

SODIUM NITRATE HQ FREE FLOWING - BASF (NON-FOOD GRADE)

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SECTION 1: IDENTIFICATION

1.1 GHS Product identifier:

SODIUM NITRATE HQ FREE FLOWING — BASF (NON-FOOD GRADE)
Synonyms: Chile saltpetre; Soda niter; Nitrate of soda
CAS: 7631-99-4

Other means of identification:

Not relevant

1.2 Recommended use of the chemical and restrictions on use:

Relevant uses: Chemical intermediate, oxidizer in industrial formulations, glass/ceramics, heat-transfer salt component, metal treatment. Non-food industrial grade only – not for food, feed or pharmaceutical use. For industrial user only.
Uses advised against: All uses not specified in this section or in section 7.3.

1.3 Supplier's details:

SURAJ CHEMICALS
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Tel: +91 - 7092722822, +91 - 9840284032 / +91 - 44 - 25393652, 42130281
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GST No: 33ACEPV8190L1ZZ

1.4 Emergency phone number:

Emergency Contact No: +91 - 7092722822, +91 - 9840284032

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture:

GHS:
Classification of this product has been carried out in accordance with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Ox. Sol. 3	Oxidizing solid, Category 3, H272
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2.2 GHS label elements, including precautionary statements:

GHS: Danger

Hazard statements:

Ox. Sol. 3: H272 – May intensify fire; oxidizer.

Precautionary statements:

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P220: Keep away from clothing and other combustible materials.
P221: Take any precaution to avoid mixing with combustibles.
P280: Wear protective gloves/protective clothing/eye protection.
P370+P378: In case of fire, use water spray or fog to extinguish; do not use dry powder on large fires.
P501: Dispose of the contents/containers in accordance with regulations on hazardous waste.

2.3 Other hazards which do not result in classification:

Not relevant. This substance does not meet the PBT/vPvB criteria.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances:

Chemical description: Sodium Nitrate (technical/industrial, BASF-manufactured grade)
In accordance with Annex 4.3.3 of the GHS, the product contains:

Identification	Chemical Name / Classification	Concentration
CAS: 7631-99-4	Sodium Nitrate — Ox. Sol. 3: H272 – Danger	≥ 99%

To obtain more information on the hazards of the substances, consult sections 11, 12 and 16.

3.2 Mixtures:

Non-applicable

SECTION 4: FIRST AID MEASURES

4.1 Description of necessary first-aid measures:

Request medical assistance immediately, showing the SDS of this product.

By inhalation:

Remove the person affected from the area of exposure, provide fresh air and keep at rest. If breathing is difficult, seek medical attention.

By skin contact:

Remove contaminated clothing and footwear, rinse skin thoroughly with plenty of water and soap. If irritation persists, see a doctor.

By eye contact:

Rinse eyes thoroughly with lukewarm water for at least 15 minutes, holding eyelids open. Remove contact lenses if present and easy to do. Seek medical attention if irritation persists.

By ingestion/aspiration:

Rinse out the mouth with water. Do not induce vomiting. Give plenty of water to drink if the person is conscious. Seek immediate medical attention, particularly due to risk of methemoglobinemia-type effects with related nitrogen compounds.

4.2 Most important symptoms/effects, acute and delayed:

Acute and delayed effects are indicated in sections 2 and 11.

4.3 Indication of immediate medical attention and special treatment needed, if necessary:

Not relevant

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Suitable extinguishing media:
Suitable: Water spray/fog (preferred, in large quantities), foam, carbon dioxide, dry chemical powder for surrounding fire
Unsuitable: Do not use dry powder alone or limited water on a well-developed fire – the product is an oxidizer and can intensify combustion of surrounding combustibles

5.2 Specific hazards arising from the chemical:
Non-flammable itself but a strong oxidizer; contact with combustible or organic materials, powdered metals, sulfur, or reducing agents may cause fire or violent decomposition. Decomposes on strong heating (above ~380°C) releasing toxic nitrogen oxide fumes (NOx).

5.3 Special protective actions for fire-fighters:
Evacuate all non-essential personnel. Intervention only by capable personnel who are trained and aware of the hazards of the product. In all cases wear self-contained breathing apparatus. When intervention in close proximity, wear full protective chemical-resistant suit. After intervention, proceed to clean the equipment (take a shower, remove clothing carefully, clean and check).

