Infosafe No™ 1CH92 Issue Date :October 2011 -ISSUED by CHEMSUPP CS: 1.4.95

Product Name **STRONTIUM NITRATE**

Not classified as hazardous according to criteria of NOHSC

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name STRONTIUM NITRATE

Company Name CHEM-SUPPLY PTY LTD (ABN 19 008 264 211)

Address 50 Bedford Street GILLMAN
SA 5013 Australia

Telephone/Fax Number Tel: (08) 8440-2000
Fax: (08) 8440-2001

Recommended Use Pyrotechnics, marine signals, railroad flares, matches and laboratory reagent.

Other Names

Name	Product Code
STRONTIUM NITRATE LR	SL063
STRONTIUM NITRATE AR	SA063

Other Information EMERGENCY CONTACT NUMBER: +61 08 8440 2000
Business hours: 8:30am to 5:00pm, Monday to Friday.

Chem-Supply Pty Ltd does not warrant that this product is suitable for any use or purpose. The user must ascertain the suitability of the product before use or application intended purpose. Preliminary testing of the product before use or application is recommended. Any reliance or purported reliance upon Chem-Supply Pty Ltd with respect to any skill or judgement or advice in relation to the suitability of this product of any purpose is disclaimed. Except to the extent prohibited at law, any condition implied by any statute as to the merchantable quality of this product or fitness for any purpose is hereby excluded. This product is not sold by description. Where the provisions of Part V, Division 2 of the Trade Practices Act apply, the liability of Chem-Supply Pty Ltd is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.

2. HAZARDS IDENTIFICATION

Hazard Classification Not classified as hazardous according to criteria of NOHSC
DANGEROUS GOODS.
NON-HAZARDOUS SUBSTANCE.
Dangerous goods classification according to the Australian Dangerous Goods Code.
Hazard classification according to the criteria of NOHSC.

Risk Phrase(s) Not classified as hazardous according to criteria of NOHSC
R8 Contact with combustible material may cause fire.

Irritancy of Product Highly irritating and corrosive to the skin, severe burn can occur. Only slightly irritating to the mucosa. Irritant to the nasal and respiratory passages. Ingestion of large doses may cause nitrate irritation. Corrosive to the eye, contact can cause severe tissue burns.

Teratogenicity No evidence of teratogenic effects.

Medical Conditions Generally Aggravated by Exposure Persons with pre-existing skin disorders or eye problems or impaired liver or kidney function may be more susceptible to the effects of the substance. Persons on diets low in calcium may be at greater risk of absorbing more strontium nitrate.

Safety Hazards Mixtures with combustible material are readily ignited and may burn fiercely.

Environmental Hazards The following applies to strontium compounds in general: toxic for aquatic organisms.
The following applies to nitrates in general: may contribute to the eutrophication of water supplies. Hazard for drinking water.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Characterization Solid

Ingredients

Name	CAS	Proportion	Hazard Symbol	Risk Phrase
Strontium Nitrate	10042-76-9	100 %		

4. FIRST AID MEASURES

Inhalation	Remove from exposure, rest and keep warm. In severe cases seek medical attention.
Ingestion	Rinse mouth thoroughly with water immediately. Give plenty of water to drink. Never give anything by mouth to an unconscious person. If swallowed, do NOT induce vomiting. Seek medical attention.
Skin	Wash affected areas with copious quantities of water immediately. Remove contaminated clothing and wash before re-use. Seek medical attention in severe cases.
Eye	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. Seek medical attention.
First Aid Facilities	Maintain eyewash fountain and safety shower in work area.
Advice to Doctor	Treat symptomatically and supportively. For methaemoglobinaemia, administer oxygen alone or with Methylene Blue depending on the methaemoglobin concentration in the blood. Antidote: Methylene blue, alone or in combination with oxygen is indicated as a treatment in nitrite induced methaemoglobinaemia.
Other Information	For advice, contact a Poisons Information Centre (Phone eg Australia 13 1126; New Zealand 0800 764 766) or a doctor.

