



# SAFETY DATA SHEET

**PRODUCT NAME:** SODIUM NITRATE

Issue Date: April 23

## IDENTIFICATION

**Product Name:** Sodium Nitrate  
**Other Names:** Nitrate of soda; Chilean saltpetre; Soda niter; Nitric acid, sodium salt.  
**Product Code:** ZSNITRAA  
**Uses:** Catalyst, fertilizer, fluxing agent, oxidant, preservative, propellant.  
**Supplier:** HamChem Hamilton Chemicals Ltd, 75 Ruffell Rd, Hamilton  
Phone: 079744971 Email: [info@hamchem.nz](mailto:info@hamchem.nz) Web: [www.hamchem.nz](http://www.hamchem.nz)

- In emergency dial 111, and then ask for Fire, Ambulance or Police as necessary.
- In case of poisoning phone National Poisons Centre – 0800 764 766

## HAZARD IDENTIFICATION



### GHS Classifications

Oxidising Solid – Category 3  
Acute Toxicity (Oral) – Category 4

**Signal Word:** DANGER

### Hazard Statements

H272 May intensify fire; oxidizer.  
H301 Toxic if swallowed

### Precautionary Statements

#### Prevention

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P220 Keep away from clothing and other combustible materials  
P264 Wash thoroughly after handling  
P270 Do not eat, drink or smoke when using this product  
P280 Wear protective gloves/clothing and eye/face protection

#### Response

P370 + P378 In case of fire: Use water for extinction.  
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTRE or Doctor  
P330 Rinse mouth

#### Disposal

P501 Dispose of contents/container to an approved waste facility in accordance with local regulations.

## COMPOSITION & INFORMATION ON INGREDIENTS

Chemical Entity	CAS No.	Proportion (%)
Sodium Nitrate	7631-99-4	> 98%

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<b>FIRST AID MEASURES</b>
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For advice, contact a Poisons Information Centre (Phone New Zealand 0800 764766) or a doctor.

**Inhalation:** Remove victim to fresh air and keep at rest in a position comfortable for breathing. If respiratory symptoms persist, get medical advice/attention. Apply resuscitation if victim is not breathing - Administer oxygen if breathing is difficult.

**Skin Contact:** Remove contaminated clothing and shoes immediately. Wash skin with plenty of soap and water. In case of gross contamination, drench contaminated clothing and skin with plenty of water before removing clothes. If skin irritation occurs, get medical advice/attention. Wash contaminated clothing and shoes before reuse.

**Eye Contact:** Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes. If eye irritation persists, get medical advice/attention.

**Ingestion:** Rinse mouth, then drink 200 - 300 ml water. Call a Poison Centre or doctor/physician for advice. Never give anything by mouth to an unconscious person.

**Advice to Doctor:** Treat symptomatically (symptoms may be delayed). Ensure that attending medical personnel are aware of identity and nature of the product(s) involved, and take precautions to protect themselves.

<b>FIRE FIGHTING MEASURES</b>
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**General Measures:** If safe to do so, move undamaged containers from fire area. Do not move cargo if cargo has been exposed to heat. Large fire: Flood fire area with water from a protected position. Cool containers with water spray until well after fire is out - If impossible, withdraw from area and let fire burn. Avoid getting water inside containers: a violent reaction may occur.

**Flammability Conditions:** OXIDISING SUBSTANCE: Will accelerate burning when involved in a fire.

**Extinguishing Media:** Use flooding quantities of water for extinction - Do not use dry chemicals, Carbon dioxide (CO<sub>2</sub>) or foam.

**Fire and Explosion Hazard:** May explode from heating, shock, friction or contamination. May ignite combustibles. Containers may explode when heated.

**Hazardous Products of Combustion:** Fire may produce irritating, toxic and/or corrosive gases, including oxides of Nitrogen (brown fumes).

**Special Fire Fighting Instructions:** Contain fire control water for later disposal - Runoff may create fire or explosion hazard and may pollute waterways.

**Personal Protective Equipment:** Normal firefighting clothing is appropriate, i.e. self-contained breathing apparatus (SCBA), worn in combination with full fire kit.

**Flash Point:** No Data Available

**Lower Explosion Limit:** No Data Available

**Upper Explosion Limit:** No Data Available

**Auto Ignition Temperature:** No Data Available

**Hazchem Code:** 1Z

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### **ACCIDENTAL RELEASE MEASURES**

**General Response Procedure:** Ensure adequate ventilation. Prevent exposure to heat. Do not contaminate - Keep combustibles away from spilled material. Avoid dust formation. Avoid breathing dust and contact with eyes, skin and clothing.

