

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

| | |
|---------------|--|
| Product name: | 2,2-dibromo-2-cyanoacetamide |
| Synonyms: | DBNPA 98%min ;2-cyano-2,2-dibromo-acetamid |
| Cat. No.: | T2005-088 |
| CAS No.: | 10222-01-2 |
| EC No.: | 233-539-7 |

1.2 Relevant identified uses of the substance or mixture and uses advised against

| | |
|-----------------------|--|
| Identified uses: | Laboratory chemicals, manufacture of substances. |
| Uses advised against: | A microbiocidal bactericide, fungicide, algicide and slimicide, in treating industrial cooling water systems and pulp & paper mills. |

1.3 Details of the supplier of the SDS

| | |
|---------------|--|
| Manufacturer: | Hefei TNJ Chemical Industry Co.,Ltd. |
| Address: | D1508 Xincheng Center, Qianshan Road, Zhengwu District,Hefei, Anhui 230022 China |
| E-mail: | sales@tnjchem.com |
| Telephone: | + 86 551 65418684 |
| Fax: | + 86 551 65418697 |

1.4 Emergency telephone number

In China: + 86 551 65418684 (Monday to Friday, 8:30a.m. to 5:30p.m.,Beijing Time)

Section 2: Hazards identification

2.1 Classification of the substance or mixture

Classification

Acute toxicity (oral, dermal) 4


Eye Damage 1

Skin Irritation 2

Skin Sensitisation 1

Aquatic acute 1

2.2 GHS Label elements, including precautionary statements

| | |
|----------------------|---|
| Hazard pictogram(s): | Labelling according to Regulation (EC) No 1272/2008 (CLP)  |
| Signal word: | Danger |
| Hazard Statements: | Hazard statements H302 Harmful if swallowed H315 Causes skin irritation H317 May cause an allergic skin reaction H318 Causes serious eye damage H400 Very toxic to aquatic life Precautionary statements P261 - Avoid breathing dust/fume/gas/mist/vapours/spray. P280 - Wear protective gloves/protective clothing/eye protection/face protection. P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P302 + P352 - IF ON SKIN: Wash with plenty of soap and water. P304 + P340- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 - Immediately call a POISON CENTER or doctor/physician. |

2.3 Other hazards

Eye: Corrosive.

Dermal: Irritant. May cause skin sensitization

Inhalation: Irritating to upper respiratory tract. In severe cases pulmonary edema may be developed

Ingestion: Irritating to mouth and gastrointestinal tract

Section 3: Composition/information on ingredients

3.1 Component information

| Ingredients | CAS No. | Content (%) |
|-----------------------------------|------------|-------------|
| 2,2-dibromo-3-nitrilopropionamide | 10222-01-2 | 98% |

Section 4: First aid measures

| | |
|---------------------|---|
| Eye contact | Holding the eyelids apart, flush eyes promptly with copious flowing water for at least 20 minutes. Get medical attention immediately. |
| Skin contact | Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or |

| | |
|----------------------------|--|
| | doctor for treatment advice. |
| Inhalation | In case of dust inhalation or breathing fumes released from heated material, remove person to fresh air. Keep him quiet and warm. Apply artificial respiration if necessary and get medical attention immediately. |
| Ingestion | If swallowed, wash mouth thoroughly with plenty of water and give water to drink. Get medical attention immediately. Never give an unconscious person anything to drink. |
| Note to Physicians: | In case of ingestion, DO NOT induce vomiting. No specific antidote. Treat symptomatically and supportively. |

Section 5: Fire-fighting measures

Extinguishing Media:

Material is not combustible. Use extinguishing media appropriate to surrounding fire conditions.

Fire and Explosion Hazards:

Not Available

Hazardous products of combustion:

When heated to decomposition, may release poisonous and corrosive fumes.

Fire Fighting Equipment:

Cool containers with water spray. Fire fighters should wear full protective clothing and self-contained breathing apparatus (SCBA) in positive pressure mode.

Section 6: Accidental release measures

Personal Precautions:

Wear self-contained breathing apparatus, full PVC clothing, PVC gloves and boots.

Environmental Precautions:

Prevent entry into sewers and watercourses

Methods for clean-up:

Small Spill:

Sweep up, place in a bag and hold for waste disposal or possible re-use Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Large Spill:

Not Available

Section 7: Handling and storage

Handling:

Keep containers tightly closed. Avoid producing or diffusing dust into the air.

Incompatible products: Not Available

Engineering Measures: Not Available

Storage:

Store in a dry, cool, well-ventilated and shaded area, way from heat sources, away from incompatible materials (see "materials to avoid").