5. FIRE FIGHTING MEASURES

Hazards from Combustion Products	Irritating and toxic fumes and gases, including nitrogen oxides, nitrous gases, some metallic oxides, oxides of carbon.
Specific Methods	Small fire: USE FLOODING QUANTITIES OF WATER. Do not use dry chemicals, CO2 or foam. 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 flooding quantities of water 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. Dam fire control water for later disposal.
Sensitivity to Impact (Shock Sensitivity)	Sensitive to mechanical impact. Explosive in presence of shocks, or if exposed to friction.
Specific Hazards	Will accelerate burning when involved in a fire. May explode from heating, shock, friction or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, clothing, etc). Fire may produce irritating, poisonous, and/or corrosive gases. Containers may explode when heated. Runoff may create fire or explosion hazard.
Hazchem Code	1Z
Sensitivity to Static Discharge	Sensitive to static discharge. Explosive in presence of open flames, sparks and static discharge.
Decomposition Temp.	~ 500 °C
Precautions in connection with Fire	Wear SCBA and chemical splash suit. Structural firefighter's uniform will provide limited protection.

6. ACCIDENTAL RELEASE MEASURES

Spills & Disposal	Evacuate unprotected personnel from danger area. Observe local regulations. Do not contaminate. Keep combustibles (wood, paper, clothing, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use water spray to knock down vapours or divert vapour clouds. Prevent entry into waterways, drains or confined areas. Prevent exposure to heat. Dry Spill Use clean non-sparking tools to transfer material to a clean, dry plastic container and cover loosely. Move container from spill area. Small Liquid Spill Use a non-combustible material like vermiculite, sand or earth to soak up the product and place in a loosely-covered container for later disposal. Large Liquid Spill

	SEEK EXPERT ADVICE ON HANDLING AND DISPOSAL.
Personal Protection	Wear protective clothing specified for normal operations (see Section 8)

7. HANDLING AND STORAGE

Precautions for Safe Handling	Avoid ingestion and inhalation of vapour or dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure. Minimize dust generation and accumulation. Ensure good ventilation at the workplace. Use with adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek immediate medial advice. If you feel unwell, seek medical attention and show the label when possible. Wear suitable protective clothing. Wash thoroughly after handling. Wash clothing before reuse. Keep away from heat and all sources of ignition. Keep away from combustible material. Substance/product can reduce the ignition temperature of flammable substances. This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition. Keep away from incompatibles such as reducing agents, organics, or other readily oxidizable materials. Protect against physical damage and moisture. Do not allow contact with water. Keep from contact with moist air and steam. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.
Conditions for Safe Storage	Store in a tightly closed container, in a cool, dry, well-ventilated area away from incompatible substances. Keep separate from acids, alkalies, organic or other readily oxidizable materials and reducing agents. Keep well closed and protected from physical damage, direct sunlight and moisture. Keep away from combustible materials, flammable substances, heat, sparks, open flame and all sources of ignition. Avoid storage on wood floors. Oxidizing materials should be stored in a separate safety storage cabinet or room. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.
Storage Regulations	Refer Australian Standard AS 4326-1995 'The storage and handling of oxidizing agents'.
Storage Temperatures	Store at room temperature (15 to 25 °C recommended).
Unsuitable Materials	Organic materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Other Exposure Information	A time weighted average (TWA) concentration for an 8 hour day, and 5 day week has not been established by NOHSC Australia for this product. There is a blanket limit of 10 mg/m³ for dusts when limits have not otherwise been established. TWA: 10 mg/m3 - inspirable dust - Worksafe Aust.
Engineering Controls	In industrial situations maintain the concentrations values below the TWA. This may be achieved by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods.
Respiratory Protection	Where ventilation is not adequate, respiratory protection may be required. Avoid breathing dust, vapours or mists. Respiratory protection should comply with AS 1716 - Respiratory Protective Devices and be selected in accordance with AS 1715 - Selection, Use and Maintenance of Respiratory Protective Devices. Filter capacity and respirator type depends on exposure levels. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.
Eye Protection	The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.
Hand Protection	Hand protection should comply with AS 2161, Occupational protective gloves - Selection, use and maintenance.
Body Protection	Flame retardant protective clothing. Clean clothing or protective clothing should be worn, preferably with an apron. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.
Hygiene Measures	Always wash hands before smoking, eating or using the toilet. Wash contaminated clothing and other protective equipment before storing or