**Clean Up Procedures:** Use clean, non-sparking tools to transfer material to a suitable container for disposal; Move container from spill area.

**Containment:** Stop leak if safe to do so - Prevent entry into waterways, drains or confined areas.

**Decontamination:** Wash away remainder with plenty of water.

**Environmental Precautionary Measures:** Spillages and decontamination runoff should be prevented from entering drains and watercourses.

**Evacuation Criteria:** Spill or leak area should be isolated immediately. Keep unauthorised personnel away; Keep upwind.

**Personal Precautionary Measures:** Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

### **HANDLING & STORAGE**

**Handling:** Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Avoid generating dust. Avoid breathing dust and contact with eyes, skin and clothing. Wear protective gloves/eye protection/face protection. Keep away from heat. Take any precaution to avoid mixing with combustibles/incompatible materials.

**Storage:** Store in a cool, dry and well-ventilated place. Keep container tightly closed. Protect from moisture (hygroscopic). Keep away from heat. Keep/store away from clothing/combustible materials and incompatible materials (flammable, combustible and reducing agents).

**Container:** Keep only in the original container.

### **EXPOSURE CONTROLS & PERSONAL PROTECTION**

**General:** No specific exposure standards are available for this product. For dusts from solid substances without specific occupational exposure standards:

- Safe Work Australia Exposure Standard (Nuisance dusts): 8 hr TWA = 10 mg/m<sup>3</sup> (measured as inhalable dust).
- New Zealand WES (Particulates not otherwise classified): TWA = 10 mg/m<sup>3</sup> (total); TWA = 3 mg/m<sup>3</sup> (respirable).

**Exposure Limits:** No Data Available

**Engineering Measures:** A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.

#### **Personal Protection Equipment:**

- Respiratory protection: Wear respiratory protection in case of inadequate ventilation or if an inhalation risk exists.

Recommended: Dust mask/respirator, type P3. Use respirators and components tested and approved under appropriate government standards.

- Eye/face protection: Wear appropriate eye protection to prevent eye contact. Recommended: Chemical goggles.

Use equipment for eye protection tested and approved under appropriate government standards.

- Hand protection: Wear protective gloves. Recommended: Impervious gloves, e.g. Nitrile rubber.

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- Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Overalls, safety shoes.

**Special Hazards Precautions:** No information available.

**Work Hygienic Practices:** Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Take off contaminated clothing and wash before storage or reuse.

**Biological Limits:** Derived no-effect levels (DNELs) for Workers:

- Dermal, long-term, systemic effects: 20.8 mg/kg/day.
- Inhalative, long-term, systemic effects: 36.7 mg/m<sup>3</sup>.

Predicted no-effect concentrations (PNECs):

- Freshwater: 0.45 mg/L
- Marine water: 0.045 mg/L
- Intermittent release: 4.5 mg/L
- STP: 18 mg/L

<b>PHYSICAL &amp; CHEMICAL PROPERTIES</b>
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<b>Physical State:</b>	Solid
<b>Odour:</b>	Odourless
<b>Colour:</b>	White
<b>pH:</b>	No Data Available
<b>Vapour Pressure:</b>	No Data Available
<b>Relative Vapour Density:</b>	No Data Available
<b>Boiling Point:</b>	380 °C (decomposes)
<b>Freezing Point:</b>	No Data Available
<b>Melting Point:</b>	308 °C
<b>Appearance:</b>	Crystalline (powder)
<b>Solubility:</b>	92.1 g/100 ml water 25°C
<b>Specific Gravity:</b>	No Data Available
<b>Flash Point:</b>	No Data Available
<b>Bulk Density:</b>	No Data Available
<b>Corrosion Rate:</b>	No Data Available
<b>Decomposition Temperature:</b>	No Data Available
<b>Density:</b>	2.3 g/cm <sup>3</sup>
<b>Specific Heat:</b>	No Data Available
<b>Molecular Weight:</b>	84.99 g/mol
<b>Auto Ignition Temp:</b>	No Data Available
<b>Evaporation Rate:</b>	No Data Available
<b>Particle Size:</b>	No Data Available

<b>STABILITY &amp; REACTIVITY</b>
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**General Information:** No hazardous reactions when handled and stored according to provisions.

**Chemical Stability:** Stable under normal storage and handling conditions.

**Conditions to Avoid:** Keep away from heat. Take any precaution to avoid mixing with combustibles.

**Materials to Avoid:** Incompatible/reactive with flammable, combustible and reducing agents.

**Hazardous Decomposition Products:** Fire/thermal decomposition may produce irritating, toxic and/or corrosive gases, including oxides of Nitrogen (NO<sub>x</sub>), Sodium nitrite and Sodium oxide.