Section 8 : Exposure controls/personal protection

Exposure Limits:

2,2-Dibromo-3-nitrilopropionamide

OSHA Permissible Exposure Limits (PELs):

Not Available

American Conference of Governmental Industrial Hygienists (ACGIH):

Not Available

Threshold Limit Values (TLVs):

Not Available

Other Exposure Limits:

Not Available

Note: The product was tested for "Particle size distribution". Results showed that it is noninhalable.

Engineering Controls:

Ventilation must be sufficient to maintain atmospheric concentration below recommended exposure limit.

Personal Protection:

Eye Protection:

Chemical safety goggles

Hand Protection:

Protective gloves

Skin Protection:

Body covering clothes and boots

Respiratory Protection:

Any air-purifying respirator with a high-efficiency particulate filter.

Personal Protection Index:



Section 9: Physical and chemical properties

Appearance: White to off-white crystalline solid or powder of mild antiseptic odor

Odor: N/d

Odor Threshold: N/A

pH(neat, 10%, or 1%): N/d

Specific Gravity: 2.375 (21°C)

Relative Density: N/A

Melting/Freezing Point: 123 – 125 C

Initial Boiling Point and boiling range: Not applicable (decomposes)

Flash Point: N/A

Solubility (water): 17±0.05 g/l at 25.7°C

Solubility in other solvents

acetone - 35 g/100g

ethanol - 25 g/100g

dimethyl formamide - 120 g/100g

polyethylene glycol (Mw 200) - 120 g/100g

Intrinsic Viscosity: N/A

Flammability (solid, gas): N/A

Upper/Lower flammability limits: N/A

Vapor Pressure: 8.25x10⁽⁻⁴⁾ mmHg (25°C)

Vapor Density: Not applicable under standard conditions

Evaporation rate: Not applicable under standard conditions

Auto-ignition Temperature: N/A

Decomposition Temperature: 190°C

Partition coefficient: n-octanol/water: Equivalent Kow = 6.3

Note: These physical properties are typical values for this product and not specifications.

Section 10: Stability and reactivity

Reactivity Data:

Decomposes when heated above decomposition temperature.

Chemical Stability:

Stability under normal conditions:

Yes

Stabilizers needed:

N/A

Other Information:

Conditions to avoid:

Keep away from light and heat

Heating above decomposition temperature

Materials to avoid:

Oxidizing agents, reducing agents

Hazardous reactions:

Hazardous polymerization will not occur

Hazardous decomposition products:

Br₂, HBr, CNBr, NO_x, C₂H₅Br, CH₃Br

Section 11: Toxicological information

Acute Toxicity:

- Rat oral LD₅₀ 308 mg/kg
- Rabbit dermal LD₅₀ >2,000 mg/kg
- Rat inhalation LC₅₀ 0.32 mg/l/4 hour (powder)

Skin Corrosion/Irritation:

Moderate irritant

Serious Eye Damage/Irritation:

Corrosive

Respiratory or Skin Sensitization:

Produces 100% sensitization rate (Magnusson & Kligman maximisation study)

Germ Cell Mutagenicity:

Not mutagenic by the Ames Test

Genotoxicity

Did not induce DNA repair synthesis in the hepatocytes of male rats in vitro. Not clastogenic in chromosome aberration test with Human lymphocytes. Not clastogenic in chromosome aberration test with Chinese hamster cells

Carcinogenicity:

Not classified by IARC

Not included in NTP 11th Report on Carcinogens

Reproductive Toxicity:

In a 2-generation study in rats, the NOEL for reproduction parameters was ≥ 30 mg/kg/day.

Teratogenicity

Not teratogenic. The NOAEL (for fetal toxicity in rabbits) = 10 mg/kg/day.

STOT-single exposure:

No effects on specific target organs have been identified

STOT-repeated exposure:

Excessive repeated exposure may increase the blood and tissue levels of bromine. NOEL 5 mg/kg/day (13 weeks oral, rat)

Aspiration Hazard:

Not expected to occur

Section 12: Ecological information

Toxicity:**Aquatic toxicity:****- 96 Hour-LC50, Fish**

2.3 mg/l Rainbow trout (*Salmo gairdneri*)

3.4 mg/l Sheepshead minnow (*Pimephales promelas*)

2.3 mg/l Bluegill sunfish (*Lepomis macrochirus*)

0.72 mg/l Mysid shrimp (*Mysidopsis bahia*)

0.37 mg/l Eastern oyster (*Crassostrea virginica*)

- 48 Hour-EC50, Daphnia magna

0.86 mg/l

Avian toxicity:

- Oral LD50, Bobwhite quail 354 mg/kg

- Dietary LC50, Mallard duck > 5,620 ppm

- Dietary LC50, Bobwhite quail > 5,620 ppm

Product ID: DUROCID C100-G

Persistence and Degradability:

Not readily biodegradable according to EU criteria, however studies have shown that this substance will degrade under realistic conditions.

