

1. IDENTIFICATION

Product Name	Sodium Nitrate
Other Names	Nitrate of Soda; Sodium Nitrate Prilled; Sodium Nitrate Technical
Uses	Catalyst; fertiliser; fluxing agent; oxidant; preservative; propellant.
Chemical Family	No Data Available
Chemical Formula	NaNO ₃
Chemical Name	Nitric acid, sodium salt
Product Description	No Data Available

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Ltd	11 Mayo Road Wiri Auckland 2104 New Zealand	+64-9-2506222
Redox Inc.	3960 Paramount Boulevard Suite 107 Lakewood CA 90712 USA	+1-424-675-3200
Redox Chemicals Sdn Bhd	Level 2, No. 8, Jalan Sapir 33/7 Seksyen 33, Shah Alam Premier Industrial Park 40400 Shah Alam Sengalor, Malaysia	+60-3-5614-2111

Emergency Contact Details

For emergencies only; DO NOT contact these companies for general product advice.

Organisation	Location	Telephone
Poisons Information Centre	Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888
Chemcall	Malaysia	+64-4-9179888
Chemcall	New Zealand	0800-243622 +64-4-9179888
National Poisons Centre	New Zealand	0800-764766
CHEMTREC	USA & Canada	1-800-424-9300 CN723420 +1-703-527-3887

2. HAZARD IDENTIFICATION

Poisons Schedule (Aust)

Not Scheduled

Globally Harmonised System

Hazard Classification Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Hazard Categories Oxidising Solids - Category 3
Acute Toxicity (Oral) - Category 5
Serious Eye Damage/Irritation - Category 2A

Pictograms



Signal Word Warning

Hazard Statements

H272	May intensify fire; oxidizer.
H303	May be harmful if swallowed.
H319	Causes serious eye irritation.

Precautionary Statements

Prevention	P210	Keep away from heat.
	P221	Take any precaution to avoid mixing with combustibles/organic material.
	P280	Wear protective gloves/eye protection/face protection.
Response	P370 + P378	In case of fire: Use water for extinction.
	P337 + P313	If eye irritation persists: Get medical advice.
	P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Disposal	P301 + P312	IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.
	P501	Dispose of contents/container in accordance with local / regional / national / international regulations.

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Safe Work Australia

National Guide for Classifying Hazardous Chemicals under the Model WHS Regulations

Hazard Classification Hazardous according to the criteria of Safe Work Australia under Model WHS Regulations

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Sodium nitrate	NaNO ₃	7631-99-4	>98 - 100 %

4. FIRST AID MEASURES**Description of necessary measures according to routes of exposure**

Swallowed	IF SWALLOWED: Rinse mouth, then drink plenty of water. Do not induce vomiting unless directed to do so by medical personnel. Call a Poison Centre or doctor/physician if you feel unwell. Never give anything by mouth to an unconscious person.
Eye	IF IN EYES: 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.
Skin	IF ON SKIN: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes. Wash skin thoroughly with soap and running water for at least 15 minutes. If skin irritation occurs, get medical advice/attention. Wash contaminated clothing and shoes before reuse. *Contaminated clothing may be a fire risk when dry.
Inhaled	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If respiratory symptoms persist, get medical advice/attention. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. *After inhalation of decomposition products: Immediately administer a corticosteroid from a controlled/metered dose inhaler.
Advice to Doctor	Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. Keep victim calm and warm. Treat according to symptoms (decontamination, vital functions); treat with toluonium chloride to reverse methaemoglobinaemia. After inhalation of decomposition products: Pulmonary oedema prophylaxis. *Most important symptoms and effects, both acute and delayed: May be harmful if swallowed. Danger of methaemoglobin formation after ingestion. Delayed adverse effect possible. Causes serious eye irritation.
Medical Conditions Aggravated by Exposure	No information available.

