

Deepak Nitrite Limited

Material Safety Data Sheet

Sodium nitrite

1 Product And Company Identification :

Product Name	:	Sodium Nitrite
Other/Generic Names	:	Nitrous Acid, Sodium Salt; Sodium Nitrite (various grades)
CAS No.	:	7632-00-0
Product use	:	Food preservative, dye manufacturing, corrosion inhibition, antioxidants for synthetic polymers, heat transferring agents, stabilizers, surface-active agents.
Supplier		Deepak Nitrite Ltd. Aaditya-I, National Highway No. 8, Chhani Road, Vadodara - 390 024, India Manufacturing facilities at : Vadodara, Roha, Talaja & Hyderabad. Contact no. : +91-9904406400
For Chemical Emergency		Spill, Leak, Fire, Exposure, or Accident, Call CHEMTREC Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-527-3887

2 Hazards Identification :

GHS classification (Classification according to Regulation (EC) No 1272/2008)	Hazard Statements
Oxidizing solid, Category 3	H272: May intensify fire; oxidizer.
Acute toxicity, Category 3, oral	H301: Toxic if swallowed.
Acute aquatic toxicity, category 1	H400: Very toxic to aquatic life.
EC classification (Classification according to Directive 67/548/EEC)	
O; R8	Contact with combustible material may cause fire.
T; R25	Toxic if swallowed.
N: R50	Very toxic to aquatic organism.

Hazard pictograms



Signal word

Danger

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3 Composition / Information On Ingredients :

Chemical Formula	: NaNO ₂
Common name	: Sodium nitrite
Synonyms	: Nitrous acid, sodium salt
Molecular weight	: 69.00 g/mol
CAS No.	: 7632-00-0
Index No.	: 007-010-00-4
UN No.	: 1500
EINECS No.	: 231-555-9

4 First Aid Measures :

After inhalation: If breathed in, move person into fresh air. If not breathing give artificial respiration. Consult a physician.

After skin contact: Wash off with plenty of water. Remove contaminated clothing.

After eye contact: Rinse out with plenty of water with eyelid held wide open. Call in ophthalmologist if necessary.

If swallowed: Give water to drink (two glasses at the most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20-40 g in a 10% slurry) and consult a doctor as quickly possible.

Notes to Physician: Absorption of this product into the body may cause cyanosis. Moderate degrees of cyanosis need to be treated by supportive measures such as bed rest and oxygen inhalation. Thorough cleansing of the entire contaminated area of the body is of utmost importance. If cyanosis is severe, intravenous injection of methylene blue, 1 mg/kg of body weight may be of value.

5 Fire Fighting Measures:

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Use water spray to cool fire-exposed containers. Use water only!

Specific hazards during fire fighting

Not combustible.

Has a fire-promoting effect due to release of oxygen.

Ambient fire may liberate hazardous vapours.

Fire may cause evolution of: nitrogen oxides

Special protective equipment for fire-fighters

Do not stay in dangerous zone without self-contained breathing apparatus. In order to avoid contact with skin, keep a safety distance and wear suitable protective clothing.

Further information

Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system. Use water spray to cool unopened containers.

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6 Accidental Release Measures :

Personal precautions

Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.

7 Handling & Storage :

Precautions for safe handling

Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking. Keep away from combustible material.

Conditions for safe storage

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Do not store near combustible materials.

Hygroscopic.

8 Exposure Control / Personal Protection :

Personal protective equipment

Protective clothing should be selected specifically for the working place, depending on concentration and quality of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. Handle with gloves.

Eye protection

Face shield and safety glasses

Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Immediately change contaminated clothing. Apply skin-protective barrier cream.

Use adequate ventilation to keep airborne concentrations low.

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9 Physical And Chemical Properties :

Appearance	: Form Solid
Colour	: Slightly yellow
Odour	: Odorless
pH	: 9.0 (100g/l H ₂ O, 20°C)
Boiling Point/range	: 320° C @ 760 mm Hg (Decomposition)
Melting point	: 280° C (decomposition)
Flash Point	: No data available
Ignition temperature	: 510°C
Lower explosion limit	: No data available
Upper explosion limit	: No data available
Vapor pressure	: 9.9E-17 hPa @ 25°C
Relative vapor density	: No data available
Density	: 2.168 g/cm ³
Bulk density	: 1200 kg/m ³
Solubility/qualitative	: Easily soluble in cold water, hot water. Partially soluble in methanol. Very slightly soluble in diethyl ether.
Water solubility	: 820g/L water at 20°C
Partition coefficient: n- Octanol / water	: Log Pow; -3.7 Method: OECD test guideline 107 No bioaccumulation is to be expected (log Pow <1)
Evaporation rate	: No data available

10 Stability And Reactivity :

Chemical stability

Stable under recommended storage conditions.

Conditions to avoid

High temperatures, incompatible materials, exposure to air, combustible materials, organic material, exposure to moist air or water.

Materials to avoid

A risk of explosion and/or of toxic gas formation exists with the following substances:

Strong reducing agents, strong acids, amines, chlorates, finely powdered metals, hydrazine, liquid ammonia, amides (eg butyramide, diethyltoluamide, dimethyl formamide), cyanides, permanganates, hypophosphite, sulfites, tannic acid, carbon, antipyrine, sodium thiosulfate, ammonium salts, cellulose, acetanilide, iodides, mercury salts.

Risk of ignition or formation of inflammable gases or vapors with:

Butadiene

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - nitrogen oxides (NO_x), Sodium oxides

Hazardous Polymerization: Will not occur.

