Material Safety Data Sheet

Product Name: Seaguard Corrosion Inhibitor

Seaguard Chemicals Pty Ltd
9 Waldheim Road
Bayswater Victoria 3153
Australia

Material Identification and Information

Chemical Name:	Sodium Nitrate CAS Number 7632-00-0 UN Number 1500 Ref Attached
Dangerous Goods Class:	5.1 Oxidising Agent
Hazchem Code:	1<T>
Poisons Schedule:	S5
Use:	Ion Scavenger-Corrosion Inhibitor

Physical Properties

Pale Yellow to Off-White, Crystalline Hygroscopic Solid, Faint Odour.

Soluble in water in all proportions.

Flash Point:	Non-Flammable
Specific Gravity:	2.1
M.P.T.	320 degrees C
B.P.T.	N Av
Decomposition Point:	320 degrees C
% Volatile:	Nil
pH:	Approx 9.5 (10% Aq Soln.)
Issue: 2	15th February 2006

1. Identification of the Substance/Preparation and the Company/Undertaking

Product Name:	Sodium Nitrate
Synonyma:	Sodium Nitrate Nitrous Acid, Sodium Salt
CAS No:	7632-00-0
Molecular Formula:	Na-NO2
Supplier:	Orica Australia Pty Ltd
ACN:	004 117 828
Street Address:	1 Nicholson Street Melbourne 3000 Australia
Telephone:	+61 3 9665 7111

Facsimile: +61 3 9665 7937
Emergency Telephone No: 1800 033111 (all hours)

2. Composition/Information on Ingredients

Recommended Use: Rubber accelerator colour fixative and preservative in cured meats, meat Products, fish, pharmaceuticals, photographic and analytical reagent: Dye manufacture.

Appearance: Pale yellow to white crystals.

3. Hazards Identification

Hazardous according to criteria of Worksafe Australia

Hazardous Category: Toxic
R-phrase(s): R8 Contact with combustible material may cause fire.
R25 Toxic if swallowed.

Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by road or rail.

Class: 5.1 Oxidising Agent
Subsidiary Risk: 6.1 Toxic
Poisons Schedule (Aust)/
Toxic Substance (NZ): S5

This material is a Scheduled Poison S5 and must be stored, maintained and used in accordance with the relevant regulations.

4. First Aid Measures

Poison information centers in each state capital city can provide additional assistance for scheduled poisons.

Ingestion: Immediately rinse mouth with water. Give plenty of water to drink. If more than 15 minutes from a hospital induce vomiting using fingers in the throat Seek immediate medical assistance.
Eye Contact: Irrigate with copious quantities of water for 15 minutes. In all cases of eye contamination it is a sensible precaution to seek medical advice.
Skin Contact: Wash contaminated skin with plenty of water. Remove contaminated clothing and wash before re-use. If irritation occurs seek medical advice.
Inhalation: Remove victim from 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. For all but the most minor symptoms arrange for patient to be seen by a doctor as soon as possible, either on site or at the nearest hospital. If breathing laboured and patient cyanotic (blue), ensure airways are clear and have qualified person give oxygen through a face mask. If breathing has stopped apply

artificial respiration at once. In the event of cardiac arrest, apply external massage. Seek medical advice.

Notes to Physician:

Clinical findings: The smooth muscle relaxant effect may lead to headache, dizziness and marked hypertension. Cyanosis is clinically detectable when approximately 15% of the haemoglobin has been converted to methaemoglobin (ie ferric iron). Symptoms such as headache, dizziness, weakness and dyspnoea occur when methaemoglobin concentrations are 30 to 40%, at levels of about 60%, stupor, convulsions, come and respiratory paralysis occur and the blood is a chocolate brown colour. At higher levels death may result. Spectrophotomatric analysis can determine the presence and concentration of methaemoglobin in blood.

