

1. IDENTIFICATION

Product Name	Sodium nitrate
Other Names	No Data Available
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 Pty Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Pty 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 Serious Eye Damage/Irritation - Category 2A		
Pictograms			
Signal Word	Warning		
Hazard Statements	H272	May intensify fire; oxidizer.	
	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/attention.
		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	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)
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Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

HSNO Classifications	Physical Hazards	5.1.1C	Oxidising substances that are liquids or solids: low hazard
	Health Hazards	6.1D	Substances that are acutely toxic - Harmful
	Environmental Hazards	9.3C	Substances that are harmful to terrestrial vertebrates

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

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

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	IF SWALLOWED: 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.
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: 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.
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. Apply resuscitation if victim is not breathing - Administer oxygen if breathing is difficult.
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.
Medical Conditions Aggravated by Exposure	No information available.

5. FIRE FIGHTING MEASURES

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 ₂) 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

6. 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 (see SECTION 13); 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 (see SECTION 8).

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 dust and contact with eyes, skin and clothing. Wear protective gloves/eye protection/face protection (see SECTION 8). 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.

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 (total); TWA = 3 mg/m ³ (respirable).
Exposure Limits	No Data Available
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 ³ . 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
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. - 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Crystalline (powder)
Odour	Odourless
Colour	White
pH	No Data Available
Vapour Pressure	No Data Available
Relative Vapour Density	No Data Available
Boiling Point	380 °C (decomposes)
Melting Point	308 °C
Freezing Point	No Data Available
Solubility	92.1 g/100 ml water 25°C

Specific Gravity	No Data Available
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	No Data Available
Density	2.3 g/cm ³
Specific Heat	No Data Available
Molecular Weight	84.99 g/mol
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	No information available.
Potential for Dust Explosion	No information available.
Fast or Intensely Burning Characteristics	No information available.
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 SUBSTANCE: Will accelerate burning when involved in a fire.
Reactions That Release Gases or Vapours	Fire/thermal decomposition may produce irritating, toxic and/or corrosive gases, including oxides of Nitrogen (NO _x), Sodium nitrite and Sodium oxide.
Release of Invisible Flammable Vapours and Gases	The substance decomposes on heating producing nitrogen oxides and oxygen, which increases fire hazard.

10. STABILITY AND REACTIVITY

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 _x), Sodium nitrite and Sodium oxide.
Hazardous Polymerisation	No information available.

11. TOXICOLOGICAL INFORMATION

General Information	<ul style="list-style-type: none"> - 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].
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- 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. Physicochemical/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

12. ECOLOGICAL INFORMATION

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

13. DISPOSAL CONSIDERATIONS

General Information	If material cannot be recycled, dispose of through a licensed waste contractor and in accordance with local/regional/national regulations.
Special Precautions for Land Fill	Contaminated packaging: Dispose of as unused product.

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

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

National/Regional Inventories

Australia (AICS)	Listed
Canada (DSL)	Not Determined
Canada (NDSL)	Not Determined
China (IECSC)	Not Determined
Europe (EINECS)	231-554-3
Europe (REACH)	Not Determined
Japan (ENCS/METI)	Not Determined
Korea (KECI)	Not Determined
Malaysia (EHS Register)	Not Determined
New Zealand (NZIoC)	Listed
Philippines (PICCS)	Not Determined
Switzerland (Giftliste 1)	Not Determined

Switzerland (Inventory of Notified Substances)	Not Determined
Taiwan (NCSR)	Not Determined
USA (TSCA)	Not Determined

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, 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, NISODA5600, NISODA5601, NISODA5602, NISODA5610, NISODA5700, NISODA5800, NISODA5900, NISODA6000, NISODA6001, NISODA6002, NISODA6100, NISODA6700, NISODA7000, NISODA8000, NISODA8001, NISODA8100, NISODA8400, NISODA8500, NISODA8501, NISODA8600, NISODA9000, NISODA9500, NISODA9600, NISODA9700, NISODA9950, NISODA9951
Revision	3
Revision Date	19 Sep 2016
Key/Legend	<p>< 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 Fahrenheit 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 insoluble 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. LC₅₀ 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. LD₅₀ 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</p>

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