Thermal decomposition: > 320°C

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11 Toxicological Information :

Acute toxicity	: LD ₅₀ Oral - rat - 157,9 mg/kg LD ₅₀ Oral - mouse - 175 mg/kg Remarks: Vascular:BP lowering not characterized in autonomic section. Vascular:Regional or general arteriolar or venous dilation. LD ₅₀ Oral - rabbit - 186 mg/kg LD ₅₀ Oral - Chicken - 28,944 mg/kg LC ₅₀ Inhalation - rat - 4 h - 5,5 mg/m ³ LD ₅₀ Subcutaneous - rat - 96,6 mg/kg LD ₅₀ Intravenous - rat - 65 mg/kg LD ₅₀ Intraperitoneal - mouse - 158 mg/kg
Acute oral toxicity	: LDLO human Dose: 71 mg/kg (RTECS) LD ₅₀ rat Dose: 85 mg/kg (IUCLID)
Acute inhalation toxicity	: LC ₅₀ rat Dose: 5.5 mg/l, 4 h (RTECS) Symptoms: slight mucosal irritations, After a latency period; Lung oedema
Irritation of the eyes	: Rabbit Results: Mild irritation – 24 h Method: OECD Test Guideline 405
Irritation of the skin	: Rabbit Results: No irritation Method: OECD Test Guideline 404
RTECS#	: CAS # 7632-00-0 : RA 1225000
Carcinogenicity	: Not listed by ACGIH, IARC, NIOSH, NTP or OSHA
Potential health effects	: Inhalation: May be harmful if inhaled. May cause respiratory tract irritation. Ingestion: Toxic if swallowed. Skin May be harmful if absorbed through skin. May cause skin irritation. Eyes: May cause eye irritation.
Special Remarks on other Toxic Effects on Humans:	: If swallowed After absorption: Nausea, narcosis, Cyanosis After absorption of large quantities: Headache, Vomiting, Unconsciousness, drop in blood pressure, depressed respiration, collapse, Methaemoglobinemia
Other information	: The following applies to nitrites in general: risk of methaemoglobin formation. Possibility of formation of nitrosamines with secondary and in given circumstances even tertiary amines. Nitrosamines have shown themselves to be carcinogenic in animal experiments.
Further data	: Handle in accordance with good industrial hygiene and safety practice.

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12 Ecological Information :

Ecotoxicity	:	
Toxicity to fish	:	LC ₅₀ Species: Oncorhynchus mykiss (rainbow trout) Dose: 0.09 – 0.13 mg/l Exposure time: 96 h (ECOTOX Database)
Toxicity to daphnia and other aquatic invertebrates.	:	EC ₅ Species: E.sulcatum Dose: 2.8 mg/l Exposure time: 72 h (IUCLID) EC ₅₀ Species: Daphnia magna (Water flea) Dose: 12.5 – 100 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to bacteria	:	EC ₅ Species: Pseudomonas putida Dose: 123 mg/l Exposure time: 16 h Method: OECD Test guideline 209

Persistence and degradability :

Biodegradability	:	The methods for determining the biological degradability are not applicable to inorganic substances.
	:	Partition coefficient: n-octanol/water: Log Pow: -3.7 Method: OECD Test guideline 107 No bioaccumulation is to be expected (log Pow <1).
Additional ecological information	:	Do not allow to enter water, waste water, or soil.
Other adverse effects	:	Very toxic to aquatic organisms.

13 Disposal Considerations :

Product

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

Contaminated packaging

Dispose of as unused product.

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14 Transport Information :

UN No. : 1500 Hazard Class : 5.1, 6.1 Packing Group : III
Proper shipping name : Sodium nitrite
Declaration for land shipment (rail road and road) ADR, RID: UN 1500 Sodium nitrite, 5.1(6.1), III
Declaration for sea shipment : IMDG Code: UN 1500 Sodium nitrite, 5.1(6.1), III, Segregation Group: 12 (Nitrites and their mixtures) EMS-No.: F-A, S-Q
Declaration for air shipment (IATA - DGR) : UN 1500 Sodium nitrite, 5.1(6.1), III
Packing instruction, passenger : 516, Maximum quantity 25 Kg
Packing instruction, cargo : 518, Maximum quantity : 100 Kg

15 Regulatory Information :


Safety information according to GHS

Hazard Statement(s) : H272: May intensify fire; oxidiser
H301: Toxic if swallowed.
H400: Very toxic to aquatic life.

Precautionary Statement(s) : P220: Keep/Store away from clothing/ combustible materials.
P273: Avoid release to the environment.
P309 + P310: If exposed or if you feel unwell: Immediately call a POISON CENTER or doctor/physician

Signal word : Danger

Hazard Pictogram(s) :



RTECS : RA1225000

Storage class : 5.1 B Oxidising agents (TRG 515 Group 2+3)

WGK : WGK 2 water endangering

Index No. : 007-010-00-4

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Labeling according to EC Directives

Symbol(s):	: O T N	Oxidising Toxic Dangerous for the environment
Risk phrase(s):		R 8 - Contact with combustible material may cause fire. R 25 - Toxic if swallowed. R 50 - Very toxic to aquatic organisms.
Safety phrase(s):		S 45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). S 61 - Avoid release to the environment. Refer to special instructions/ Safety data sheets.
EC-No.	: 231-555-9	
CAS No. # 7632-00-0 is listed on Canada`s DSL list, AICS, ENCS, IECSC, PICCS, KECI		
Other regulations	:	Take note on Dir 94/33/EC on the protection of young people at work. Take note of Dir 92/85/EEC on the safety and health at work of pregnant workers.

16 Other Information:

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