Bioaccumulative Potential:

Not expected to bioaccumulate

Mobility in Soil:

Expected to be mobile in soil

Other Adverse Effects:

Germany, water endangering classes (WGK) 3

Section 13: Disposal considerations

Recommended Disposal Containers:

N/A

Recommended Disposal Methods:

Observe all federal, state and local environmental regulations when disposing of this material.

Physical and Chemical Properties that Affect Disposal:

N/A

Sewage Disposal:

N/A

Special Precautions for Landfills or Incineration:

N/A

Section 14: Transport information

The proper shipping name and/or hazard class for this product may vary according to packaging, properties and mode of transportation. Typical proper shipping names for this product are:



Transportation Mode: DOT

DOT Status: Not Regulated for Non-bulk. For Bulk - Regulated

UN/ID Number: UN3082

Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s

Technical Name: 2,2-dibromo-3-nitrilopropionamide

Hazard Class (subclass): 9, Miscellaneous Hazardous Material

Packing Group: III

Transportation Mode: IATA/ICAO

IATA/ICAO Status: Not Regulated for Non-bulk. For Bulk - Regulated

UN/ID Number: UN3082

Proper Shipping Name : Environmentally hazardous substance, solid, n.o.s

Technical Name: 2,2-dibromo-3-nitrilopropionamide

Hazard Class (subclass): 9, Miscellaneous Hazardous Material

Packing Group: III

Transportation Mode: IMDG

IMDG Status: Not Regulated for Non-bulk. For Bulk - Regulated

UN/ID Number: UN3082

Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s

Technical Name: 2,2-dibromo-3-nitrilopropionamide

Hazard Class (subclass) : 9, Miscellaneous Hazardous Material

Packing Group: III

Other Information:

Harmonized Tariff Number: Not Available

Flash Point: Not Available

RQ lbs : Not Available

RQ Component(s) : Not Available

Section 15: Regulatory information

The following regulations apply to this product:

Federal Regulations:

This product is subject to registration under FIFRA, EPA Reg. No. 88714-6.

TSCA: The ingredients of this product are listed on the Toxic Substances Control Act (TSCA) Chemical Substances Inventory.

OSHA's Hazard Communication Rule, 29 CFR 1910.1200: This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.

SARA TITLE III:

Section 302 Extremely Hazardous Substances – None (40 CFR 355)

Section 311/312 Hazardous Categories – Immediate, delayed (40CFR 370.2)

Section 313 Toxic Chemicals – On October 27, 1995, EPA published an administrative stay of the EPCRA section 313 reporting requirements for this chemical. Therefore, no Toxics Release Inventory reports are required for 2,2-dibromo-3-nitrilopropionamide until the stay is removed (40 CFR 372.65)

State Regulations:

California Proposition 65: This product does not contain any chemicals which require warning under California Proposition 65.

There are no known additional requirements necessary for compliance with State Right to Know Regulations.

International Regulations:

Australia

Listed in AICS

Canada

Listed in NDSL

China inventory

Listed

EU

Reported in EINECS

Korea

Listed in the Korea Existing Chemicals Inventory (KECI), number KE-09944

New Zealand Inventory

Listed in NZI

Philippines

Listed in PICCS

15.2 Chemical Safety Assessment

A Chemical Safety Assessment has not yet been carried out under the REACH Regulation.

EU DIRECTIVES

The active substance (DBNPA) is supported by ICL-IP Europe B.V. under the Biocidal Products Directive (98/8/EC). The 20% formulations have been registered and/ or notified in various Member States for industrial Product Types applications. For further information, please contact your ICL-IP sales representative.

Section 16: Other information

None information provided

Declare to reader

The information in this Safety Data Sheet (SDS) was obtained from sources which we believe are reliable. However, the information is

provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable. According to REACH Article 31(5), the SDS shall be supplied in an official language of the Member State(s) where the substance or mixture is placed on the market, unless the recipient Member State(s) concerned provide otherwise. It should also be noted that this SDS is applicable to the countries with English as an official language.