1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: ISONIAZID

Other name(s): Isoniazid EP; Isoniazid BP; Isonicotinic acid hydrazide

Recommended Use of the Chemical and Restrictions on Use

Anti-bacterial/anti-fungal prescription medicine.

Supplier: Ixom Operations Pty Ltd (Bronson & Jacobs division) - incorporated in Australia
ABN: 51 600 546 512
Street Address: 70 Marple Avenue
Villawood NSW 2163
Australia

Telephone Number: +61 2 8717 2929
Facsimile: +61 2 9755 9611
Emergency Telephone: 1 800 033 111 (ALL HOURS)

Please ensure you refer to the limitations of this Safety Data Sheet as set out in the "Other Information" section at the end of this Data Sheet.

2. HAZARDS IDENTIFICATION

Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail; NON-DANGEROUS GOODS.

This material is hazardous according to Safe Work Australia; HAZARDOUS CHEMICAL.

Classification of the chemical:

Acute Oral Toxicity - Category 4
Skin Irritation - Category 2

SIGNAL WORD: PRESCRIPTION ONLY MEDICINE

Hazard Statement(s):
H302 Harmful if swallowed.
H315 Causes skin irritation.

Precautionary Statement(s):

Prevention:
P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves / protective clothing / eye protection / face protection.
Response:
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P330 Rinse mouth.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P332+P313 If skin irritation occurs: Get medical advice/attention.
P321 Specific treatment (see First Aid Measures on Safety Data Sheet).
P362 Take off contaminated clothing and wash before reuse.

Storage:
No storage statements.

Disposal:
P501 Dispose of contents and container in accordance with local, regional, national, international regulations.

Poisons Schedule (SUSMP): S4 Prescription only medicine.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS Number</th>
<th>Proportion</th>
<th>Hazard Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isoniazid</td>
<td>54-85-3</td>
<td>&gt;98.5%</td>
<td>H302, H315</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

For advice, contact a Poisons Information Centre (e.g. phone Australia 131 126; New Zealand 0800 764 766) or a doctor.

Inhalation:
Remove victim from area of exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. Seek medical advice if effects persist.

Skin Contact:
If skin or hair contact occurs, immediately remove any contaminated clothing and wash skin and hair thoroughly with running water. If swelling, redness, blistering or irritation occurs seek medical assistance.

Eye Contact:
If in eyes, wash out immediately with water. In all cases of eye contamination it is a sensible precaution to seek medical advice.

Ingestion:
Rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water. Seek medical assistance.

Indication of immediate medical attention and special treatment needed:
Treat symptomatically.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media:
Fine water spray, normal foam, dry agent (carbon dioxide, dry chemical powder).
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Specific hazards arising from the chemical:
Combustible solid. On burning will emit toxic fumes, including those of oxides of carbon and oxides of nitrogen.

Special protective equipment and precautions for fire-fighters:
Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to vapour or products of combustion. Keep containers cool with water spray.

6. ACCIDENTAL RELEASE MEASURES

Emergency procedures/Environmental precautions:
Shut off all possible sources of ignition. Clear area of all unprotected personnel. If contamination of sewers or waterways has occurred advise local emergency services.

Personal precautions/Protective equipment/Methods and materials for containment and cleaning up:
Wear protective equipment to prevent skin and eye contact and breathing in dust. Work up wind or increase ventilation. Cover with damp absorbent (inert material, sand or soil). Sweep or vacuum up, but avoid generating dust. Collect and seal in properly labelled containers or drums for disposal. Wash area down with excess water.

7. HANDLING AND STORAGE

This material is a Scheduled Poison S4 and must be stored, maintained and used in accordance with the relevant regulations.

Precautions for safe handling:
Avoid skin and eye contact and breathing in dust.
Avoid handling which leads to dust formation. In common with many organic chemicals, may form flammable dust clouds in air. For precautions necessary refer to Safety Data Sheet "Dust Explosion Hazards". Take precautionary measures against static discharges.

Conditions for safe storage, including any incompatibilities:
Store in a cool, dry, well ventilated place and out of direct sunlight. Store away from sources of heat or ignition. Store away from incompatible materials described in Section 10. Keep containers closed when not in use - check regularly for spills.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters: No value assigned for this specific material by Safe Work Australia. However, Workplace Exposure Standard(s) for particulates:

Dusts not otherwise classified: 8hr TWA = 10 mg/m³

As published by Safe Work Australia Workplace Exposure Standards for Airborne Contaminants.

TWA - The time-weighted average airborne concentration of a particular substance when calculated over an eight-hour working day, for a five-day working week.

These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

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Appropriate engineering controls:
Ensure ventilation is adequate to maintain air concentrations below Workplace Exposure Standards. Avoid generating and breathing in dusts. Use with local exhaust ventilation or while wearing dust mask. Keep containers closed when not in use.

Individual protection measures, such as Personal Protective Equipment (PPE):
The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

OVERALLS, SAFETY SHOES, SAFETY GLASSES, GLOVES, DUST MASK.