Treatment:

1. Give 100% oxygen.
2. In cases of a) ingestion: Use gastric lavage.
b) contamination of skin (unburnt or burnt) continue washing to remove salts.
3. Observe blood pressure and treat hypertension if necessary.
4. When methaemoglobin concentrations exceed 40% or when symptoms are present, give methylene blue 1 to 2 mg/kg body weight in a 1% solution by slow intravenous injection. If cyanosis has not resolved within 1 hour a second dose of 2mg per kg of body weight may be given. The total dose should not exceed 7mg per kg of body weight as unwanted effects such as dyspnoea, chest pain, vomiting, diarrhoea, mental confusion and cyanosis may occur. Without treatment methaemoglobin levels of 20-30% revert to normal within 3 days.
5. Bed rest is required for methaemoglobin levels in excess of 40%.
6. Continue to monitor and give oxygen for at least two hours after treatment with methylene blue.
7. Consider transfer to center where haemoperfusion can be performed to remove the nitrates from blood if the condition of the patient is unstable.
8. Following inhalation of oxides of nitrogen, the patient should be observed in hospital for 24 hours for delayed onset of pulmonary aedema.

5. Fire – Fighting Measures

Specific Hazards: Strong oxidizing agent. Non combustible material, but will support the combustion of other materials. Fire Fighting Further Advice: Not Combustible, but will support the combustion of other materials. Can decompose if involved in a fire liberating oxides of nitrogen and sodium monoxide. If safe to do so, remove containers from path of fire. Keep containers cool with water spray. Fire fighters to wear self-contained breathing apparatus if risk of exposure to vapour or products of decomposition.
Suitable Extinguishing Media: Water jets, water fog (or if unavailable fine water spray), foam, dry agent (carbon dioxide, dry chemical powder). Use dry sand if possible where molten salts are involved to avoid splattering. Where the use is essential use water spray. Avoid playing high pressure jets directly on the nitrate. DO NOT use dry powder or extinguishing media that contains ammonium salts.

6. Accidental Release Measures

Wear protective equipment to prevent skin and eye contamination and inhalation of dust. Sweep up, but avoid generating dust. Collect in a drum containing water. Small spill may be diluted and flushed to drain with a large excess of water. For larger spills, contact supplier for advice. Ensure that contaminated material (clothing, pallets) is thoroughly washed. If contamination of sewers or waterways has occurred advise the local emergency services.

7. Handling and Storage

DO NOT STORE OR TRANSPORT WITH AMMONIUM SALTS (AMMONIUM NITRATE, AMMONIUM NITRATE SOLUTIONS OR AMMONIUM NITRATE EMULSIONS).
Store in a cool place and out of direct sunlight. Keep dry. Store away from acids, ammonium salts, combustible substances, flammable and combustible liquids, reducing agents, oxidising agents, powdered metals, amines and products containing amines and powdered metals (1). Contact with such materials may cause a fire or explosion. Store away from sources of heat or ignition. Store away from foodstuffs, keep containers closed at all times – check regularly for spills.
This material is a scheduled Poison S5 and must be stored, maintained and used in accordance with the relevant regulations.

8. Exposure Controls / Personal Protection

National Occupational Exposure Limits

Occupational Health Hazzards:	All atmospheric contamination should be kept to as low a level as is workable. Exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.
Engineering Measures:	Ensure ventilation is adequate and that air concentrations of components are controlled below quoted Exposure Standards. Use with local exhaust ventilation or while wearing a dust repirator. Keep containers closed when not in use.
Personal protective equipment:	Orica Personal Protection Guide No 1, 1998: E OvERALLS, SAFETY SHOES, SAFETY GLASSES, GLOVES (S), DUST MASK.

Avoid skin and eye contact and inhalation of dust. Wear overalls, safety glasses and impervious gloves. Avoid generating and inhaling dusts. If dust exists, wear dust respirator meeting the requirements of AS/NZS1715 and AS/NZS1716. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

9. Physical and chemical Properties

Form/Colour/Odour: White, crystalline, deliquescent solid.
Solubility: Soluble in water and glycerol. Slightly soluble in alcohol.

Re Vapour Density	N Av	Melting Point (C)	306
Vapour Pressure (20C)	N Av	Decomp Point (C)	380
Flash Point (C)	N App	pH (1% aq soln)	7
Flammability Limits (%)	N App	Viscosity	N App
Autoignition Temp (C)	N App	Evaporation Rate	N App
% Volatile by Volume	Nil	(n-Butyl acatate)	
Solubility in Water	874 (20C)		

(Typical values only – consult specification sheet)

N Av = Not Available N App = Not Applicable

10. Stability and Reactivity

Stability: Oxidising agent. Will react with organic materials. Organic materials may become highly combustible when contaminated with sodium nitrate. May evolve oxides of nitrogen when in contact with acids. Absorbs moisture from air, incompatible with reducing agents, strong acids, finely powdered metals, amines, acetanilde antipyrine, chlorates, iodides, hypophosphites, mercury salts, permangenate sulphites, cyanides, cyanates, tannic acid, vegetable astrigent docotions, infusions or tinctures and sodium amide(1).

