1 Toxicity

Toxicity to fish:	no data available
Toxicity to daphnia and other aquatic invertebrates:	no data available
Toxicity to algae:	no data available
Toxicity to microorganisms:	no data available
12.2 Persistence and degradability	no data available

Cyanoguanidine, at 30 mg/l, reached only 2.2% of the theoretical BOD in two weeks using a sludge inoculum(1). Biodegradation of cyanoguanidine was measured in six soils, five collected from Sri Lankan tea plantations and one grassland soil from Highfield, UK; in the near-neutral Highfield soil (pH = 6.8), 10.2 and 41.6% of the cyanoguanidine-N was mineralized after 12 and 60 days, respectively(2). In the other, more acidic soils (pH = 4.0-4.3), only a small percentage of the added cyanoguanidine-N was mineralized to ammonia and nitrate nitrogen; mineralization after 60 days was only 10-25% that of the Highland soil(2). Mineralization was correlated with soil pH but not with organic matter content or total nitrogen(2). Cyanoguanidine, at 20 mg/l was added to flooded sediments; complete degradation was reported within 34-44 weeks for aerobic conditions, while under anaerobic conditions two-thirds of the initial concentration was degraded within 60 weeks(3).

12.3 Bioaccumulative potential no data available

BCF values of <0.3 and <3.1 were measured for cyanoguanidine at 2 and 0.2 mg/l, respectively, in carp(1). According to a classification scheme(2), these BCF values suggest that bioconcentration in aquatic organisms is low(SRC).

12.4 Mobility in soil no data available

The Koc of cyanoguanidine is estimated as approximately 6(SRC), using a measured log Kow of -1.15(1) and a regression-derived equation(2,SRC). According to a recommended classification scheme(3), this estimated Koc value suggests that cyanoguanidine has very high mobility in soil(SRC). However, when leaching of cyanoguanidine following mineral fertilization, slurry manuring and decomposition under simulated ground water conditions (silty loam, pH 6.5) was measured in lysimeters(4). After mineral feeding, only 0.6-0.9% of the cyanoguanidine applied in 5 years was leached with the highest leaching rate occurring in October (with 5.6% leached of the added amount)(4).

12.5 Other adverse effects no data available

13. Disposal considerations

13.1 Disposal methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

14. Transport information

14.1 UN Number

ADR/RID:	UN3286
IMDG:	UN3287
IATA:	UN3288

14.2 UN Proper Shipping Name

ADR/RID:	FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.
IMDG:	FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.
IATA:	FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.

14.3 Transport hazard class(es)

ADR/RID:	3
IMDG:	3
IATA:	3

14.4 Packing group, if applicable

ADR/RID:	II
IMDG:	II
IATA:	II

14.5 Environmental hazards

ADR/RID: no
IMDG: no
IATA: no
14.6 Special precautions for user no data available
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
no data available

15. Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS Number	EC Number
Dicyanodiamide	Dicyanodiamide	461-58-5	none
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Not Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.

16. OTHER INFORMATION

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. Yancheng Green Chemicals Co.,Ltd shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.