Wear overalls, safety glasses and impervious gloves. Avoid generating and inhaling dusts. If determined by a risk assessment an inhalation risk exists, wear a dust mask/respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Fine Crystalline Powder</td>
</tr>
<tr>
<td>Colour</td>
<td>White</td>
</tr>
<tr>
<td>Odour</td>
<td>Odourless</td>
</tr>
<tr>
<td>Odour Threshold</td>
<td>Not available</td>
</tr>
<tr>
<td>Molecular Formula</td>
<td>C6H7N3O</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in water</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>Not available; Bulk Density: 800 kg/m³</td>
</tr>
<tr>
<td>Relative Vapour Density (air=1)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapour Pressure (20 °C)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flash Point (°C)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability Limits (%)</td>
<td>Not available</td>
</tr>
<tr>
<td>Autoignition Temperature (°C)</td>
<td>Not available</td>
</tr>
<tr>
<td>Solubility in water (g/L)</td>
<td>125 @ 20°C</td>
</tr>
<tr>
<td>Melting Point/Range (°C)</td>
<td>169 - 173</td>
</tr>
<tr>
<td>Boiling Point/Range (°C)</td>
<td>Not available</td>
</tr>
<tr>
<td>Decomposition Point (°C)</td>
<td>Not available</td>
</tr>
<tr>
<td>pH</td>
<td>6 - 8 (50 g/L in water @ 20°C)</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available</td>
</tr>
<tr>
<td>Partition Coefficient</td>
<td>Not available</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Reactivity: No information available.
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Chemical stability: Stable under normal conditions of use.

Possibility of hazardous reactions: Hazardous polymerisation will not occur.

Conditions to avoid: Avoid exposure to heat, sources of ignition, and open flame. Avoid dust generation.

Incompatible materials: Incompatible with strong acids, strong alkalis and oxidising agents.


11. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

Ingestion: Prescription medicine. No adverse effects expected at prescribed dosage. Adverse effects may include the following: Swallowing may result in restlessness, fever, slurred speech, hallucinations, coma, generalized convulsions, status epilepticus, respiratory failure, hypotension, severe metabolic acidosis, rhabdomyolysis, gastrointestinal symptoms (nausea, vomiting), acute hepatitis, peripheral neuropathy, haemolytic anaemia, as well as other haematological effects and psychosis.

Eye contact: May be an eye irritant.

Skin contact: Contact with skin will result in irritation.

Inhalation: Breathing in dust may result in respiratory irritation.

Acute toxicity:
Oral LD50 (rat): 1,250 mg/kg (1)
Oral LD50 (mice): 133 mg/kg (1)

Skin corrosion/irritation: Moderate irritant (rabbit). (1)
Serious eye damage/irritation: No information available.
Respiratory or skin sensitisation: No information available.

Chronic effects: No information available for the product.

Mutagenicity: The Ames Salmonella mutagenicity test was positive. (1)
Carcinogenicity: Not listed as carcinogenic according to the International Agency for Research on Cancer (IARC).

Reproductive toxicity:
Specific Target Organ Toxicity (STOT) - single exposure: No information available.
Specific Target Organ Toxicity (STOT) - repeated exposure: No information available.
Aspiration hazard: Not classified.

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Lowest Oral LD50 (dog) = 50 mg/kg
Lowest published lethal dose in humans = 100 mg/kg.

Transient elevations of liver enzymes sometimes occur during the first few months of therapy, but usually return to normal even with continued treatment. Severe progressive liver damage has occurred resulting in death, particularly in patients over the age of 35 and in those consuming alcohol regularly.

Inflammation and atrophy of the optic nerve have also been reported rarely.

12. ECOLOGICAL INFORMATION

Ecotoxicity: Avoid contaminating waterways.

Persistence/degradability: No information available.

Bioaccumulative potential: No information available.

Mobility in soil: No information available.

13. DISPOSAL CONSIDERATIONS

Disposal methods:
Refer to Waste Management Authority. Dispose of contents and container in accordance with local, regional, national, international regulations.

14. TRANSPORT INFORMATION

Road and Rail Transport
Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail; NON-DANGEROUS GOODS.

Marine Transport
Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; NON-DANGEROUS GOODS.

Air Transport
Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; NON-DANGEROUS GOODS.

15. REGULATORY INFORMATION

Classification:
This material is hazardous according to Safe Work Australia; HAZARDOUS CHEMICAL.

Classification of the chemical:
Acute Oral Toxicity - Category 4
Skin Irritation - Category 2
Safety Data Sheet

Hazard Statement(s):
H302 Harmful if swallowed.
H315 Causes skin irritation.

Poisons Schedule (SUSMP):  S4  Prescription only medicine.

This material is listed on the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION


This safety data sheet has been prepared by Ixom Operations Pty Ltd Toxicology & SDS Services.

Reason(s) for Issue:
5 Yearly Revised Primary SDS
Alignment to GHS requirements
Alignment to HSNO requirements
Update in Toxicological Information

This SDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since Ixom Operations Pty Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.

If clarification or further information is needed, the user should contact their Bronson & Jacobs representative or Ixom Operations Pty Ltd at the contact details on page 1.

Ixom Operations Pty Ltd's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.

Bronson and Jacobs incorporating the businesses of Woods and Woods and Keith Harris.