

# Material Safety Data Sheet

## Sodium Nitrate

ACC# 21400

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** Sodium Nitrate**Catalog Numbers:** AC205960000, AC205960010, AC205962500, AC424340000, AC424340030, 42434-5000, BP360-500, NC9151300, NC9528513, S342-3, S343-3, S343-500, S71998-1**Synonyms:** Cubic niter; Soda niter; Chile saltpeter.**Company Identification:**

Fisher Scientific  
 1 Reagent Lane  
 Fair Lawn, NJ 07410

**For information, call:** 201-796-7100**Emergency Number:** 201-796-7100**For CHEMTREC assistance, call:** 800-424-9300**For International CHEMTREC assistance, call:** 703-527-3887

### Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
7631-99-4	Sodium nitrate	100	231-554-3

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Appearance: white crystals.

**Danger!** Strong oxidizer. Contact with other material may cause a fire. Causes eye, skin, and respiratory tract irritation. Harmful if swallowed. May cause methemoglobinemia.**Target Organs:** Blood, respiratory system, eyes, skin.**Potential Health Effects****Eye:** Causes eye irritation.**Skin:** Causes skin irritation.**Ingestion:** Harmful if swallowed. May cause irritation of the digestive tract. May cause methemoglobinemia, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), convulsions, and death. Methemoglobinemia 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 colored blood.**Inhalation:** Causes respiratory tract irritation. May cause methemoglobinemia, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), convulsions, tachycardia, dyspnea (labored breathing), and death.**Chronic:** Sodium nitrate may react with secondary or tertiary amines to form nitrosamines (certain nitrosamines are cancer suspect agents).

## Section 4 - First Aid Measures

**Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

**Skin:** Get medical aid. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

**Ingestion:** Get medical aid immediately. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

**Inhalation:** Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

**Notes to Physician:** Treat symptomatically and supportively.

## Section 5 - Fire Fighting Measures

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Strong oxidizer. Contact with other material may cause fire. Wear appropriate protective clothing to prevent contact with skin and eyes. Wear a self-contained breathing apparatus (SCBA) to prevent contact with thermal decomposition products.

**Extinguishing Media:** Use water only!

**Flash Point:** Not applicable.

**Autoignition Temperature:** Not available.

**Explosion Limits, Lower:** Not available.

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 2; Flammability: 0; Instability: 1; Special Hazard: OX

## Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation. Keep combustibles (wood, paper, oil, etc.) away from spilled material.

## Section 7 - Handling and Storage

**Handling:** Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with skin and eyes. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Avoid contact with clothing and other combustible materials. Avoid ingestion and inhalation. Use only in a chemical fume hood. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

**Storage:** Do not store near combustible materials. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Avoid storage on wood floors.

## Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

### Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Sodium nitrate	none listed	none listed	none listed

**OSHA Vacated PELs:** Sodium nitrate: No OSHA Vacated PELs are listed for this chemical.

### Personal Protective Equipment

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

## Section 9 - Physical and Chemical Properties

**Physical State:** Crystals

**Appearance:** white

**Odor:** Odorless

**pH:** 5.5-8.0 (5% aq. solution)

**Vapor Pressure:** Not available.

**Vapor Density:** Not available.

**Evaporation Rate:** Not available.

**Viscosity:** Not available.

**Boiling Point:** 380 deg C

**Freezing/Melting Point:** 306 deg C

**Decomposition Temperature:** 380 deg C

**Solubility:** Soluble.

**Specific Gravity/Density:** 900 g/l (20°C)

**Molecular Formula:** NNaO3

**Molecular Weight:** 84.99

## Section 10 - Stability and Reactivity

**Chemical Stability:** Hygroscopic: absorbs moisture or water from the air.

**Conditions to Avoid:** Incompatible materials, dust generation, excess heat, exposure to moist air or water.

**Incompatibilities with Other Materials:** Organic materials, combustible materials, reducing agents, easily oxidizable materials, finely powdered metals, fluorine, cyanides.

