

SAFETY DATA SHEET

PRODUCT NAME: SODIUM NITRITE

Issue Date: September 22

IDENTIFICATION

Product Name: Sodium Nitrite
Other Names: Nitrous Acid; Sodium salt.
Product Code: ZSNITRII
Uses: Industrial applications.
Restrictions: Restricted to Workplace only (Usage & Storage)
Supplier: HamChem Hamilton Chemicals Ltd, 75 Ruffell Rd, Hamilton
 Phone: 079744971 Web: www.hamchem.nz Email: info@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 3
 Eye Irritation – Category 2
 Germ Cell Mutagenicity – Category 2
 Specific Target Organ Toxicity (Repeated Exposure) – Category 2
 Hazardous to Terrestrial Vertebrates
 Hazardous to the Aquatic Environment (Acute) – Category 1
 Hazardous to the Aquatic Environment (Chronic) – Category 2

Signal Word: DANGER

Hazard Statements:

H272 May intensify fire; oxidizer.
 H301 Toxic if swallowed.
 H319 Causes serious eye irritation.
 H341 Suspected of causing genetic defects
 H373 May cause damage to organs through prolonged or repeated exposure.
 Hazardous to Terrestrial Vertebrates
 H400 Very toxic to aquatic life.
 H411 Toxic to aquatic life with long-lasting effects

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 hands and body thoroughly after handling.
 P201 Obtain special instructions before use

PRODUCT NAME:	SODIUM NITRITE
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P202 Do not handle until all safety precautions have been read and understood.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P270 Do not eat, drink or smoke when using this product.

P273 Avoid release to the environment.

P280 Wear protective gloves/clothing and eye/face protection.

Response:

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTRE or Doctor.

P321 Rinse mouth. Do NOT induce vomiting.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 If eye irritation persists: Get medical advice/attention.

P301 + P313 If exposed or concerned: Get medical advice/attention.

P314 Get medical advice/attention if you feel unwell.

P370 + P378 In case of fire: Use water to extinguish.

P391 Collect spillage.

Storage:

P405 Store locked up.

Disposal:

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

COMPOSITION & INFORMATION ON INGREDIENTS

Chemical Entity	CAS No.	Proportion (%)
Sodium Nitrite	7632-00-0	≥ 98%

FIRST AID MEASURES

For advice, contact a Poisons Information Centre (0800 764 766) or a Doctor at once. Urgent hospital treatment is likely to be needed.

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 contact occurs, remove contaminated clothing and wash skin with running water. If irritation occurs seek medical advice.

Eye Contact: If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by the Poisons Information Centre or a Doctor, or for at least 15 minutes.

Ingestion: Immediately rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water. Get to a doctor or hospital quickly.

Indication of immediate medical attention and special treatment needed: Treat symptomatically. Delayed pulmonary oedema may result. Danger of methaemoglobin formation after ingestion. Treat with toluonium chloride to reverse methaemoglobinanaemia

SYMPTOMS AND EFFECTS, ACUTE AND DELAYED, FROM EXPOSURE

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:

PRODUCT NAME:	SODIUM NITRITE
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Ingestion: Swallowing can result in nausea, vomiting, diarrhoea, abdominal pain, convulsions and loss of consciousness.

Eye contact: An eye irritant.

Skin contact: Contact with skin may result in irritation.

Inhalation: Breathing in dust may result in respiratory irritation.

Long Term Effects: In long-term studies in rats and mice a carcinogenic effect was not observed. The results of animal studies gave no indication of a fertility impairing effect. In animal studies the substance did not cause malformations. Under certain conditions nitrites can enhance the formation of nitrosamines in vivo. Nitrosamines are carcinogenic in animal studies.

FIRE FIGHTING MEASURES

General Measures: Clear fire area of all non-emergency personnel. Stay upwind. Keep out of low areas. Eliminate ignition sources. Move fire exposed containers from fire area if it can be done without risk.

Flammability Conditions: Powerful oxidising agent. Not combustible, but will support the combustion of other material.

Extinguishing Media: Water spray. DO NOT USE: ABC powder, carbon dioxide.

Fire and Explosion: Hazard Protection against fire and explosion: The substance/product is non-combustible. Has a fire-promoting effect due to release of oxygen. Where required Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy.

Hazardous Products of Combustion: Nitrogen oxides. The substances/groups of substances mentioned can be released in case of fire. Has a fire promoting effect due to release of oxygen.

Special Fire Fighting Instructions

HAZCHEM: 12

Do NOT allow firefighting water to reach waterways, drains or sewers. Store firefighting water for treatment. Dam fire control water for later disposal.

Personal Protective Equipment: Fire fighters should wear a positive-pressure self-contained breathing apparatus (SCBA) and protective firefighting clothing (includes firefighting helmet, coat, trousers, boots and gloves) or chemical splash suit.