re-using.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	Solid
Appearance	White crystals, powder or granules.
Odour	Odourless.
Decomposition Temperature	~ 500 °C
Melting Point	570 °C
Boiling Point	645 °C (decomposes).
Solubility in Water	Very soluble (70.9 g/100 ml at 18 °C).
Solubility in Organic Solvents	Slightly soluble in absolute alcohol and acetone.
Specific Gravity	2.986
pH Value	5.0 - 7.0 (25 °C, 50 g/l); aqueous solution is neutral.
Vapour Pressure	Negligible.
Flammability	Not combustible but assists combustion of other substances.
Explosion Properties	May explode when shocked, or if exposed to heat, open flames, sparks, static discharge and friction. Also may act as initiation source for dust or vapour explosions.
Molecular Weight	211.63
Oxidising Properties	Strong oxidizer. Contact with other material may cause fire. Greatly increases the burning rate of combustible materials. This material can be very explosive when mixed with reducing agents, or when shocked or heated.
Burning Characteristics	Not combustible, but substance is a strong oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition. Contact with oxidizable substances may cause extremely violent combustion.

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under ordinary conditions of use and storage.
Conditions to Avoid	Heat, sparks, flames, ignition sources, dust generation, combustible materials, moisture, water and incompatibles.
Incompatible Materials	Combustible substances, metals in powder form, sulfur, reducing agents, organic materials/compounds, easily oxidized materials, halogens, acids.
Hazardous Decomposition Products	Irritating and toxic fumes and gases, including nitrogen oxides, nitrous gases, some metallic oxides, oxides of carbon.
Hazardous Reactions	Mixtures with combustible material are readily ignited and may burn fiercely. Reactive with reducing agents. Reacts with flammable substances. Contact with organic material may result in ignition, violent combustion or explosion.
Hazardous Polymerization	Will not occur.

11. TOXICOLOGICAL INFORMATION

Inhalation	Irritant to the nasal and respiratory passages due largely to the nitrate radical. Coughing, sneezing and some difficulty in breathing can occur in cases of exceptional dust inhalation. Higher levels may cause a chemical pneumonia. Methaemoglobinaemia is characterized by dizziness, drowsiness, headache, shortness of breath, cyanosis (bluish discolouration of skin due to deficient oxygenation of the blood), rapid heart rate and chocolate-brown blood.
Ingestion	Harmful if swallowed. Toxicity rating is low (2-3) because strontium salts are poorly absorbed from the digestive system. May cause irritation of the digestive tract. Large doses may, however, upset the osmotic balance and cause vomiting and diarrhoea as well as nitrate irritation. Overexposure may cause

	methaemoglobinaemia. Methaemoglobinaemia is characterized by dizziness, drowsiness, headache, shortness of breath, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), rapid heart rate and chocolate-brown coloured blood. Ingestion of nitrate containing compounds can lead to methaemoglobinaemia.
Skin	Corrosive. Symptoms of redness, pain, and severe burn can occur. May cause skin irritation.
Eye	Corrosive. Contact can cause blurred vision, redness, pain and severe tissue burns. May cause eye irritation.
Chronic Effects	Repeated exposure has caused damage to heart muscle, lungs, liver, kidneys, and blood-forming organs; and affects the nervous system in animals. May cause methaemoglobinaemia, which is characterized by chocolate-brown coloured blood, headache, weakness, dizziness, breath shortness, cyanosis (bluish skin due to deficient oxygenation of blood), rapid heart rate, unconsciousness and possible death. Repeated exposure causes strontium nitrate to accumulate in the body and effects can persist after exposure stops.
Mutagenicity	No evidence of mutagenic properties.
Carcinogenicity	Nitrate or nitrite (ingested) under conditions that result in endogenous nitrosation is evaluated in the IARC Monographs (Vol. 94; in preparation) as Group 2A: Probably carcinogenic to humans.
Acute Toxicity - Oral	LD50 (rat): 2750 mg/kg; LD50 (mouse): 1822 mg/kg.

