



# SAFETY DATA SHEETS

According to the UN GHS revision 9

Version: 1.0  
Creation Date: July 15, 2019  
Revision Date: July 15, 2019

## SECTION 1: Identification

### 1.1 GHS Product identifier

Product name Isoniazid

### 1.2 Other means of identification

Product number -

Other names HIA; INH; 4-Pyridinecarboxylic acid, hydrazide

### 1.3 Recommended use of the chemical and restrictions on use

Identified uses Industrial and scientific research use.

Uses advised against no data available

### 1.4 Supplier's details

Company Shanghai Yien Chemical Technology Co., Ltd  
Address Building 6, 28 Yingong Road, Fengxian District, Shanghai  
Chemical Industry Zone, Shanghai, 201400, China  
Telephone +86-400-133-2688

### 1.5 Emergency phone number

Emergency phone number +86-400-133-2688

Service hours Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

## SECTION 2: Hazard identification

### 2.1 Classification of the substance or mixture

Acute toxicity - Category 4, Oral  
Skin irritation, Category 2

### 2.2 GHS label elements, including precautionary statements

Pictogram(s)



Signal word Warning  
Hazard statement(s) H302 Harmful if swallowed  
H315 Causes skin irritation

Precautionary statement(s)  
Prevention P264 Wash ... thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.

<b>Response</b>	P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/... P301+P317 IF SWALLOWED: Get medical help. P330 Rinse mouth. P302+P352 IF ON SKIN: Wash with plenty of water/... P321 Specific treatment (see ... on this label). P332+P317 If skin irritation occurs: Get medical help. P362+P364 Take off contaminated clothing and wash it before reuse.
<b>Storage</b>	none
<b>Disposal</b>	P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

## 2.3 Other hazards which do not result in classification

no data available

# SECTION 3: Composition/information on ingredients

## 3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
Isoniazid	Isoniazid	54-85-3	200-214-6	100%

# SECTION 4: First-aid measures

## 4.1 Description of necessary first-aid measures

### If inhaled

Fresh air, rest.

### Following skin contact

Remove contaminated clothes. Rinse and then wash skin with water and soap.

### Following eye contact

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

### Following ingestion

Rinse mouth. Give a slurry of activated charcoal in water to drink. Refer for medical attention .

## 4.2 Most important symptoms/effects, acute and delayed

**SYMPTOMS:** Symptoms of exposure to this compound include irritation of the skin, peripheral nerve sensory changes, somnolence, anorexia, sweating, respiratory depression, urine changes and toxic psychosis. Other symptoms include dizziness, paresthesias, fatal hepatitis, metabolic acidosis, convulsions and coma. It can cause headache, muscle twitching, deafness, polyneuritis, paralysis and pyridoxine deficiency. It can also cause nausea, vomiting, atropinic signs such as mydriasis, brightly colored lights and other visual hallucinations, tachycardia, peripheral neuropathy, other central nervous system reactions, stupor, exhaustion, urinary retention, liver damage, bone marrow damage and death. Exposure may cause fatigue, weakness, malaise, toxic encephalopathy, optic neuritis, optic atrophy, memory impairment, epigastric distress, elevated serum transaminases (SGOT, SGPT), bilirubinemia, bilirubinuria, jaundice, agranulocytosis hemolytic anemia, sideroblastic anemia, aplastic anemia, thrombocytopenia, eosinophilia, fever, skin eruptions (morbilliform, maculopapular, purpuric or exfoliative), lymphadenopathy, vasculitis, pellagra, hyperglycemia, gynecomastia, rheumatic syndrome, systemic lupus erythematosus-like syndrome, blurred vision, respiratory distress, central nervous system depression, severe and intractable seizures and acetonuria. Exposure may also cause gastrointestinal effects, liver necrosis, slight euphoria, irritability, nervousness, insomnia, excessive dreaming and giddiness. Other symptoms include peripheral neuritis, burning of the feet, reduction of central vision and papilledema. Hyperreflexia, vertigo, ataxia, tinnitus, hepatic reactions, hypersensitivity reactions and lethargy may occur. Constipation,

difficulty in starting urination, dryness of the mouth, mood-elevating effect and mental disturbances, ranging from minor personality changes to major mental derangements. This compound may also cause skin rash, urticaria, arthritic symptoms such as back pain, bilateral proximal interphalangeal joint involvement, arthralgia of the knees, elbows and wrists and "shoulder-hand" syndrome; separation of ideas and reality, florid psychosis, loss of self-control, excessive sedation, incoordination and methemoglobinemia.

**ACUTE/CHRONIC HAZARDS:** This compound is an irritant of the skin, eyes, mucous membranes and upper respiratory tract. It is harmful by ingestion, inhalation and skin absorption. When heated to decomposition it emits toxic fumes of carbon monoxide, carbon dioxide, nitrogen oxides, ammonia and partially oxidized hydrocarbons. (NTP, 1992)

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

Emergency and supportive measures; 1. Maintain an open airway and assist ventilation if necessary. 2. Treat coma, seizures, and metabolic acidosis if they occur. Administer diazepam, 0.1-0.2 mg/kg IV, for treatment of seizures.

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### **SECTION 5: Fire-fighting measures**

#### **5.1 Suitable extinguishing media**

Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)

#### **5.2 Specific hazards arising from the chemical**

This chemical is combustible. (NTP, 1992)

#### **5.3 Special protective actions for fire-fighters**

Use water spray, powder, foam, carbon dioxide.

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### **SECTION 6: Accidental release measures**

#### **6.1 Personal precautions, protective equipment and emergency procedures**

Sweep spilled substance into covered sealable containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations. Personal protection: P2 filter respirator for harmful particles.