11. Toxicological Information

Main Symptoms; No adverse health effects expected if the product is handled in accordance with the Safety Data Sheet and the product label. Symptoms that may arise if the product is mishandled are:

Ingestion: Swallowing can result in nausea, vomiting, diarrhoea and abdominal pain (2). Swallowing will result in partial reduction to nitrate which may cause mathaemoglobin formation in the blood (2).

Eye Contact: Contact with the eyes may result in irritation.

Skin Contact: Contact with the skin may result in irritation.

Inhalation: Inhalation of dust may result in respiratory irritation. Thermal decomposition of sodium nitrate releases toxic oxides of nitrogen which may cause chest discomfort, shortness of breath and pulmonary oedemia. Absorption by swallowing, inhalation or through burnt skin may cause dilation of blood vessels by direct smooth muscle relaxation and may cause methaemoglobinaemia.

Long Term Effects: No information available for period.
Acute toxicity/chronic toxicity: Oral LD50 (rat): 3430 mg/kg (2)

12. Ecological Information

Avoid contaminating waterways.

60 h EC/LC50 (fish): > 1000 mg/L (2)

13. Disposal Considerations

Refer to State Land Waste Management Authority. Empty containers MUST BE decontaminate

14. Transport Information

Classified as Dangerous Goods for the purpose of transport by road or rail. Refer to relevant regulations for storage and transport requirements.

UN – No:	1498
Class:	5.1 Oxidising Agent
Hazchem Code:	1(Z)
EPG:	6A1
Packing Group:	Packing Group 3
Proper Shipping Name:	Sodium Nitrate

Segregation of Dangerous Goods: Not to be loaded with explosives (class 1), flammable gases (class 2.1),non flammable, non toxic gases (class 2.2), poison gases (class 2.3), flammable liquids (class 3). Flammable solids(class 4.1), spontaneously combustible substances (class 4.2), dangerous when wet substances (class 4.3), oxidizing agents (class 5.10, organic peroxides (class 5.2), toxic substances (class 6) (where the toxiknous substances are fire risk substances), radioactive substances (class 7), corrosives (class 8), miscellaneous dangerous goods (class 9),(where the miscellaneous dangerous goods are fire risk substances), fire risk substances other than dangerous goods, however exemptions may apply.

15. Regulatory Information

Not classified as hazardous according to criteria of Worksafe Australia.

Poisons Schedule (Aust) / Toxic Substance (NZ): N/A – Not Applicable.

16. Other Information

Literary Reference

(1) Material Safety Data Sheet – Sodium nitrate, Advanced Chemicals Limited, undated.
(2) Material Safety Data Sheet – Sodium nitrate, BASF Australia Ltd. Infosafe No: BAOOE, 07/95.
(3) Material Safety Sheet – Sodium nitrate , Hoechst Australia Ltd, 18/05/92.

This chemical is listed on the Australian Inventory of Chemical Substances (AICS).
This Material Safety Data Sheet has been prepared by SKE Pacific Pty Ltd on behalf of Orica Ltd and its subsidiarycompanies.

Contact Point:	SKE Pacific Pty Ltd, MSDS Services.
Within Australia: Telephone:	1800 624
Facsimile:	(03) 9665 7929
Outside Australia: Telephone:	+61 3 9655 7500
Facsimile:	+61 3 9665 7929
Issue Date:	25/February /98/MP Supersedes Issue Date: 04/96.

This MSDS summarises at the date of issue our best knowledge of the health and safety hazard information of the product, and in particular how to safely handle and use the product in the workplace. Since Orica Limited and its subsidiaries cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage review this MSDS in the context of how the user intends to handle and use the product in the workplace.

If clarification or further information is needed to ensure that an appropriate assessment can be made, The user should contact the company.

Our responsibility for product as sold is subject to standard terms and conditions, a copy of which is sent to our customers and is available upon request.

END OF MSDS