

Section 1. Product and Company Identification

Product Name Sodium Nitrate
CAS Number 7631-99-4

Parchem - fine & specialty chemicals
415 Huguenot Street
New Rochelle, NY 10801
☎ (914) 654-6800 ☎ (914) 654-6899
🌐 parchem.com ✉ info@parchem.com

EMERGENCY RESPONSE NUMBER
CHEMTEL
Toll Free US & Canada: 1 (800) 255-3924
All other Origins: 1 (813) 248-0585
Collect Calls Accepted

Section 2. Hazards Identification

Classification of the substance or mixture

Ox. Sol. 2 Oxidizing solids
Eye Dam./Irrit. 2A Serious eye damage/eye irritation

GHS Label Elements

Pictograms:



Signal word: DANGER

Hazard and precautionary statements

Hazard Statements

H272 May intensify fire; oxidizer.
H319 Causes serious eye irritation.

Precautionary Statements

Prevention

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280 Wear protective gloves and eye/face protection.
P221 Take any precaution to avoid mixing with combustibles ...
P220 Keep/Store away from clothing/combustible materials.
P264 Wash with plenty of water and soap thoroughly after handling.

Response

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P311 If eye irritation persists: Call a POISON CENTER or doctor/physician.

P370 + P378 In case of fire: Use water spray for extinction.

Disposal

P501 Dispose of contents/container to hazardous or special waste collection point.

Hazards not otherwise classified

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture. No specific dangers known, if the regulations/notes for storage and handling are considered.

Section 3. Composition / Information on Ingredients

Common Name Sodium Nitrate
CAS Number 7631-99-4

COMPONENT	CAS NUMBER	CONCENTRATION
Sodium Nitrate	7631-99-4	>= 99.0%

Section 4. First Aid Measures

Description of first-aid measures

General advice: Remove contaminated clothing.

Inhalation: Remove the affected individual into fresh air and keep the person calm. Assist in breathing if necessary. Seek medical attention.

Skin Contact: Wash affected areas thoroughly with soap and water. If irritation develops, seek medical attention.

Eye Contact: In case of contact with the eyes, rinse immediately for at least 15 minutes with plenty of water. If irritation develops, seek medical attention.

Ingestion: Rinse mouth immediately and then drink plenty of water, seek medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms: Overexposure may cause: vomiting, methaemoglobinaemia, weakness, abdominal cramps, diarrhea, headache

Hazards: Danger of methaemoglobin formation after ingestion.

Indication of any immediate medical attention and special treatment needed

Note to physician: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

Section 5. Firefighting Measures

Extinguishing media

Suitable extinguishing media: Water spray

Unsuitable extinguishing media for safety reasons: ABC powder, carbon dioxide



Special hazards arising from the substance or mixture

Hazards during firefighting: Nitrogen oxides

The substances/groups of substances mentioned can be released if the product is involved in a fire.

Advice for firefighters

Protective equipment for firefighting: Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information: Substance/product is an oxidizing agent and can supply oxygen to stimulate or accelerate the combustion of organic or other combustible substances/products.

Impact Sensitivity: Remarks: Based on the chemical structure there is no shock-sensitivity.

Section 6. Accidental Release Measures

Personal precautions, protective equipment, and emergency procedures: Avoid inhalation. Avoid contact with skin and eyes.

Environmental precautions: This product is regulated by CERCLA ('Superfund').

Methods and material for containment and cleaning up: For large amounts: Do not use saw-dust or other combustible substances as an absorbent during cleanup. Sweep/shovel up. Place into suitable container for disposal. See MSDS section 10 - Stability and reactivity. Avoid raising dust.

Section 7. Handling and Storage

Precautions for safe handling

Keep container tightly sealed. Ensure suitable air extract/ventilation on process machinery and transportation equipment. Protect against moisture. Keep away from sources of ignition - No smoking.

Protection against fire and explosion: Warning: Bags made of polyethylene may create electrostatic discharges capable of igniting combustible dust clouds and ambient flammable gases or vapors. Do not handle in flammable atmospheres.

Conditions for safe storage, including any incompatibilities

Segregate from oxidizable substances. Segregate from reducing agents. Segregate from ammonium salts.

Further information on storage conditions: Keep container tightly closed.

Section 8. Exposure Controls / Personal Protection

No occupational exposure limits known.

Advice on system design: Provide local exhaust ventilation to control dust.

Personal protective equipment

Respiratory protection: Wear a NIOSH-certified (or equivalent) particulate respirator.

Hand protection: Wear chemical resistant protective gloves.

Eye protection: Tightly fitting safety goggles (chemical goggles).

Body protection: Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit.

General safety and hygiene measures: Eye wash fountains and safety showers must be easily accessible. Avoid inhalation of dust. Remove contaminated clothing. Avoid all contact with the substance

Section 9. Physical and Chemical Properties

Form: Granules

Odor: Faint odor

Odor threshold: Not applicable, Odor not perceivable

Color: White

pH value: 8 - 9 (100 g/l, 20°C)

Melting point: 306°C

Boiling point: Study scientifically not justified.

Flash point: Study scientifically not justified.

Flammability: Not highly flammable (other)

Lower explosion limit: For solids not relevant for classification and labelling.

Upper explosion limit: For solids not relevant for classification and labelling.

Vapor pressure: The value has not be determined because of the high melting point.

Density (20°C): 2.26 g/cm³ (Literature data.)

Relative density: 2.26 (Literature data.)

Bulk density: approx. 1,300 kg/m³

Partitioning coefficient (n-Octanol/water): log Pow: Study scientifically not justified.

Thermal decomposition: > 600°C (Oxygen, nitrogen, disodium oxide)

Viscosity, dynamic: Study scientifically not justified.

Solubility in water (20°C): 874 g/l

Molar mass: 84.99 g/mol

Evaporation rate: The product is a non-volatile solid.

Section 10. Stability and Reactivity

Reactivity

Oxidizing properties: Oxidizing. (Directive 92/69/EEC, A.17)

Chemical Stability

Peroxides: The product does not contain peroxides. The product/the substance has not a tendency towards the formation of peroxide.

Possibility of hazardous reactions: Reacts with reducing agents. Reacts with oxidizing agents.

Conditions to avoid: See MSDS section 7 - Handling and storage. Avoid heating while in contact with easily oxidizable materials.

Incompatible materials: reducing agents, oxidizable substances, ammonium compound

Hazardous Decomposition products

Hazardous Decomposition Products: Disodium oxide

Thermal decomposition: > 600°C

Possible thermal decomposition products: Oxygen, nitrogen, disodium oxides decomposition products

Section 11. Toxicological Information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity: There is a risk of damage to the blood (methemoglobinemia) after a single uptake of large quantities.

Oral LD50 (Rat): 3,430 mg/kg (OECD Guideline 401)

Inhalation: Study does not need to be conducted.

Dermal LD50 (rat, male/female): > 5,000 mg/kg (OECD Guideline 402)

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Irritation/corrosion

Assessment of irritating effects: Causes serious eye irritation.

Skin

Species: rabbit

Result: non-irritant

Method: OECD Guideline 404

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Eye

Species: rabbit

Result: Irritant.

Method: OECD Guideline 405

Sensitization

Assessment of sensitization: Skin sensitizing effects were not observed in animal studies.

Mouse Local Lymph Node Assay (LLNA)

Species: mouse

Result: Non-sensitizing.

Method: OECD Guideline 429

Aspiration Hazard: Study does not need to be conducted.

Chronic Toxicity/Effects

Repeated dose toxicity: The substance may cause damage to the hematological system after repeated ingestion.

Genetic toxicity

Assessment of mutagenicity: The data available on mutagenic action are not consistent.

Carcinogenicity: 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: The results of animal studies gave no indication of a fertility impairing effect.

Teratogenicity: No indications of a developmental toxic/teratogenic effect were seen in animal studies.

Symptoms of Exposure

Overexposure may cause: Vomiting, methaemoglobinaemia, weakness, abdominal cramps, diarrhea, headache

Section 12. Ecological Information

Toxicity

Aquatic toxicity

Assessment of aquatic toxicity: 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.

Toxicity to fish

LC50 (96 h) 7,950 mg/l, *Oncorhynchus tshawytscha* (static)
Literature data. Nominal concentration.

Aquatic invertebrates

EC50 (24 h) 8,609 mg/l, *Daphnia magna* (*Daphnia* test acute, static)

Aquatic plants

EC50 (10 d) > 1,700 mg/l (chlorophyll content), algae (static)



The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Chronic toxicity to fish

Study scientifically not justified.

Chronic toxicity to aquatic invertebrates

Study scientifically not justified.

Assessment of terrestrial toxicity

Study scientifically not justified.

Microorganisms/Effect on activated sludge

Toxicity to microorganisms

OECD Guideline 209 aquatic activated sludge, domestic/EC10 (3 h): 180 mg/l

Persistence and degradability

Assessment biodegradation and elimination (H₂O): Not applicable for inorganic substances. Can be oxidized to nitrate, or be reduced to nitrogen, by microorganisms.

Assessment of stability in water: According to structural properties, hydrolysis is not expected/probable. Study scientifically not justified.

Bioaccumulative potential

Assessment bioaccumulation potential: Accumulation in organisms is not to be expected.

Mobility in soil

Assessment transport between environmental compartments: Adsorption to solid soil phase is not expected.

Additional information: Inhibition of degradation activity in activated sludge is not to be anticipated during correct introduction of low concentrations.

Section 13. Disposal Considerations

Waste Treatment Methods: Dispose of product and contaminated packaging in accordance with all local, state, and federal environmental control regulations.

Section 14. Transport Information

Land Transport

US DOT

Hazard class: 5.1

Packing group: III

ID number: UN 1498

Hazard label: 5.1



Proper shipping name: Sodium Nitrate

**Sea Transport
IMDG**

Hazard class: 5.1
Packing group: III
ID number: UN 1498
Hazard label: 5.1
Marine pollutant: NO
Proper shipping name: Sodium Nitrate

**Air Transport
IATA/ICAO**

Hazard class: 5.1
Packing group: III
ID number: UN 1498
Hazard label: 5.1
Proper shipping name: Sodium Nitrate

Section 15. Regulatory Information

Federal Regulations

Registration status: Chemical TSCA, US released / listed
EPCRA 311/312 (Hazard categories): Acute; Fire; Chronic; Reactivity

CERCLA RQ	CAS Number	Chemical name
100 LBS	7632-00-0	sodium nitrite

NFPA Hazard codes:

Health: 2
Flammability: 0
Reactivity: 1
Special:

HMIS III rating

Health: 2
Flammability: 0
Reactivity: 1

Assessment of the hazard classes according to UN GHS criteria (most recent version):

Acute Tox. 5 (oral) Acute toxicity
Ox. Sol. 2 Oxidizing solids
Eye Dam./Irrit. 2A Serious eye damage/eye irritation



Section 16. Other Information

Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.

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