5. FIRE FIGHTING MEASURES

General Measures	Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. Cool containers with flooding quantities of water until well after fire is out.
Flammability Conditions	OXIDISING SOLID: Will accelerate burning when involved in a fire. *Substance/product is an oxidizing agent and can supply oxygen to stimulate or accelerate the combustion of organic or other combustible substances/products.
Extinguishing Media	Use water spray for extinction. Do not use dry chemicals or foams. CO2 or Halon® may provide limited control. *Large fire: Flood fire area with water from a distance.
Fire and Explosion Hazard	May explode from heat or contamination! May ignite combustibles.
Hazardous Products of Combustion	If the product is involved in a fire, Nitrogen oxides can be released.
Special Fire Fighting Instructions	Contain runoff from fire control or dilution water - Runoff may cause pollution. Runoff may create fire or explosion hazard!
Personal Protective Equipment	Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing - It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection.
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

6. ACCIDENTAL RELEASE MEASURES

Ensure adequate ventilation. ELIMINATE all ignition sources - Prevent exposure to heat. Do not contaminate - Keep

General Response Procedure	combustibles away from spilled material! Avoid generating dust. Avoid breathing vapours/dust/aerosol and contact with eyes, skin and clothing.
Clean Up Procedures	Sweep/shovel up and place material into clean, dry container and cover loosely; move containers from spill area.
Containment	Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas.
Decontamination	Following product recovery, flush area with water.
Environmental Precautionary Measures	Spillages and decontamination runoff should be prevented from entering drains and watercourses. Notify authorities if product enters sewers or public waters.
Evacuation Criteria	Spill or leak area should be isolated immediately. Keep unauthorised personnel away. Keep upwind and to higher ground. *Large spill: Immediately contact Police or Fire Brigade; Consider initial downwind evacuation of areas within at least 100 m.
Personal Precautionary Measures	Do not touch damaged containers or spilled material unless wearing appropriate protective clothing (see SECTION 8). *Use breathing apparatus if exposed to vapours/dust/aerosol.

7. HANDLING AND 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 vapours/dust/aerosol and contact with eyes, skin and clothing. Do not ingest. Wear protective gloves/protective clothing/eye protection/face protection and suitable respirator (see SECTION 8). Keep away from heat, hot surfaces, sparks, open flames and other ignition sources - No smoking.
Storage	Store separately in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed when not in use. Containers which are opened should be properly resealed and kept upright to prevent leakage. Protect from moisture. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources - No smoking. Keep away from clothing and other combustibles and incompatible materials (see SECTION 10).
Container	Keep in the original container or suitable materials for containers, i.e. Stainless steel 1.4541, Stainless steel 1.4571, High density polyethylene (HDPE), Low density polyethylene (LDPE), Polyester resin, glass reinforced (Palatal A410), glass, enamelled, Carbon steel (Iron), rubberized, Aluminium.

8. 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 ³ (measured as inhalable dust). - New Zealand WES (Particulates not otherwise classified): TWA = 10 mg/m ³ ; TWA = 3 mg/m ³ (respirable dust). DECOMPOSITION PRODUCT: Nitrogen dioxide: - Safe Work Australia Exposure Standard: TWA = 3 ppm (5.6 mg/m ³); STEL = 5 ppm (9.4 mg/m ³). - New Zealand Workplace Exposure Standard [Next review: 2022]: Interim WES-TWA = 1 ppm (1.9 mg/m ³).
Exposure Limits	No Data Available
Biological Limits	No information 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: In case of inadequate ventilation, wear respiratory protection. Recommended: Particle filter with low efficiency for solid particles, e.g. Type P1 or FFP1 (refer to AS/NZS 1715 & 1716). - Eye/face protection: Wear appropriate eye protection to prevent eye contact. Recommended: Tightly fitting safety goggles (splash goggles). - Hand protection: Wear protective gloves. Recommended: Chemical resistant protective gloves. - Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit.
Special Hazards Precautions	No information available.