ACCIDENTAL RELEASE MEASURES

General Response Procedure: Avoid accidents, clean up immediately. Slippery when spilt. Eliminate all sources of ignition. Increase ventilation. Avoid generating dust. Use clean, non-sparking tools and equipment. Do NOT contaminate. Keep combustibles away from spilled material.

Clean Up Procedures: Contain and sweep/shovel up spills with dust binding material. Transfer to a suitable, labelled container and dispose of promptly as hazardous waste. Containment Stop leak if safe to do so. Isolate the danger area.

Environmental Precautionary Measures: Do NOT let product reach drains or waterways. If product does enter a waterway, advise the Environmental Protection Authority or your local Waste Management. Do not discharge into the subsoil/soil.

Evacuation Criteria: Evacuate all unnecessary personnel.

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

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PRODUCT NAME:	SODIUM NITRITE
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HANDLING & STORAGE

Handling: Ensure an eye bath and safety shower are available and ready for use. Observe good personal hygiene practices and recommended procedures. Wash thoroughly after handling. Take precautionary measures against static discharges by bonding and grounding equipment. Avoid contact with eyes, skin and clothing. Do not inhale product vapours. Avoid prolonged or repeated exposure. Keep container tightly sealed. Breathing must be protected when large quantities are decanted without local exhaust ventilation. Processing machines must be fitted with local exhaust ventilation. Protect against moisture. Protect against heat. Do not mix with combustible substances. Protection against fire and explosion: The substance/product is non-combustible. Has a fire-promoting effect due to release of oxygen. Sources of ignition should be kept well clear - fire extinguishers should be kept handy.

Storage: Store in a cool, dry, well-ventilated area. Keep containers tightly closed when not in use. Inspect regularly for deficiencies such as damage or leaks. Protect against physical damage. Store away from incompatible materials as listed in SDS. Segregate from oxidizable substances. Segregate from acids. Segregate from ammonium salts. This product is classified as a dangerous substance for storage. The authority permits and storage regulations must be observed. Keep away from food, drink and animal feeding stuffs.

Container: Store in original packaging as approved by manufacturer.

EXPOSURE CONTROLS & PERSONAL PROTECTION

General: No exposure standard has been established for this product by Worksafe NZ. However, the exposure standard for dust not otherwise specified is 10mg/m³ (for inspirable dust) and 3mg/m³ (for respirable dust).

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. Adequate ventilation should be provided so that exposure limits are not exceeded.

Personal Protection Equipment:

RESPIRATOR: Particle filter with high efficiency for solid and liquid particles (e.g., Type P3 or FFP3) (AS1715/1716).

EYES: Safety glasses with side-shields (frame goggles) (AS1336/1337).

HANDS: Gloves made of: polyvinylchloride (PVC) - 0.7 mm coating thickness; nitrile rubber (NBR) - 0.4 mm coating thickness; chloroprene rubber (CR) - 0.5 mm coating thickness; butyl rubber (butyl) - 0.7 mm coating thickness; fluoroelastomer (FKM) - 0.7 mm coating thickness; with >480min permeation time (AS2161).

CLOTHING: Chemical-resistant coveralls and safety footwear (AS3765/2210).

Biological Limits No information available on biological limit values for this product.

Work Hygienic Practices: Keep away from food, drink and animal feeding stuffs. No eating, drinking, smoking or tobacco use at the place of work. Take off immediately all contaminated clothing. Hands and/or face should be washed before breaks and at the end of the shift.

PHYSICAL & CHEMICAL PROPERTIES

Physical State:	Solid
Odour:	Faint odour
Colour:	White to slightly yellow
pH:	8 - 9 100 g/L @ 20 deg C
Vapour Pressure:	No Data Available
Relative Vapour Density:	No Data Available

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Boiling Point:	Decomposes
Freezing Point:	No Data Available
Specific Gravity:	2.17
Flash Point:	No Data Available
Bulk Density:	1,100 - 1,300 kg/m3
Corrosion Rate:	No Data Available
Decomposition Temperature:	>320 °C
Density:	2.17 g/cm3 [ISO 2811-3]
Specific Heat:	No Data Available
Molecular Weight:	No Data Available
Octanol Water Coefficient:	No Data Available
Saturated Vapour Concentration:	No Data Available
Vapour Temperature:	No Data Available
Viscosity:	No Data Available
Volatile Percent:	No Data Available
VOC Volume:	No Data Available
Hygroscopy:	Hygroscopic
Potential for Dust Explosion:	No Data Available

STABILITY & REACTIVITY

Reactivity: Mixtures with ammonium compounds or cyanides may explode.

Chemical Stability: Hygroscopic; absorbs moisture or water from surrounding air.

Conditions to Avoid: Avoid exposure to heat. Avoid exposure to moisture. Avoid dust generation. Avoid contact with foodstuffs. Avoid contact with combustible materials.

Materials to Avoid: Incompatible with reducing agents, acids, ammonium salts, amines, amine compounds, combustible materials, ammonium compounds, cyanides.

Hazardous Decomposition Products: Nitrogen monoxide, nitrogen dioxide, disodium oxide.

