

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

Date of compilation: 12-08-2026 | Revised: 12-08-2026 | Version: 1

SECTION 1: IDENTIFICATION

1.1 GHS Product identifier:

SODIUM NITRITE HQ FREE FLOWING — BASF (NON-FOOD GRADE)

Synonyms: Nitrous acid sodium salt

CAS: 7632-00-0

Other means of identification:

Not relevant

1.2 Recommended use of the chemical and restrictions on use:

Relevant uses: Chemical intermediate, corrosion inhibitor in industrial cooling/hydraulic fluids, metal treatment/phosphating, dye and rubber industry, curing agent (non-food/technical use only). 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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1.4 Emergency phone number:

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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. 2	Oxidizing solid, Category 2, H272
Acute Tox. 3	Acute oral toxicity, Category 3, H301
Aquatic Acute 1	Hazardous to the aquatic environment, acute hazard, Category 1, H400

2.2 GHS label elements, including precautionary statements:

GHS: Danger

Hazard statements:

Ox. Sol. 2: H272 – May intensify fire; oxidizer.

Acute Tox. 3: H301 – Toxic if swallowed.

Aquatic Acute 1: H400 – Very toxic to aquatic life.

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.

P264: Wash hands thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

P273: Avoid release to the environment.

P280: Wear protective gloves/protective clothing/eye protection.

P301+P310: IF SWALLOWED: Immediately call a POISON CENTER/doctor.

P370+P378: In case of fire, use water spray or fog to extinguish.

P391: Collect spillage.

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. Note: contact with acids liberates toxic nitrogen oxide fumes.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances:

Chemical description: Sodium Nitrite (technical/industrial, BASF-manufactured grade)

In accordance with Annex 4.3.3 of the GHS, the product contains:

Identification	Chemical Name / Classification	Concentration
CAS: 7632-00-0	Sodium Nitrite — Ox. Sol. 2: H272; Acute Tox. 3: H301; Aquatic Acute 1: H400 – Danger	≥ 98%

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. Seek medical attention if symptoms (headache, dizziness, blue discolouration of lips/skin indicating methemoglobinemia) occur.

By skin contact:

Remove contaminated clothing and footwear, rinse skin thoroughly with plenty of water and soap. Seek medical attention if irritation persists.

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.

By ingestion/aspiration:

Do NOT induce vomiting. Rinse out the mouth with water. Give water to drink if the person is conscious. Seek IMMEDIATE medical attention – sodium nitrite ingestion can cause methemoglobinemia, which is a medical emergency; show this SDS to the physician.

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:

Ingestion or significant exposure requires prompt medical evaluation for methemoglobinemia; methylene blue is the standard antidotal treatment administered by medical personnel.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Suitable extinguishing media:

Suitable: Water spray/fog (preferred, in large quantities), carbon dioxide, dry chemical powder for surrounding fire
Unsuitable: Do not use dry powder alone on a well-developed fire – this is a strong oxidizer and can intensify combustion

5.2 Specific hazards arising from the chemical:

Non-flammable itself but a strong oxidizer; contact with combustible/organic materials, reducing agents, cyanides or ammonium salts may cause fire, violent decomposition or toxic gas release. Decomposes above ~320°C releasing toxic NOx fumes. Contact with acids releases toxic nitrogen oxide gases.

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 due to toxic 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 combustibles, acids and ammonium salts 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:

Very toxic to aquatic life – avoid at all costs any release to drains, watercourses or soil. Contain and collect spillage in sealed containers. Notify the relevant authority in case of exposure to the environment or public water supply.

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. Wash the contaminated area with water after collection, containing the washings for proper disposal (do not discharge to drains).

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, acids, cyanides and ammonium compounds. Avoid generating and inhaling dust. Avoid ingestion – never store or transfer in food/beverage containers (risk of fatal confusion with table salt). Use only in well-ventilated areas.

B. Technical recommendations for the prevention of fires and explosions:

Store and handle separately from all combustible, reducing and acidic 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
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, clearly labelled area, locked/access-controlled and segregated from acids, combustibles and food/feed materials. 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 Nitrite CAS: 7632-00-0	Not specifically established (ACGIH/OSHA)	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:

For dusty operations use a particulate filter (FFP2/P2) respirator; use full-face respirator if significant dust or fume generation is possible.