Additional provisions:
If safe to do so, remove exposed containers or cool with large quantities of water from a safe distance. Approach from upwind. Use full-face self-contained breathing apparatus in enclosed or poorly ventilated areas due to NOx generation risk.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:
For non-emergency personnel:
Avoid generating dust. Isolate leaks and sweep up spilled material into containers, provided there is no additional risk. Keep away from combustible/organic materials during clean-up. Use appropriate PPE (see section 8).
For emergency responders:
Wear protective equipment. Keep unprotected persons away. See section 8.

6.2 Environmental precautions:
Avoid release to drains, watercourses or soil – this product is an oxidizer that can accelerate biological/chemical oxygen demand and contributes to eutrophication in large quantities. Notify the relevant authority in case of significant release to the environment.

6.3 Methods and materials for containment and cleaning up:
Sweep or vacuum up (avoid generating dust) and place in a labelled, dry container for reuse (preferred) or disposal. Do not use combustible sweeping compounds. Wash the contaminated area with water after collection.

6.4 Reference to other sections:
See sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling:
A. General precautions for safe use:
Keep away from combustible materials, reducing agents, organic materials, powdered metals and strong acids. Avoid generating and inhaling dust. Use only in well-ventilated areas.
B. Technical recommendations for the prevention of fires and explosions:
Store and handle separately from all combustible and reducing materials. Provide dry storage away from ignition sources. Regularly inspect storage containers for damage or contamination.
C. Technical recommendations on general occupational hygiene:
Do not eat or drink during the process; wash hands afterwards with suitable cleaning products.
D. Technical recommendations to prevent environmental risks:
Provide tight electrical equipment well protected against corrosion. Avoid atmospheric emissions. Warn people about the dangers of the product. Follow the protective measures given in the exposure controls/personal protection section. In industrial installations, apply the rules for the prevention of major accidents (consult an expert).

7.2 Conditions for safe storage, including any incompatibilities:
A. Specific storage requirements:

Minimum Temp.	Ambient (avoid freezing not relevant for solid)
Maximum Temp.	35°C (store in a cool, dry place)
Maximum time	24 Months in original sealed packaging

B. General conditions for storage:
Store in a dry, well-ventilated area away from combustible materials, reducing agents and sources of heat/ignition. Keep containers tightly closed. For additional information see subsection 10.5.

7.3 Specific end use(s):
Except for the instructions already specified, it is not necessary to provide any special recommendation regarding the uses of this product.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters:
Substances whose occupational exposure limits have to be assessed in the workplace, per the Factories Act, 1948 (Act No. 63 of 1948), as amended by the Factories (Amendment) Act, 1987 (Act 20 of 1987):

Identification	Occupational Exposure Limit Type	Value
Sodium Nitrate CAS: 7631-99-4	Not specifically established	Treat as Particulate Not Otherwise Classified (PNOC): 10 mg/m³ (inhalable), 3 mg/m³ (respirable)

8.2 Appropriate engineering controls:
It is recommended to use localized extraction in the work area as a collective protection measure to avoid exceeding occupational exposure limits, in addition to individual protective equipment (PPE) as needed. Consult the manufacturer's information leaflet for storage, use, cleaning and maintenance of PPE.

B. Respiratory protection:
Not normally required with adequate ventilation. For dusty operations, use a particulate filter (FFP2/P2) respirator.

C. Specific protection for the hands:
Protective gloves against minor risks (e.g. nitrile or PVC). Replace at any sign of damage.

D. Eye and face protection:
Safety glasses with side shields; chemical goggles for dusty operations.

E. Bodily protection:
Standard work clothing / coveralls. Safety footwear recommended for bulk handling.

F. Additional emergency measures:
Emergency shower (ANSI Z358-1, ISO 3864-1:2011, ISO 3864-4:2011) and eyewash stations (DIN 12 899, ISO 3864-1:2011, ISO 3864-4:2011) should be available.