Work Hygienic Practices

Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Take off immediately all contaminated clothing. Hands and/or face should be washed before breaks and at the end of the shift. Employees should shower at the end of the shift.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Crystalline or prilled
Odour	Odourless
Colour	White
pH	8 - 10 (5% aqueous solution)
Vapour Pressure	Negligible at ambient conditions (@ No Data Available)
Relative Vapour Density	No Data Available
Boiling Point	No Data Available
Melting Point	306 - 307 °C
Freezing Point	No Data Available
Solubility	Soluble in water (88 g/100 ml)
Specific Gravity	2.26
Flash Point	No Data Available
Auto Ignition Temp	No Data Available
Evaporation Rate	No Data Available
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	>550 °C
Density	No Data Available
Specific Heat	No Data Available
Molecular Weight	No Data Available
Net Propellant Weight	No Data Available
Octanol Water Coefficient	No Data Available
Particle Size	No Data Available
Partition 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
Additional Characteristics	Hygroscopic: absorbs moisture or water from surrounding air.
Potential for Dust Explosion	No information available.
Fast or Intensely Burning Characteristics	May explode from heat or contamination!
Flame Propagation or Burning Rate of Solid Materials	No information available.
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No information available.
Properties That May Initiate or Contribute to Fire Intensity	OXIDISING SOLID: Will accelerate burning when involved in a fire. May ignite combustibles. *Substance/product is an oxidizing agent and can supply oxygen to stimulate or accelerate the combustion of organic or other combustible substances/products.

Reactions That Release Gases or Vapours	Decomposes on heating emitting irritating and/or toxic fumes, including Nitrogen oxides, Sodium oxides.
Release of Invisible Flammable Vapours and Gases	No information available.

10. STABILITY AND REACTIVITY

General Information	No hazardous reactions when handled and stored according to provisions.
Chemical Stability	Stable under normal storage and temperature conditions.
Conditions to Avoid	Avoid generating dust. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Keep away from clothing and other combustible materials. *Avoid heating while in contact with easily oxidizable materials.
Materials to Avoid	Incompatible/reactive with flammable, combustible and reducing agents; Ammonium compounds; Strong acids.
Hazardous Decomposition Products	Decomposes on heating emitting irritating and/or toxic fumes, including Nitrogen oxides, Sodium oxides.
Hazardous Polymerisation	No information available.

11. TOXICOLOGICAL INFORMATION

General Information	<p>Information on toxicological effects:</p> <ul style="list-style-type: none"> - Acute toxicity: May be harmful if swallowed. - Skin corrosion/irritation: Not classified. Non-irritant [OECD Guideline 404]. - Serious eye damage/irritation: Causes serious eye irritation. No irreversible damage (Rabbit) [OECD Guideline 405]. - Respiratory/skin sensitisation: Not classified. Skin sensitizing effects were not observed in animal studies. Non-sensitising (Mouse, LLNA) [OECD Guideline 429]. - Germ cell mutagenicity: Not classified. The data available on mutagenic action are not consistent. - Carcinogenicity: Not classified. In long-term studies in rats in which the substance was given by feed, a carcinogenic effect was not observed. Under certain conditions the substance can form nitrosamines. Nitrosamines are carcinogenic in animal studies. - Reproductive toxicity: Not classified. The results of animal studies gave no indication of a fertility impairing effect (Screening test) [OECD 421/422]. No indications of a developmental toxic/teratogenic effect were seen in animal studies (Screening test) [OECD 421/422]. - STOT (single exposure): Not classified. - STOT (repeated exposure): Not classified. - Aspiration toxicity: Study does not need to be conducted. <p>Information on likely routes of exposure:</p> <ul style="list-style-type: none"> - Ingestion: There is a risk of damage to the blood (methemoglobinemia) after a single uptake of large quantities. - Eye contact: Irritating to eyes. - Skin contact: Not irritating to the skin. - Inhalation: Inhalation of decomposition products may be harmful. <p>Chronic effects: The substance may cause damage to the haematological system after repeated ingestion.</p>
Acute	
Ingestion	<p>Acute toxicity (Oral):</p> <ul style="list-style-type: none"> - LD50, Rat: 3,430 mg/kg [OECD Guideline 401].
Other	<p>Acute toxicity (Dermal):</p> <ul style="list-style-type: none"> - LD50, Rat: >5,000 mg/kg [OECD TG 402].
Carcinogen Category	None