**Hazardous Polymerisation:** No information available.

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<b>TOXICOLOGICAL INFORMATION</b>
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**General Information:**

- Acute toxicity: Based on available data, the classification criteria are not met.
- Skin corrosion/irritation: Based on available data, the classification criteria are not met. Non-irritant (Rabbit) [Equivalent to OECD TG 404; Data obtained by analogy].
- Eye damage/irritation: Causes serious eye irritation. Irritant (Rabbit) [OECD TG 405].
- Respiratory/skin sensitisation: Based on available data, the classification criteria are not met. Not sensitising (Mouse) [OECD TG 429].
- Germ cell mutagenicity: Based on available data, the classification criteria are not met. Overall assessment of data/literature information indicates that the product is not genotoxic in vitro/in vivo.
- Carcinogenicity: Based on available data/literature information, the classification criteria are not met.
- Reproductive toxicity: Based on available data, the classification criteria are not met. At the highest dose tested, no adverse effects on sexual function, fertility or development were observed in a repeated dose toxicity study [OECD TG 422; Data obtained from chemically related substance].
- STOT (single exposure): Based on available data, the classification criteria are not met.
- STOT (repeated exposure): Based on available data, the classification criteria are not met.
- Aspiration toxicity: Based on available data, the classification criteria are not met. Physiochemical/toxicological data does not indicate a potential aspiration hazard.

**Acute**

Ingestion Acute toxicity (Oral):

- LD50, Rat: >2,000 mg/kg bw [OECD TG 425; Data obtained by analogy].

Other Acute toxicity (Dermal):

- LD50, Rat: >5,000 mg/kg bw [OECD TG 402; Data obtained by analogy].

Inhalation Acute toxicity (Inhalation):

- LC50, Rat: >0.527 mg/L (maximum achievable concentration, 4 h) [OECD TG 403; Data obtained by analogy].

**Carcinogen Category:** None

<b>ECOLOGICAL INFORMATION</b>
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**Ecotoxicity:**

Aquatic toxicity:

- LC50, Fish (freshwater): 6,000 mg/L (96 h).
- LC50, Fish (marine water): 4,400 mg/L (96 h).
- EC50, Daphnia magna: 8,600 mg/L (24 h).
- EC50, Algae (several species): >1,700 mg/L (10 d).

**Persistence/Degradability:** In aqueous compartments, the substance will dissociate into sodium and nitrate ions. Sodium ions are not subject to further degradation. Under anoxic conditions, nitrate is subjected to denitrification and is ultimately converted into molecular Nitrogen as part of the Nitrogen cycle.

**Mobility:** Nitrate has low potential for adsorption; Portion not taken up by plants can leach to ground water. Sodium can participate in ion exchange processes.

**Environmental Fate:** Excess nitrate leaching may enrich waters, leading to eutrophication. Prevent entry into drains and waterways.

**Bioaccumulation Potential:** Sodium nitrate has low potential for bioaccumulation based on physio-chemical properties.

**Environmental Impact:** No Data Available

<b>DISPOSAL CONSIDERATIONS</b>
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**General Information:** If material cannot be recycled, dispose of through a licensed waste contractor and in accordance with local/regional/national regulations.

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**Special Precautions for Land Fill:** Contaminated packaging: Dispose of as unused product.

<b>TRANSPORT INFORMATION</b>
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<b>UN No:</b>	1498
<b>Class-primary</b>	5.1 Oxidizing Agent
<b>Packing Group:</b>	III
<b>Proper Shipping Name:</b>	SODIUM NITRATE
<b>Hazchem Code:</b>	1Z

<b>REGULATORY INFORMATION</b>
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**HSNO Classifications:** 5.1.1C, 6.1D

**EPA Approval Code:** HSR001350

HSNO Additional Controls: 77A – Use Restrictions: No person may use this substance described as a pesticide or a veterinary medicine. However, this substance may be used in the formulation of a pesticide or a veterinary medicine. For the purpose of this control— (a) pesticide includes, but is not limited to, a product intended for use as an acaricide, antifouling paint, avicide, fumigant, fungicide, insecticide, herbicide, miticide, molluscicide, piscicide, timber treatment preservative or vertebrate toxic agent; and (b) veterinary medicine has the same meaning given to it in the Agricultural Compounds and Veterinary Medicines Act 1997.

<b>OTHER INFORMATION</b>
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**End of SDS.**