#### **6.2 Environmental precautions**

Sweep spilled substance into covered sealable containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations. Personal protection: P2 filter respirator for harmful particles.

#### **6.3 Methods and materials for containment and cleaning up**

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

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### **SECTION 7: Handling and storage**

#### **7.1 Precautions for safe handling**

NO open flames. Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

#### **7.2 Conditions for safe storage, including any incompatibilities**

Cool. Well closed. Store below 40 deg C (104 deg C), preferably between 15 and 30 deg C (59 and 86 deg F), unless otherwise specified by manufacturer. Store in a tight, light-resistant container. Protect from freezing. NOTE: Crystallization may occur at low temperatures. Upon warming to room temperature, the crystals will redissolve.

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## SECTION 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

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

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

#### Eye/face protection

Wear safety spectacles.

#### Skin protection

Protective gloves.

#### Respiratory protection

Use local exhaust or breathing protection.

#### Thermal hazards

no data available

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## SECTION 9: Physical and chemical properties and safety characteristics

<b>Physical state</b>	PHYSICAL DESCRIPTION: Odorless colorless or white crystals or white crystalline powder. Taste is slightly sweet at first and then bitter. pH (1% aqueous solution) 5.5-6.5. pH (5% aqueous solution) 6-8. (NTP, 1992)
<b>Colour</b>	COLORLESS OR WHITE CRYSTALS, OR A WHITE, CRYSTALLINE POWDER
<b>Odour</b>	no data available
<b>Melting point/freezing point</b>	-8°C(lit.)
<b>Boiling point or initial boiling point and boiling range</b>	212°C(lit.)
<b>Flammability</b>	Combustible. Gives off irritating or toxic fumes (or gases) in a fire.
<b>Lower and upper explosion limit/flammability limit</b>	no data available
<b>Flash point</b>	75°C(lit.)
<b>Auto-ignition temperature</b>	no data available
<b>Decomposition temperature</b>	no data available
<b>pH</b>	pH of a 1% aqueous solution 5.5 to 6.5
<b>Kinematic viscosity</b>	no data available
<b>Solubility</b>	13.7 [ug/mL]
<b>Partition coefficient n-octanol/water</b>	no data available
<b>Vapour pressure</b>	Negligible (NTP, 1992)
<b>Density and/or relative density</b>	1.244g/cm <sup>3</sup>

**Relative vapour density** no data available  
**Particle characteristics** no data available

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## **SECTION 10: Stability and reactivity**

### **10.1 Reactivity**

Decomposes on heating and on burning. This produces toxic fumes including nitrogen oxides.

### **10.2 Chemical stability**

Stable at room temp for more than 14 days in aq soln and more than 6 wk when stored at about 4 deg c.

### **10.3 Possibility of hazardous reactions**

ISONIAZID is incompatible with chloral, aldehydes, iodine, hypochlorites and ferric salts. It is also incompatible with oxidizers. It may react with sugars and ketones. It can react as a weak acid or a weak base. It can be decomposed by oxidative and reductive reactions. (NTP, 1992)

### **10.4 Conditions to avoid**

no data available

### **10.5 Incompatible materials**

no data available

### **10.6 Hazardous decomposition products**

When heated to decomposition it emits toxic fumes of /nitrogen oxides/.

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## **SECTION 11: Toxicological information**

### **Acute toxicity**

- Oral: LD50 Rat oral 650 mg/kg
- Inhalation: no data available
- Dermal: no data available

### **Skin corrosion/irritation**

no data available

### **Serious eye damage/irritation**

no data available

### **Respiratory or skin sensitization**

no data available

### **Germ cell mutagenicity**

no data available

### **Carcinogenicity**

Inadequate evidence of carcinogenicity in humans. Limited evidence of carcinogenicity in animals. OVERALL EVALUATION: Group 3: The agent is not classifiable as to its carcinogenicity to humans.

### **Reproductive toxicity**

no data available

### **STOT-single exposure**

The substance may cause effects on the nervous system and kidneys. This may result in disorientation, lethargy, coma and metabolic acidosis. Exposure at high levels could cause death. Exposure could cause unconsciousness.

### STOT-repeated exposure

The substance may have effects on the central nervous system and liver. This may result in tissue lesions and impaired functions.

### Aspiration hazard

Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly when dispersed, especially if powdered.

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## SECTION 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

### 12.3 Bioaccumulative potential

no data available

### 12.4 Mobility in soil

no data available

### 12.5 Other adverse effects

no data available

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## SECTION 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.

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## SECTION 14: Transport information

### 14.1 UN Number

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.) IATA: Not dangerous goods. (For reference only, please check.)

### 14.2 UN Proper Shipping Name

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.) IATA: Not dangerous goods. (For reference only, please check.)

### 14.3 Transport hazard class(es)

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.) IATA: Not dangerous goods. (For reference only, please check.)

#### 14.4 Packing group, if applicable

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

#### 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 IMO instruments

no data available

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### SECTION 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
Isoniazid	Isoniazid	54-85-3	200-214-6
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.
Korea Existing Chemicals List (KECL)			Listed.

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### SECTION 16: Other information

#### Information on revision

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#### Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

#### References

- IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>
- HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>

- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: [http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)
- CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>
- Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

### Other Information

Many trade names are known for this compound.

**Any questions regarding this SDS, Please send your inquiry to [sds@xixisys.com](mailto:sds@xixisys.com)**

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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. We as supplier shall not be held liable for any damage resulting from handling or from contact with the above product.*