12. ECOLOGICAL INFORMATION

Ecotoxicity	There is a high probability that the product is not acutely harmful 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.
Persistence/Degradability	According to structural properties, hydrolysis is not expected/probable.
Mobility	The substance will not evaporate into the atmosphere from the water surface. Adsorption to solid soil phase is not expected.
Environmental Fate	The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment; however, May cause eutrophication at very low concentration. Prevent entry into drains and waterways. *Excess nitrate leaching may enrich waters leading to eutrophication.
Bioaccumulation Potential	Accumulation in organisms is not to be expected.
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	This material and its container must be disposed of as hazardous waste and in accordance with local/regional/national regulations.
Special Precautions for Land Fill	Check for possible recycling.

14. TRANSPORT INFORMATION

Land Transport (Australia)

ADG Code

Proper Shipping Name	SODIUM NITRATE
Class	5.1 Oxidising Substances
Subsidiary Risk(s)	No Data Available
EPG	31 Oxidizing Substances
UN Number	1498
Hazchem	1Z
Pack Group	III
Special Provision	No Data Available

Land Transport (Malaysia)

ADR Code

Proper Shipping Name	SODIUM NITRATE
Class	5.1 Oxidising Substances
Subsidiary Risk(s)	No Data Available
EPG	31 Oxidizing Substances
UN Number	1498
Hazchem	1Z
Pack Group	III
Special Provision	No Data Available

Land Transport (New Zealand)

NZS5433

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Proper Shipping Name	SODIUM NITRATE
Class	5.1 Oxidising Substances
Subsidiary Risk(s)	No Data Available
EPG	31 Oxidizing Substances
UN Number	1498
Hazchem	1Z
Pack Group	III
Special Provision	No Data Available

Land Transport (United States of America)

US DOT

Proper Shipping Name	SODIUM NITRATE
Class	5.1 Oxidising Substances
Subsidiary Risk(s)	No Data Available
ERG	140 Oxidizers
UN Number	1498
Hazchem	1Z
Pack Group	III
Special Provision	No Data Available

Sea Transport

IMDG Code

Proper Shipping Name	SODIUM NITRATE
Class	5.1 Oxidising Substances
Subsidiary Risk(s)	No Data Available
UN Number	1498
Hazchem	1Z
Pack Group	III
Special Provision	No Data Available
EMS	F-A, S-Q
Marine Pollutant	No

Air Transport

IATA DGR

Proper Shipping Name	SODIUM NITRATE
Class	5.1 Oxidising Substances
Subsidiary Risk(s)	No Data Available
UN Number	1498
Hazchem	1Z
Pack Group	III
Special Provision	No Data Available

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification	Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)
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15. REGULATORY INFORMATION

General Information	No Data Available
Poisons Schedule (Aust)	Not Scheduled

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

Approval Code	HSR001350
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National/Regional Inventories

Australia (AIC)	Listed
Canada (DSL)	Listed
Canada (NDSL)	Not Determined
China (IECSC)	Listed
Europe (EINECS)	231-554-3
Europe (REACH)	Not Determined
Japan (ENCS/METI)	Listed
Korea (KECI)	Listed
Malaysia (EHS Register)	Not Determined
New Zealand (NZIoC)	Listed
Philippines (PICCS)	Listed
Switzerland (Giftliste 1)	Not Determined
Switzerland (Inventory of Notified Substances)	Not Determined
Taiwan (NCSR)	Listed
USA (TSCA)	Listed

