

## Material Safety data sheet

### 1. Identification of the substance/preparation and of the company/undertaking

#### Identification of the product

Catalogue No: C-1002  
Product name: Carbohydrazide

#### Manufacturer/supplier identification

Company: Chengdu Chuanke Fine Chemicals Co. Ltd.  
Tel:+86 28 85405627/68626099. Fax:+86 28 85460782-809

Emergency telephone: Please contact with our company

#### PRODUCT USE

Water-treatment chemical (oxygen scavenger); intermediate.

#### SYNONYMS

C-H6-N4-O, H2NNHC(=O)NHNH2, "carbamic acid, hydrazide", carbazide, cabazide, carbodihydrazine, "carbonic acid, dihydrazide", "carbonic dihydrazide", carbonohydrazide, "1, 3-diaminourea", "1, 3-diaminourea", "hydrazine,carbonyldi-", "semicarbazide, 4-amino-", "semicarbazide, 4-amino-", "urea, 1, 3-diamino-", "urea, 1, 3-diamino-"

### 2. Composition/information on ingredients

CAS-NO: 497-18-7  
Molecular formula: H<sub>2</sub>NNHCONHNH<sub>2</sub>

### 3. Hazards identification

#### EMERGENCY OVERVIEW

Appearance: white crystalline powder.

**Warning!** Heating may cause an explosion. Harmful if swallowed, inhaled, or absorbed through the skin. Causes eye, skin, and respiratory tract irritation. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Target Organs:** Respiratory system, eyes, skin.

#### Potential Health Effects

**Eye:** Causes eye irritation.

**Skin:** Causes skin irritation. Harmful if absorbed through the skin.

**Ingestion:** Harmful if swallowed. May cause irritation of the digestive tract.

**Inhalation:** Harmful if inhaled. Causes respiratory tract irritation.

**Chronic:** No information found.

### 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.

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

**Ingestion:** Do not induce vomiting. Get medical aid immediately. Call a poison control center.

**Inhalation:** Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

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

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. This material in sufficient quantity and reduced particle size is capable of creating a dust explosion. May explode when heated.

**Extinguishing Media:** Use water spray to cool fire-exposed containers. Use water spray, dry chemical, carbon dioxide, or chemical foam.

**Flash Point:** Not applicable.

**Autoignition Temperature:** Not applicable.

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

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 2; Flammability: 1; Instability: 2

6. Accidental release measures

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

**Spills/Leaks:** Vacuum or sweep up material and place into a suitable disposal container. Wear a self contained breathing apparatus and appropriate personal protection. (See Exposure Controls, Personal Protection section). Avoid generating dusty conditions. Remove all sources of ignition. Use a spark-proof tool. Do not let this chemical enter the environment.

7. Handling and storage

**Handling:** Use spark-proof tools and explosion proof equipment. Do not get in eyes, on skin, or on clothing. Keep away from heat, sparks and flame. Do not ingest or inhale. Use only in a chemical fume hood.

**Storage:** Store in a tightly closed container. Store in a dry area. Keep refrigerated.

**Section 8 - Exposure Controls, Personal Protection**

**Engineering Controls:** Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use only under a chemical fume hood.

**Exposure Limits**

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

**OSHA Vacated PELs:** Carbohydrazide: 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 to prevent skin exposure.

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

**Respirators:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

9. Physical and chemical properties

**Physical State:** Crystalline powder

**Appearance:** white

**Odor:** none reported

**pH:** Not available.

**Vapor Pressure:** Not available.

**Vapor Density:** Not available.

**Evaporation Rate:**Not available.

**Viscosity:** Not available.

**Boiling Point:** Not available.

**Freezing/Melting Point:**> 153 deg C

**Decomposition Temperature:**Not available.

**Solubility:** Not available.

**Specific Gravity/Density:**1.020

**Molecular Formula:**CH<sub>6</sub>N<sub>4</sub>O

**Molecular Weight:**90.09

10. Stability and reactivity

**Chemical Stability:** Heating may cause an explosion. Unstable if heated.

**Conditions to Avoid:** Incompatible materials, dust generation, heat.

**Incompatibilities with Other Materials:** Strong oxidizing agents.

**Hazardous Decomposition Products:** Nitrogen oxides, carbon monoxide, carbon dioxide.

**Hazardous Polymerization:** Has not been reported

11. Toxicological information

**RTECS#:**

**CAS#** 497-18-7.

**LD50/LC50:**

Not available.

**Carcinogenicity:**

CAS# 497-18-7: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**Epidemiology:** No information available.

**Teratogenicity:** No information available.

**Reproductive Effects:** No information available.

**Mutagenicity:** No information available.

**Neurotoxicity:** No information available.

**Other Studies:**

12. Ecological information

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

**Environmental:** No information available.

**Physical:** No information available.

**Other:** Do not empty into drains.

13. Disposal considerations

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.

14. Transport information

	<b>US DOT</b>	<b>Canada TDG</b>
<b>Shipping Name:</b>	ENVIRONMENTALLY NON-HAZARDOUS SUBSTANCE, SOL	ENVIRONMENTALLY NON-HAZARDOUS SUBSTANCE, SOL

15. Regulatory information

REGULATIONS

carbohydrazide (CAS: 497-18-7) is found on the following regulatory lists;

Canada Domestic Substances List (DSL)

Canada Transport Dangerous Goods - Schedule 3

US - Hawaii Air Contaminant Limits

US - Michigan Exposure Limits for Air Contaminants

US - Oregon Permissible Exposure Limits (Z3)

US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants

US OSHA Permissible Exposure Levels (PELs) - TableZ3

US Toxic Substances Control Act (TSCA) - Inventory

**Section 16 - OTHER INFORMATION**

**TSCA**

CAS# 497-18-7 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# 497-18-7 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 N

**Risk Phrases:**

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

R 36/37/38 Irritating to eyes, respiratory system and skin.

R 5 Heating may cause an explosion.

R 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Safety Phrases:**

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S 61 Avoid release to the environment. Refer to special instructions /safety data sheets.

**WGK (Water Danger/Protection)**

CAS# 497-18-7: 1

**Canada - DSL/NDSL**

CAS# 497-18-7 is listed on Canada's DSL List.

**Canada - WHMIS**

This product has a WHMIS classification of D1B, D2B, F.

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**

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