Environmental exposure controls:
Avoid environmental spillage of both the product and its container. See subsection 7.1.D.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

Appearance	
Physical state at 20°C	Solid (free-flowing granules/crystals)

Appearance	White to off-white free-flowing granules
Color	White
Odor	Odorless
Odour threshold	Not relevant *
Volatility	
Boiling point at atmospheric pressure	Non-applicable (solid; decomposes before boiling)
Vapour pressure at 20°C	Negligible
Evaporation rate at 20°C	Not relevant *
Product Description	
Density / Relative density at 20°C	~2.26 g/cm³
Bulk density	~1100–1250 kg/m³
Concentration	≥ 99%
pH (5% aqueous solution, 20°C)	5.5 – 8.0 (approx., neutral)
Partition coefficient n-octanol/water	Not applicable (inorganic salt)
Solubility in water at 20°C	~921 g/L (highly soluble)
Decomposition temperature	~380°C (releases NOx)
Melting point/freezing point	~308°C
Flammability	
Flash Point	Non-applicable (solid, non-flammable)
Flammability (solid, gas)	Non-flammable; strong oxidizer
Autoignition temperature	Not relevant *
Lower / Upper flammability limit	Not relevant *
Particle Characteristics	
Median equivalent diameter	Available on request (grade-dependent, free-flowing granular)

* Not relevant due to the nature of the product, not providing information on the properties of its hazards.

9.2 Other information:

Explosive properties	Not explosive per se, but may support combustion violently in contact with reducing agents
Oxidising properties	H272 – May intensify fire; oxidizer (strong oxidizing solid)
Corrosive to metals	Not classified
Heat of combustion	Not relevant (non-combustible)
Surface tension at 20°C	Not relevant *
Refraction index	Not relevant *

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity:
Reacts violently with combustible/organic materials, reducing agents, powdered metals and cyanides – risk of fire or explosion. No reactivity hazard under normal dry storage.

10.2 Chemical stability:
Chemically stable under the indicated conditions of storage, handling and use.

10.3 Possibility of hazardous reactions:
Hazardous decomposition (releasing NOx) can occur on strong heating (>380°C) or in contact with strong reducing agents. Under recommended storage conditions no hazardous reactions are expected.

10.4 Conditions to avoid:

Shock/Friction	Contact with Air	Increase in Temperature	Sunlight	Humidity
Not applicable	Not applicable	Avoid strong heating (decomposition >380°C)	Not applicable	Avoid prolonged moisture (caking/lump formation)

10.5 Incompatible materials:

Combustible / Organic Materials	Reducing Agents	Powdered Metals	Strong Acids	Cyanides
Avoid contact – fire risk	Avoid contact – violent reaction	Avoid contact – fire risk	Avoid contact	Avoid contact – toxic gas risk

10.6 Hazardous decomposition products:
On strong heating: toxic nitrogen oxide fumes (NOx).

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects:
In case of exposure that is repetitive, prolonged, or at concentrations higher than the recommended occupational exposure limits, adverse health effects may result depending on the means of exposure:

A. Ingestion (acute effect):
Low acute oral toxicity (LD50 > 2000 mg/kg). Large doses of nitrate salts may cause gastrointestinal irritation, and in susceptible individuals (e.g. infants) can contribute to methemoglobinemia via microbial reduction to nitrite in the gut.

B. Inhalation (acute effect):
Dust may cause mild irritation of the respiratory tract. Not classified as an inhalation hazard under normal handling.

C. Contact with skin and eyes (acute effect):
Not classified as a skin or eye irritant under standard criteria; dust contact may cause mechanical/mild irritation.

D. CMR effects (carcinogenicity, mutagenicity, reproductive toxicity):
Classification criteria for carcinogenicity, mutagenicity and reproductive toxicity are not met based on available data. IARC: Not classified.

E. Sensitizing effects:
Classification criteria for respiratory or skin sensitisation are not met based on available data.

F. Specific target organ toxicity (STOT) – single exposure:
Classification criteria are not met based on available data.

G. Specific target organ toxicity (STOT) – repeated exposure:
Classification criteria are not met based on available data.

H. Aspiration hazard:

Non-applicable (solid).

Product-specific toxicological information:

Identification	Acute Toxicity	Genus
Sodium Nitrate (technical/industrial, BASF-manufactured grade) CAS: 7631-99-4	LD50 oral: 3236 mg/kg	Rat
	LD50 dermal: – (not established, low hazard expected)	–
	LC50 inhalation: Not established (low volatility solid)	–

SECTION 12: ECOLOGICAL INFORMATION

Not classified as hazardous to the aquatic environment under standard GHS criteria, but excessive release can contribute to nutrient loading (eutrophication).

12.1 Toxicity:

Identification	Acute Toxicity	Species	Genus
Sodium Nitrate CAS: 7631-99-4	LC50: >1000 mg/L (96h)	Not classified	Fish
	EC50: >1000 mg/L (48h)	Not classified	Crustacean

12.2 Persistence and degradability:

Readily dissociates into sodium and nitrate ions in water; nitrate is a natural component of the nitrogen cycle and is not persistent as a discrete substance, but contributes to nutrient enrichment if released in quantity.