16. OTHER INFORMATION

Related Product Codes	NISODA1000, NISODA1001, NISODA1002, NISODA1003, NISODA1004, NISODA1005, NISODA1006, NISODA1007, NISODA1008, NISODA1009, NISODA1010, NISODA1011, NISODA1012, NISODA1013, NISODA1014, NISODA1015, NISODA1051, NISODA1500, NISODA1800, NISODA1801, NISODA1802, NISODA1803, NISODA2000, NISODA2001, NISODA2002, NISODA2003, NISODA2500, NISODA3000, NISODA3001, NISODA3100, NISODA3400, NISODA3500, NISODA3600, NISODA3700, NISODA3800, NISODA3900, NISODA4000, NISODA5000, NISODA5001, NISODA5002, NISODA5100, NISODA5101, NISODA5102, NISODA5103, NISODA5104, NISODA5105, NISODA5106, NISODA5107, NISODA5200, NISODA5201, NISODA5202, NISODA5203, NISODA5204, NISODA5205, NISODA5206, NISODA5207, NISODA5208, NISODA5209, NISODA5210, NISODA5211, NISODA5212, NISODA5213, NISODA5214, NISODA5215, NISODA5300, NISODA5301, NISODA5302, NISODA5303, NISODA5304, NISODA5400, NISODA5401, NISODA5500,
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NISODA5600, NISODA5601, NISODA5602, NISODA5610, NISODA5700, NISODA5800, NISODA5900, NISODA6000, NISODA6001, NISODA6002, NISODA6100, NISODA6700, NISODA7000, NISODA8000, NISODA8001, NISODA8100, NISODA8400, NISODA8500, NISODA8501, NISODA8593, NISODA8600, NISODA9000, NISODA9500, NISODA9600, NISODA9700, NISODA9950, NISODA9951

Revision	5
Revision Date	28 Mar 2023
Key/Legend	< Less Than > Greater Than AICS Australian Inventory of Chemical Substances atm Atmosphere CAS Chemical Abstracts Service (Registry Number) cm² Square Centimetres CO₂ Carbon Dioxide COD Chemical Oxygen Demand deg C (°C) Degrees Celcius EPA (New Zealand) Environmental Protection Authority of New Zealand deg F (°F) Degrees Farenheit g Grams g/cm³ Grams per Cubic Centimetre g/l Grams per Litre HSNO Hazardous Substance and New Organism IDLH Immediately Dangerous to Life and Health immiscible Liquids are insoluable in each other. inHg Inch of Mercury inH₂O Inch of Water K Kelvin kg Kilogram kg/m³ Kilograms per Cubic Metre lb Pound LC₅₀ LC stands for lethal concentration. LC ₅₀ is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours. LD₅₀ LD stands for Lethal Dose. LD ₅₀ is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals. ltr or L Litre m³ Cubic Metre mbar Millibar mg Milligram mg/24H Milligrams per 24 Hours mg/kg Milligrams per Kilogram mg/m³ Milligrams per Cubic Metre Misc or Miscible Liquids form one homogeneous liquid phase regardless of the amount of either component present. mm Millimetre mmH₂O Millimetres of Water mPa.s Millipascals per Second N/A Not Applicable NIOSH National Institute for Occupational Safety and Health NOHSC National Occupational Health and Safety Commission OECD Organisation for Economic Co-operation and Development Oz Ounce PEL Permissible Exposure Limit Pa Pascal ppb Parts per Billion ppm Parts per Million ppm/2h Parts per Million per 2 Hours ppm/6h Parts per Million per 6 Hours psi Pounds per Square Inch R Rankine RCP Reciprocal Calculation Procedure STEL Short Term Exposure Limit TLV Threshold Limit Value tne Tonne TWA Time Weighted Average ug/24H Micrograms per 24 Hours UN United Nations

wt Weight