

SAFETY DATA SHEET

Preparation Date: 4/11/2016

Revision Date: 4/11/2016

Revision Number: G1

1. IDENTIFICATION

Product identifier

Product code: IS111
Product Name: ISONIAZID, USP

Other means of identification

Synonyms: Hydrazid
 4-(Hydrazinocarbonyl)pyridine
 Idrazide dell'acido isonicotinico (Italian)
 Iscotin
 Isidrina
 Ismazide
 Isonicotil
 Isobicina
 Isocid
 Isocidene
 Isocotin
 Isolyn
 Isonerit
 Isonex
 Isoniazid
 Isoniazide
 Isonicazide
 Isonicotinhydrazid
 Isonicotinyl hydrazide
 Isonide
 Isonidrin
 Isonikazid
 Isonicotinoyl hydrazide
 Isonicotinoylhydrazine
 Isonicotinsaeurehydrazid (German)
 4-Pyridinecarboxylic acid, hydrazide
 4-Pyridinecarboxylic hydrazide

CAS #: 54-85-3
RTECS # NS1751850
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: Medication. Antibacterial. Antitubercular agent.
Uses advised against No information available

Supplier: Spectrum Chemical Mfg. Corp
 14422 South San Pedro St.
 Gardena, CA 90248
 (310) 516-8000

Order Online At: <https://www.spectrumchemical.com>

Emergency telephone number Chemtrec 1-800-424-9300
Contact Person: Martin LaBenz (West Coast)
Contact Person: Ibad Tirmiz (East Coast)

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous according to the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2B
Specific target organ toxicity (single exposure)	Category 2
Specific target organ toxicity (repeated exposure)	Category 2

Label elements

Warning

Hazard statements

Harmful if swallowed
Causes skin irritation
Causes eye irritation
May cause damage to organs
May cause damage to organs through prolonged or repeated exposure



Hazards not otherwise classified (HNOC)

Not Applicable

Other hazards

Not available

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Do not breathe dust/fume/gas/mist/vapors/spray
Wear protective gloves

Precautionary Statements - Response

IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
IF ON SKIN: Wash with plenty of water
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash it before reuse
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %
Isoniazid 54-85-3	54-85-3	100

4. FIRST AID MEASURES**First aid measures****General Advice:**

National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222.

Skin Contact:

Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Get medical attention. If skin irritation persists, call a physician.

Eye Contact:

Flush eyes with water for 15 minutes. Get medical attention.

Inhalation:

Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion:

Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Obtain medical attention.

Most important symptoms and effects, both acute and delayed**Symptoms**

Irritating to eyes and skin. Nausea. Vomiting. May cause anorexia. Central nervous system effects. Headache. Tremors. Dizziness. Ataxia. Fatigue. Convulsions. May affect the liver. Slurred speech. Coma. May cause visual hallucinations. May cause metabolic acidosis. Peripheral neuropathy. May cause hyperglycemia. May affect the cardiovascular system. Hypotension.

Indication of any immediate medical attention and special treatment needed**Notes to Physician:**

Treat symptomatically

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste

5. FIRE-FIGHTING MEASURES**Extinguishing Media****Suitable Extinguishing Media:**

Dry chemical. Carbon dioxide (CO₂). Water spray mist or foam.

Unsuitable Extinguishing Media:

No information available.

Specific hazards arising from the chemical**Hazardous Combustion Products:**

Carbon monoxide; Carbon dioxide; nitrogen oxides

Specific hazards:

May be combustible at high temperatures

Special Protective Actions for Firefighters

Specific Methods: No information available.

Special Protective Equipment for Firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions: Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Avoid dust formation. Remove all sources of ignition.

Environmental precautions Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Prevent from entering into soil, ditches, sewers, waterways, and/or ground water.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Cover with plastic sheet to prevent spreading.

Methods for cleaning up Sweep up and shovel into suitable containers for disposal. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:

Provide sufficient air exchange and/or exhaust in work rooms. Avoid dust formation. Keep away from incompatible materials.

Safe Handling Advice

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid dust formation. Do not ingest. Do not breathe vapors/dust. Keep away from heat and sources of ignition. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store away from incompatible materials. Sensitive to light. Store in light-resistant containers. Protect from light.