12. ECOLOGICAL INFORMATION

Ecotoxicity	The following applies to strontium compounds in general: toxic for aquatic organisms. The following applies to nitrates in general: may contribute to the eutrophication of water supplies. Hazard for drinking water.
Environ. Protection	Do not allow to enter waters, waste water, or soil!
Acute Toxicity - Fish	The following applies to strontium compounds in general: Salmo toxic from 1 mg/l up; lethal from 1500 mg/l up in 2 weeks, from 10 g/l up in 1 day; nourishment for fish: toxic from 3500 mg/l up (values calculated as Sr). The following applies to nitrates in general: LC50 > 500 mg/l.

13. DISPOSAL CONSIDERATIONS

Disposal Considerations	Whatever cannot be saved for recovery or recycling should be dispose of according to relevant local, state and federal government regulations.

14. TRANSPORT INFORMATION

Transport Information	Dangerous Goods of Class 5.1 Oxidising Agents are incompatible in a placard load with any of the following: - Class 1, Class 2.1, Class 2.3, Class 3, Class 4, Class 5.2, Class 7, Class 8, Fire risk substances and combustible liquids.
U.N. Number	1507
Proper Shipping Name	STRONTIUM NITRATE
DG Class	5.1
Hazchem Code	1Z
Packaging Method	3.8.5.1
Packing Group	III
EPG Number	5A1
IERG Number	31

15. REGULATORY INFORMATION

Regulatory Information	Listed in the Australian Inventory of Chemical Substances (AICS).
Poisons Schedule	Not Scheduled
Hazard Category	Oxidising

16. OTHER INFORMATION

Contact Person/Point Paul McCarthy Ph. (08) 8440 2000 DISCLAIMER STATEMENT:
All information provided in this data sheet or by our technical representatives is compiled from the best knowledge available to us. However, since data, safety standards and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, we make no warranty either expressed or implied, with respect to the completeness or accuracy to the information contained herein. Chem-Supply accepts no responsibility whatsoever for its accuracy or for any results that may be obtained by customers from using the data and disclaims all liability for reliance on information provided in this data sheet or by our technical representatives.

Empirical Formula & Structural Formula $Sr(NO_3)_2$

Literature References

Australian Government Department of Health and Ageing, 'Standard for the Uniform Scheduling of Medicines and Poisons No. 2', Commonwealth of Australia, August 2011.
Lewis, Richard J. Sr. 'Hawley's Condensed Chemical Dictionary 13th. Ed.', Rev., John Wiley and Sons, Inc., NY, 1997.
National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.', 2007.
South Australia Government, 'Approved Code of Practice for the Labelling of Workplace Substances', 1995.
Standards Australia 'AS 1940-2004 The Storage and Handling of Flammable and Combustible Liquids.
Standards Australia, 'SAA/SNZ HB 76:2010 Dangerous Goods - Initial Emergency Response Guide', Standards Australia/Standards New Zealand, 2010.
Worksafe Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008(2004)]'.
Worksafe Australia, 'Hazardous Substances Information System, 2005'.
Worksafe Australia, 'National Code of Practice for the Labelling of Workplace Substances [NOHSC:2012(1994)]'.
Worksafe Australia, 'National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)]'.

User Codes

User Field Title	User Code
CAS No.	10042-76-9
Risk Phrases	8

...End Of MSDS...