**Hazardous Decomposition Products:** Oxides of nitrogen, oxygen.

**Hazardous Polymerization:** Has not been reported

## Section 11 - Toxicological Information

**RTECS#:****CAS#** 7631-99-4: WC5600000**LD50/LC50:**

CAS# 7631-99-4:

Oral, mouse: LD50 = 3500 mg/kg;

Oral, rabbit: LD50 = 2680 mg/kg;

Oral, rat: LD50 = 1267 mg/kg;

**Carcinogenicity:**

CAS# 7631-99-4: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**Epidemiology:** See actual RTECS.**Teratogenicity:** No information found**Reproductive Effects:** orl-mus TDLO: 16800 mg/kg (14D male)**Mutagenicity:** Mutagenic effects have occurred in humans.**Neurotoxicity:** No information found**Other Studies:**

## Section 12 - Ecological Information

**Ecotoxicity:** No data available. This material will not cause oxygen depletion in aquatic systems. It has a low potential to affect aquatic organisms, secondary waste treatment microorganisms, and the growth of some plants. It has a moderate potential to affect the germination of some plants. Acute aquatic effects: 96-hour LC50; Fathead minnow: GT 1000 mg/L 96-hour LC50; Water flea: GT 1000 mg/L

**Environmental:** Nitrates are predominantly used as fertilizer. Unfortunately, nitrates have a tendency to migrate into groundwater as they do not bind to soil and are extremely soluble. Excessive levels of nitrates in drinking water may cause serious illness and death. Infants are most susceptible to nitrate toxicity. "Blue Baby Syndrome" can occur when the infant's conversion of nitrate to nitrite interferes with the oxygen-carrying capacity of the blood. Symptoms of Blue Baby Syndrome include, but may not be limited to, shortness of breath and bluish colored skin.

**Physical:** No information available.**Other:** Do not empty into drains.

## Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P-Series:** None listed.**RCRA U-Series:** None listed.

## Section 14 - Transport Information

	US DOT	Canada TDG
<b>Shipping Name:</b>	SODIUM NITRATE	SODIUM NITRATE
<b>Hazard Class:</b>	5.1	5.1
<b>UN Number:</b>	UN1498	UN1498
<b>Packing Group:</b>	III	III

## Section 15 - Regulatory Information

### US FEDERAL

#### TSCA

CAS# 7631-99-4 is listed on the TSCA inventory.

#### Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

#### Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

#### Section 12b

None of the chemicals are listed under TSCA Section 12b.

#### TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

#### CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

#### SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPO.

#### SARA Codes

CAS # 7631-99-4: immediate, delayed, fire.

#### Section 313

This material contains Sodium nitrate (listed as Water Dissociable Nitrate Compounds), 100%, (CAS# 7631-99-4) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

#### Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

#### Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

#### OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

#### STATE

CAS# 7631-99-4 can be found on the following state right to know lists: New Jersey, Pennsylvania, Massachusetts.

#### California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

### European/International Regulations

#### European Labeling in Accordance with EC Directives

#### Hazard Symbols:

XN O

**Risk Phrases:**

R 22 Harmful if swallowed.

R 36/37/38 Irritating to eyes, respiratory system and skin.

R 8 Contact with combustible material may cause fire.

**Safety Phrases:**

S 17 Keep away from combustible material.

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

**WGK (Water Danger/Protection)**

CAS# 7631-99-4: 1

**Canada - DSL/NDSL**

CAS# 7631-99-4 is listed on Canada's DSL List.

**Canada - WHMIS**

This product has a WHMIS classification of C, D2B.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

**Canadian Ingredient Disclosure List**

CAS# 7631-99-4 is listed on the Canadian Ingredient Disclosure List.

<b>Section 16 - Additional Information</b>
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**MSDS Creation Date:** 12/12/1997

**Revision #16 Date:** 2/15/2008

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