Incompatible Materials:

Oxidizing agents. Bases.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

Components	OSHA	NIOSH	ACGIH	AIHA WHEEL
Isoniazid 54-85-3	None	None	None	None

Canada

Components	Alberta	British Columbia	Ontario	Quebec
Isoniazid 54-85-3	None	None	None	None

Australia and Mexico

Components	Australia	Mexico
Isoniazid 54-85-3	None	None

Appropriate engineering controls

Engineering measures to reduce exposure:

Ensure adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Eye protection: Goggles

Skin and body protection: Long sleeved clothing. Chemical resistant apron. Gloves.

Respiratory protection: Wear respirator with dust filter.

Hygiene measures: Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

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Physical state: Solid	Appearance: Crystals. Crystalline powder.	Color: White.
Odor: No information available	Taste No information available	Formula: C ₆ H ₇ N ₃ O
Molecular/Formula weight: 137.14	Flammability: No information available	Flashpoint (°C/°F): No information available.
Flash Point Tested according to: Not applicable	Autoignition Temperature (°C/°F): No information available	Lower Explosion Limit (%): No information available
Upper Explosion Limit (%): No information available	pH: 6.0-7.5 (pH of 1 in 10 solution)	Melting point/range(°C/°F): 169-174-123 °C/336-345 °F
Decomposition temperature(°C/°F): No information available	Boiling point/range(°C/°F): No information available	Bulk density: No information available
Density (g/cm³): 1.2	Specific gravity: No information available	Vapor pressure @ 20°C (kPa): No information available
Evaporation rate: No information available	Vapor density: No information available	VOC content (g/L): No information available
Odor threshold (ppm): No information available	Partition coefficient (n-octanol/water): -0.70	Viscosity: No information available
Miscibility: No information available	Solubility: Soluble in Water Solubility in Water: 140000 mg/l at 25 deg. C Soluble in Acetone Soluble in Methyl Ethyl Ketone	

10. STABILITY AND REACTIVITY

Reactivity

Reactive with oxidizing agents
Reactive with bases

Chemical stability

Stability:

Sensitive to light. Exposure to light accelerates decomposition. Stable under recommended storage conditions.

Possibility of Hazardous Reactions:

Hazardous polymerization does not occur

Conditions to avoid:

Heat. Avoid dust formation. Exposure to light. Incompatible materials.

Incompatible Materials:

Oxidizing agents. Bases.

Hazardous decomposition products:

Carbon monoxide. Carbon dioxide. When heated to decomposition it emits toxic fumes. Nitrogen oxides (NO_x).

Other Information

Corrosivity:

No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:

Ingestion. Inhalation.

Acute Toxicity

Component Information

Isoniazid - 54-85-3

LD50/oral/rat = 1250 mg/kg Oral LD50 Rat

LD50/oral/mouse = 188.9 mg/kg

LD50/dermal/rabbit = No information available

LD50/dermal/rat = No information available

LC50/inhalation/rat = No information available

LC50/inhalation/mouse = No information available

Other LD50 or LC50 information = No information available

Product Information

LD50/oral/rat =

VALUE- Acute Tox Oral = 1250mg/kg

LD50/oral/mouse =

Value - Acute Tox Oral = 188.9mg/kg

LD50/dermal/rabbit

VALUE-Acute Tox Dermal = No information available

LD50/dermal/rat

VALUE -Acute Tox Dermal = No information available

LC50/inhalation/rat

VALUE-Vapor = No information available

VALUE-Gas = No information available

VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse

VALUE-Vapor = No information available

VALUE - Gas = No information available

VALUE - Dust/Mist = No information available

Symptoms

Skin Contact: Causes skin irritation. Moderately irritating to the skin.

Eye Contact: Causes eye irritation. Mild eye irritation.

Inhalation May cause respiratory tract irritation.

Ingestion Harmful if swallowed. May cause nausea. May cause vomiting. May cause decreased appetite or anorexia. May affect behavior/central nervous system (convulsions). May affect behavior/central nervous system (ataxia). May affect behavior/central nervous system (tremors). May affect behavior/central nervous system (dizziness, headache). May affect behavior/central nervous system (lethargy, fatigue). May affect behavior/central nervous system (coma). May affect liver . May affect the cardiovascular system (hypotension). May cause metabolic acidosis. May cause blurred vision. May cause hyperglycemia.