12.3 Bioaccumulative potential:

Not expected to bioaccumulate (highly water soluble inorganic ion).

12.4 Mobility in soil:

Koc	Henry	Dry Soil	Moist Soil
Not applicable	Not applicable	No	Dissolves readily

12.5 Results of PBT and vPvB assessment:

This substance does not meet the PBT/vPvB criteria of Annex XIII.

12.6 Other adverse effects:

Not described

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Disposal methods:

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator with afterburner and scrubber only where local regulations permit, or collect for approved chemical waste disposal. Avoid disposal with combustible/organic waste. For packaging: rinse containers with water before disposal or recycling, in accordance with local regulations.
Refer to national and local regulations on waste management, including the Hazardous and Other Wastes (Management and Transboundary Movement) Rules.

SECTION 14: TRANSPORT INFORMATION

Transport of dangerous goods by land (ADR 2023 / RID 2023):

14.1 UN number	UN1498
14.2 UN proper shipping name	SODIUM NITRATE
14.3 Transport hazard class(es)	5.1
14.4 Packing group	III
14.5 Environmental hazard	No
14.6 Special precautions for user	Physico-chemical properties: see section 9
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

Transport of dangerous goods by sea (IMDG 41-22):

14.1 UN number	UN1498
14.2 UN proper shipping name	SODIUM NITRATE
14.3 Transport hazard class(es)	5.1
14.4 Packing group	III
14.5 Marine pollutant	No
14.6 Special precautions for user	EmS Codes: F-A, S-Q Limited quantities: 5 kg Segregation group: SG1a – Segregation from acids, combustibles
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

Transport of dangerous goods by air (IATA/ICAO 2024):

14.1 UN number	UN1498
14.2 UN proper shipping name	SODIUM NITRATE
14.3 Transport hazard class(es)	5.1
14.4 Packing group	III
14.5 Environmental hazard	No
14.6 Special precautions for user	Physico-chemical properties: see section 9
14.7 Transport in bulk (Annex II MARPOL 73/78, IBC Code)	Not relevant

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations specific for the product in question:

It is recommended to use the information included in this safety data sheet as data used in a risk evaluation of local circumstances, in order to establish the necessary risk prevention measures for the manipulation, use, storage and disposal of this product.

Other legislation:

Manufacture, Storage and Import of Hazardous Chemicals Rules 1989
The Factories Act, 1948 (Act No. 63 of 1948), as amended by the Factories (Amendment) Act, 1987 (Act 20 of 1987)
The Chemical Accidents (Emergency Planning, Preparedness, and Response) Rules, 1996
Public Liability Insurance Act, 1991

Legislation related to safety data sheets:

This safety data sheet has been designed in accordance with Annex 4 – Guidance on the preparation of Safety Data Sheets of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Texts of the legislative phrases mentioned in sections 2 and 3:

H272: May intensify fire; oxidizer.

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3.

Advice related to training:

Minimal training is recommended to prevent industrial risks for staff using this product, in order to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

Principal bibliographical sources:

The United Nations Economic Commission for Europe (UNECE); European Chemicals Agency (ECHA) classification and labelling inventory; ACGIH Threshold Limit Values.

Abbreviations and acronyms:

ADR: European agreement concerning the international carriage of dangerous goods by road | IMDG: International maritime dangerous goods code | IATA: International Air Transport Association | ICAO: International Civil Aviation Organisation | COD: Chemical Oxygen Demand | BOD5: 5-day biochemical oxygen demand | BCF: Bioconcentration factor | LD50: Lethal Dose 50 | LC50: Lethal Concentration 50 | EC50: Effective Concentration 50 | Log-POW: Octanol-water partition coefficient | Koc: Partition coefficient of organic carbon | IARC: International Agency for Research on Cancer

The information contained in this safety data sheet is based on sources, technical knowledge and current legislation, without being able to guarantee its accuracy. This information cannot be considered a guarantee of the properties of the product; it is simply a description of the security requirements. The occupational methodology and conditions for users of this product are not within Suraj Chemicals' awareness or control, and it is ultimately the responsibility of the user to take the necessary measures to obtain the legal requirements concerning the manipulation, storage, use and disposal of chemical products. The information on this safety data sheet only refers to this product, which should not be used for needs other than those specified.

END OF SAFETY DATA SHEET