Hazardous Polymerisation: No Data Available

TOXICOLOGICAL INFORMATION

General Information:

Assessment of acute toxicity: Of high toxicity after single ingestion. There is a risk of damage to the blood (methemoglobinemia) after a single uptake.

LD50 rat (oral): 180 mg/kg

Irritation

Assessment of irritating effects: Not irritating to the skin. Eye contact causes irritation.

Primary skin irritation rabbit: non-irritant (OECD Guideline 404)

Primary irritations of the mucous membrane rabbit: Irritant. (OECD Guideline 405)

Sensitization

Assessment of sensitization: There is no evidence of a skin-sensitizing potential.

Study scientifically not justified.

Repeated dose toxicity

Assessment of repeated dose toxicity: After repeated administration the prominent effect is damage of the blood (methemoglobin formation).

Genetic toxicity

Information on: sodium nitrite.

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----------------------	-----------------------

Assessment of mutagenicity: The data available on mutagenic action are not consistent.

Carcinogenicity

Assessment of carcinogenicity: In long-term studies in rats and mice in which the substance was given by drinking water, a carcinogenic effect was not observed. Under certain conditions nitrites can enhance the formation of nitrosamines in vivo. Nitrosamines are carcinogenic in animal studies.

Reproductive toxicity

Assessment of reproduction toxicity: The results of animal studies gave no indication of a fertility impairing effect.

Developmental toxicity

Assessment of teratogenicity: In animal studies the substance did not cause malformations. Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals. After the uptake of small doses toxicity to development will not be expected in humans.

Eye Irritant:	May cause eye irritation.
Ingestion:	Toxic if swallowed
Carcinogen Category:	No Data Available

ECOLOGICAL INFORMATION

Ecotoxicity

Assessment of aquatic toxicity: Very toxic (acute effect) to aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Toxicity to fish: LC50 (96 h) 0.54 - 26.3 mg/l, *Salmo gairdneri*, syn. *O. mykiss* (Flow through.)

Aquatic invertebrates:

LC50 (96 h) 4.93 mg/l, aquatic crustacea (static) Literature data.

EC50 (48 h) 15.4 mg/l, *Daphnia magna* (OECD Guideline 202, part 1, static). The statement of the toxic effect relates to the analytically determined concentration.

Aquatic plants:

EC50 (72 h) > 100 mg/l (growth rate), *Scenedesmus subspicatus* (OECD Guideline 201, static). The statement of the toxic effect relates to the analytically determined concentration.

Microorganisms/Effect on activated sludge:

EC10 (3 h) 210 mg/l, activated sludge, domestic (OECD Guideline 209, static). The details of the toxic effect relate to the nominal concentration.

EC50 (48 h) 421 mg/l, protozoa (other, static)

Chronic toxicity to fish: No observed effect concentration (31 d) 6.16 mg/l, *Ictalurus punctatus*, syn: *I. robustus* (Flow through.)

Chronic toxicity to aquatic invertebrates: No observed effect concentration (80 d), 9.86 mg/l, aquatic crustacea (*Daphnia* test chronic, static)

Assessment of terrestrial toxicity: Study scientifically not justified.

Persistence/Degradability

Assessment biodegradation and elimination (H₂O): Inorganic product which cannot be eliminated from water by biological purification processes. Can be oxidized to nitrate, or be reduced to nitrogen, by microorganisms.

Assessment of stability in water: Study technically not feasible.

PRODUCT NAME:	SODIUM NITRITE
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Mobility

Assessment transport between environmental compartments: Adsorption to solid soil phase is not expected.

Environmental Fate

Do not allow to enter soil, waterways or waste water channels. Do not release untreated into natural waters. Inhibition of degradation activity in activated sludge is not to be anticipated during correct introduction of low concentrations.

Bioaccumulation Potential

Assessment bioaccumulation potential: Accumulation in organisms is not to be expected.

Environmental Impact: No Data Available

DISPOSAL CONSIDERATIONS

General Information: Dispose of in accordance with all local, regional and national regulations. All empty packaging should be disposed of or recycled/reconditioned at an approved waste facility.

Special Precautions for Land Fill: Contact a specialist disposal company or the local waste regulator for advice.

TRANSPORT INFORMATION

Land Transport (New Zealand) NZS5433

Proper Shipping Name: SODIUM NITRITE
Class: 5.1 Oxidising Substances
Subsidiary Risk(s): 6.1 Toxic Substances
UN Number: 1500
Hazchem: 1Z
Pack Group: III
Special Provision: No Data Available

REGULATORY INFORMATION

EPA Approval Code: HSR001286

HSNO Classifications: 5.1.1C, 6.1C (O), 6.4A, 6.6B, 6.9B, 9.3B, 9.1A, 9.1B

****Restricted to Workplace - declaration required to be completed prior to sale. To be used and stored in Workplaces only (Hazardous Substances (Hazardous Property Controls) Notice 2017)****

OTHER INFORMATION

End of SDS.