Ingestion: May also cause glycosuria (excretion of glucose into the urine) and ketonuria a medical condition in which ketone bodies are present in the urine). May also cause visual hallucinations (including bright colors and strange designs) and slurred speech.

Aspiration hazard No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity Prolonged or repeated ingestion may affect the liver
 Prolonged or repeated ingestion may affect the liver (hepatitis)
 Prolonged or repeated ingestion may affect the blood (changes in clotting factors)
 Prolonged or repeated ingestion may affect the blood (hemolytic anemia)
 Prolonged or repeated ingestion may affect the peripheral nervous system (peripheral neuropathy - extremity numbness and tingling, muscle pains and weakness)

Sensitization: No information available

Mutagenic Effects: Cytogenetic analysis (Hamster fibroblast)
 Cytogenic analysis (hamster lung)
 Cytogenic Analysis: human lymphocyte
 Mutations in microorganisms
 Experiments with bacteria and/or yeast have shown mutagenic effects

Carcinogenic effects: Not classifiable as to its carcinogenicity to humans.

Components	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Isoniazid	Group 3- Supplement 7 [1987] Monograph 4 [1974]	Not listed	Not listed	Not listed	Not listed	Not listed

IARC (International Agency for Research on Cancer)
 Group 3 - Not classifiable as to its carcinogenicity to humans

Reproductive toxicity No data is available

Reproductive Effects: No information available
Developmental Effects: No information available
Teratogenic Effects: No information available

Specific Target Organ Toxicity

STOT - single exposure central nervous system.
STOT - repeated exposure liver. Blood. Peripheral Nervous System (PNS).
Target Organs: Blood. Liver. Central nervous system. Peripheral nervous system.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: No data available.

Persistence and degradability: No information available

Bioaccumulative potential: No information available

Mobility: No information available

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:

Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:

Empty containers should be taken for local recycling, recovery or waste disposal

Components	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Isoniazid	None	None	None	None

14. TRANSPORT INFORMATION

DOT

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: None
ERG No: No information available
Marine Pollutant: No data available
DOT RQ (lbs): No information available
Special Provisions: No Information available
Symbol(s): No information available

TDG (Canada)

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Marine Pollutant: No Information available

ADR

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Packing Group: No information available
Subsidiary Risk: No information available

14. TRANSPORT INFORMATION

IMO / IMDG

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Marine Pollutant: No information available

RID

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available

ICAO

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available

IATA

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
ERG Code: No information available
Special Provisions: No information available

15. REGULATORY INFORMATION

International Inventories

Components	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
<i>Isoniazid</i>	Present	Present KE-29938	Present	Present (5)-737	Present	Present	Present 200-214-6

U.S. Regulations

Isoniazid

California Directors List of Hazardous Substances: Present

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
<i>Isoniazid</i>	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Components	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting <i>de minimis</i>
Isoniazid	None	None	None	None	None

U.S. TSCA

Components	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Isoniazid	Not Applicable	Not Applicable

Canada

WHMIS hazard class:

D2B Toxic materials

Canada Controlled Products Regulation:

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Inventory

Components	Canada (DSL)	Canada (NDSL)
Isoniazid	Present	Not Listed

Components	CEPA Schedule I - Toxic Substances
Isoniazid	Not listed

Components	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Isoniazid	Not listed

EU Classification

R-phrase(s)

R22 - Harmful if swallowed.

R36/38 - Irritating to eyes and skin.

S -phrase(s)

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S37 - Wear suitable gloves.

S46 - If swallowed, seek medical advice immediately and show this container or label.

S37/39 - Wear suitable gloves and eye/face protection.

Components	Classification	Concentration Limits:	Safety Phrases
Isoniazid		No information	

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:

Xi - Irritant.

Xn - Harmful.



16. OTHER INFORMATION

Preparation Date: 4/11/2016
Revision Date: 4/11/2016
Prepared by: Sonia Owen

Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Safety Data Sheet