

Sodium Nitrite: Material Safety Data Sheet

Section 1 :Product and Company Identification

Product Name	Sodium Nitrite
Chemical Family	Inorganic Sodium Salt
Chemical Name	Sodium Nitrite
Synonym(s)	Nitrous Acid, Sodium Salt
CAS Number	7632-00-0
Formula	NaNO ₂
Manufacturer / Supplier Data	Radiant Indus Chem Pvt. Ltd., F-15 MIDC Industrial Area, Chikalthana, Aurangabad(MS) India – 431210
Telephone	+91-240-2482450 / 2482950
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Section 2: Composition/Information on Ingredients

CAS Number	EINECS Number	Chemical Name	% by weight
7632-00-0	231-555-9	Sodium Nitrite	97-100

Section 3 : Hazards Identification

Emergency Overview: Danger! Toxic if swallowed or dust is inhaled. Causes irritation to skin, eyes and respiratory tract. Oxidizer: May ignite organic materials and react with other materials. Can decompose if mixed with acids or exposed to fire conditions, releasing toxic nitrogen oxides.

Potential Health Effects

Routes of Entry:	Inhalation, Ingestion, Eye Contact and Skin Contact
Target Organs:	Eyes, Skin, Respiratory System and Kidneys
Skin Contact:	Skin contact may cause irritation with symptoms of redness, swelling, itching and pain.
Eye Contact:	Eye contact may cause irritation with symptoms of redness, itching, tearing and pain.
Inhalation:	Inhalation of Sodium Nitrite produces irritation of respiratory tract, irregular breathing, sore throat, cough and vomiting. Symptoms might be similar to those of ingestion.
Ingestion:	Sodium Nitrite is toxic. As little as 1 gms may be fatal. Ingestion may cause Gastroenteritis, nausea, dizziness, vomiting, rapid heart beat, irregular breathing, coma, convulsions, and death due to circulatory collapse.
Chronic Exposure:	May lead to symptoms of acute toxicity
Explanation of Carcinogenicity:	Not listed by NTP or IARC or OSHA
Medical conditions aggravated by exposure:	Persons with preexisting eyes or skin conditions or impaired pulmonary function may be more susceptible to the effects of this product.

Section 4: First Aid Measures

Eyes:	Incase of contact, immediately flush eyes with plenty of water for atleast 15 minutes. Get medical aid immediately.
Skin:	Incase of contact, immediately flush skin with plenty of water for atleast 15 minutes while removing contaminated clothing and shoes. