



SAFETY DATA SHEET

SODIUM NITRATE

I. Chemical Product and Company Identification

Product Name: Sodium nitrate
CAS#: 7631-99-4
Synonym: Chile saltpeter; soda niter; Sodium saltpeter; Nitric acid, sodium salt; Nitratine
Chemical Name: Sodium Nitrate
Chemical Formula: NaNO₃
Company Name: Pan Chem Corporation
Company Address: Kapur Mahal, 2nd floor, Block No. 18-B,
65 Marine Drive, Mumbai - 400020
Emergency Contact Information: +9122-22078362 / +91-9820000114

II. Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Sodium nitrate	7631-99-4	100

III. Hazards Identification

Potential Acute Health Effects:

Hazardous in case of ingestion. Slightly hazardous in case of skin contact (irritant), eye contact (irritant), inhalation. Prolonged exposure may result in skin burns and ulcerations. Over-exposure by inhalation may cause respiratory irritation.

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Mutagenic for bacteria and/or yeast. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to blood. Repeated or prolonged exposure to the substance can produce target organs damage.

Label elements
Hazard pictograms



Signal word
Hazard Statements

Warning
May intensify fire; oxidizer
Causes eye irritation.

Precautionary Statements

Keep away from flammable / combustible / reducing materials.
Wear eye protection. Wash hands thoroughly after handling.
In case of fire: use any suitable mean for extinguishing surrounding fire. Spray water for small fires. For large fires flood with abundant water.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
Dispose of contents/container according to local/state/federal regulations.

Other hazards

None

IV. First Aid Measures

Eye Contact:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention if irritation occurs.

Skin Contact:

Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops. Cold water may be used.

Serious Skin Contact: Not available.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Serious Inhalation:

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

Ingestion:

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion: Not available.

V. Fire and Explosion Data

Flammability of the Product: Non-flammable.

Auto-Ignition Temperature: Not applicable.

Flash Points: Not applicable.

Flammable Limits: Not applicable.

Products of Combustion: Not available.

Fire Hazards in Presence of Various Substances: organic materials, combustible materials

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available. Slightly explosive in presence of heat.

Fire Fighting Media and Instructions: Not applicable.

Special Remarks on Fire Hazards:

It may accelerate burning when involved in a fire. Increases the flammability of any combustible material May ignite combustibles (wood, paper, clothing, etc.). Flames up when heated to 540 deg. C. Mixture with charcoal ignites on heating. Contact with combustible or organic materials may cause fire.

Special Remarks on Explosion Hazards:

It will react explosively with hydrocarbons. Interaction of nitrates when heated with amidosulfates (sulfamates) may become explosively violent owing to liberation of dinitrogen oxide and steam. Mixtures of sodium nitrate with powdered aluminum or its oxide were reported to be explosive. Mixtures of sodium nitrate and barium thiocyanate may explode. Mixture with sodium nitrate and powdered antimony explode. Mixture of sodium nitrate and sodium thiosulfate or sodium phosphinate explodes.

VI. Accidental Release Measures

Small Spill:

Use appropriate tools to put the spilled solid in a convenient waste disposal container.

Large Spill:

Oxidizing material. Stop leak if without risk. Avoid contact with a combustible material (wood, paper, oil, clothing). Keep substance damp using water spray. Do not touch

spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal.

VII. Handling and Storage

Precautions:

Keep away from heat. Keep away from sources of ignition. Keep away from combustible material. Do not ingest. Do not breathe dust. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as reducing agents, combustible materials, organic materials and acids.

Storage:

Keep container tightly closed. Keep container in a cool, well-ventilated area. Separate from acids, alkalis, reducing agents and combustibles.

VIII. Exposure Controls/Personal Protection

Engineering Controls:

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection:

Safety glasses. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits: Not available.

IX. Physical and Chemical Properties

Physical state and appearance:	Solid. (Granular solid. Powdered solid.)
Odor:	Not available.
Taste:	Bitter. Saline.
Molecular Weight:	84.99 g/mole
Color:	White.
pH (1% soln/water):	Not available.

Boiling Point: Decomposition temperature:	380°C (716°F)
Melting Point:	308°C (586.4°F)
Critical Temperature:	Not available.
Specific Gravity: Density:	2.26 (Water = 1)
Vapor Pressure:	Not applicable.
Vapor Density:	Not available.
Volatility:	Not available.
Odor Threshold:	Not available.
Water/Oil Dist. Coeff:	Not available.
Ionicity (in Water):	Not available.
Dispersion Properties:	See solubility in water, methanol.

Solubility:

Easily soluble in hot water. Soluble in cold water. Partially soluble in methanol. Very slightly soluble in acetone. Very slightly soluble in glycerol. Very soluble in liquid Ammonia. Solubility in water: 92.1g/100 ml @ 25 deg. C.; 180 g/100 ml @ 100 deg. C.

Solubility in Methanol: 1 g dissolves in 300 ml Methanol 1 gram dissolves in 125 ml Alcohol, 52 ml boiling Alcohol, 3470 ml absolute Alcohol.

X. Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Incompatible materials

Incompatibility with various substances:

Highly reactive with combustible materials and organic materials. Reactive with reducing agents and acids.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity:

Fibrous organic material is oxidized in contact with sodium nitrate above 160 deg. C and will ignite below 220 C. Wood and similar cellulosic materials are rendered highly combustible by nitrate imgregration. Reacts with acids to emit toxic fumes of nitrogen dioxide. Also incompatible with boron phosphide, barium rhodanide, cyanides, sodium thiosulfate, hypophosphites such as sodium hypophosphite, sulfur plus charcoal, antimony, chlorides, aluminum and stannous chloride, esters, powdered metals such as zinc or aluminum or aluminum oxide, isothiocyanates, thiocyanates, phosphorus, organic materials, combustible materials, acids, pyrosulfites, sulfides, amides, bisulfites,

hydrazine, ammonium sulfate, amides, amines, phospham. Sodium nitrate + amines may form nitrosamines which have been proven to be carcinogenic in animal tests.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

XI. Toxicological Information

Routes of Entry: Inhalation. Ingestion.

Toxicity to Animals: Acute oral toxicity (LD50): 1267 mg/kg [Rat].

Chronic Effects on Humans:

MUTAGENIC EFFECTS: Mutagenic for bacteria and/or yeast. May cause damage to the following organs: blood.

Other Toxic Effects on Humans:

Hazardous in case of ingestion. Slightly hazardous in case of skin contact (irritant), inhalation.

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans:

May affect genetic material (mutagenic). May cause adverse reproductive effects based on animal test data. May cause cancer based on animal test data.

Special Remarks on other Toxic Effects on Humans:

Acute Potential Health Effects: Skin: Causes skin irritation with redness, itching, and pain
Eyes: Causes eye irritation with redness, itching, and pain. Inhalation: Causes respiratory tract and mucous membrane irritation. Symptoms may include coughing, shortness of breath. Ingestion: May be harmful if swallowed. Clinical signs associated with nitrate poisoning include: Gastroenteritis, abdominal pain, nausea, vomiting, diarrhea, metabolic acidosis, muscular weakness, dizziness, fatigue, headache, mental impairment, incoordination, convulsions, accelerated heart rate, orthostatic hypotension, dyspnea, and in severe cases, methemoglobinemia due to inadequate oxygenation of the blood leading to progressive cyanosis, and coma. Cyanosis is first visible as a bluish discoloration of the mucous membranes and un-pigmented areas of the body. Purging and diuresis can be expected. Rare cases of nitrates being converted into more toxic nitrites.

XII. Ecological Information

Eco toxicity: Not available.

Products of Biodegradation:

Possibly hazardous short-term degradation products are not likely. However, long-term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are less toxic than the product itself.

Special Remarks on the Products of Biodegradation: Not available.

XIII. Disposal Considerations

Waste Disposal:

Waste must be disposed of in accordance with local environmental control regulations.

XIV. Transport Information

DOT Classification: CLASS 5.1: Oxidizing material.

Identification: Sodium nitrate UNNA: 1498 PG: III

Special Provisions for Transport: Marine Pollutant

XV. Other Regulatory Information

Other Regulations:

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada):

CLASS C: Oxidizing material. **CLASS D-2B:** Material causing other toxic effects (TOXIC).

DSCL (EEC):

R8- Contact with combustible material may cause fire. R22- Harmful if swallowed. S17- Keep away from combustible material. S36- Wear suitable protective clothing.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 0

Reactivity: 0

Personal Protection: E

National Fire Protection Association (U.S.A.):

Health: 2

Flammability: 0

Reactivity: 0

Protective Equipment:

Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Safety glasses.

XVI. Other Information

References: Not available.

Other Special Considerations: Not available.

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Pan Chem Corporation be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Pan Chem Corporation has been advised of the possibility of such damages.