C. Specific protection for the hands:

Chemical-resistant gloves (e.g. nitrile or PVC). Replace at any sign of damage.

D. Eye and face protection:

Chemical splash goggles; face shield for bulk handling.

E. Bodily protection:

Chemical-resistant coveralls and safety footwear 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 slightly yellowish free-flowing granules
Color	White to pale yellow
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	~2.17 g/cm³
Bulk density	~1100–1300 kg/m³
Concentration	≥ 98%
pH (5% aqueous solution, 20°C)	~9 (alkaline)
Partition coefficient n-octanol/water	Not applicable (inorganic salt)
Solubility in water at 20°C	~820 g/L (highly soluble)
Decomposition temperature	~320°C (releases NOx)
Melting point/freezing point	~271°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 violent combustion 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, cyanides and ammonium salts. Reacts with acids to liberate toxic nitrogen oxide gases. 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 (>320°C), contact with acids, or contact with strong reducing agents/ammonium compounds (risk of explosive ammonium nitrite formation). 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 >320°C)	Not applicable	Avoid prolonged moisture (caking)

10.5 Incompatible materials:

Combustible / Organic Materials	Acids	Reducing Agents	Cyanides	Ammonium Salts
Avoid contact – fire risk	Avoid contact – toxic NOx gas	Avoid contact – violent reaction	Avoid contact – toxic gas risk	Avoid contact – explosive decomposition risk

10.6 Hazardous decomposition products:
On strong heating or contact with acids: 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):**
High acute oral toxicity. Ingestion can cause nausea, vomiting, abdominal pain, and methemoglobinemia (reduced oxygen-carrying capacity of blood), which can be life-threatening; symptoms include cyanosis, headache, dizziness, and in severe cases collapse.
- B. Inhalation (acute effect):**

Dust may cause irritation of the respiratory tract; significant exposure may contribute to methemoglobinemia.

C. Contact with skin and eyes (acute effect):

May cause irritation on contact with skin or eyes; absorption through broken skin is possible.

D. CMR effects (carcinogenicity, mutagenicity, reproductive toxicity):

Classification criteria for carcinogenicity, mutagenicity and reproductive toxicity are not met under GHS based on available data; note that nitrites can react with secondary amines to form N-nitroso compounds under certain conditions (a general chemistry consideration, not a formal classification of this substance). 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 beyond the acute oral toxicity noted in section 2.

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 Nitrite (technical/industrial, BASF-manufactured grade) CAS: 7632-00-0	LD50 oral: 180 mg/kg	Rat
	LD50 dermal: – (not established)	–
	LC50 inhalation: Not established (low volatility solid)	–

SECTION 12: ECOLOGICAL INFORMATION

Very toxic to aquatic life.

12.1 Toxicity:

Identification	Acute Toxicity	Species	Genus
Sodium Nitrite CAS: 7632-00-0	LC50: ~15 mg/L (96h)	Various	Fish
	EC50: Available on request	–	Crustacean

12.2 Persistence and degradability:

Readily oxidised to nitrate in the environment; not considered persistent as the nitrite ion, but contributes to nitrogen loading.

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:

Collect for approved chemical waste disposal or dissolve/reduce under controlled conditions per local regulation. Do not discharge to drains or watercourses (very toxic to aquatic life). For packaging: rinse containers with water and manage rinse water as hazardous waste before disposal or recycling.

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	UN1500
14.2 UN proper shipping name	SODIUM NITRITE
14.3 Transport hazard class(es)	5.1 (Subsidiary risk: 6.1)
14.4 Packing group	III
14.5 Environmental hazard	Yes
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	UN1500
14.2 UN proper shipping name	SODIUM NITRITE
14.3 Transport hazard class(es)	5.1 (Subsidiary risk: 6.1)
14.4 Packing group	III
14.5 Marine pollutant	Yes
14.6 Special precautions for user	EmS Codes: F-A, S-Q Limited quantities: 0 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	UN1500
14.2 UN proper shipping name	SODIUM NITRITE
14.3 Transport hazard class(es)	5.1 (Subsidiary risk: 6.1)
14.4 Packing group	III
14.5 Environmental hazard	Yes

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

SECTION 16: OTHER INFORMATION

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.
- H301: Toxic if swallowed.
- H400: Very toxic to aquatic life.

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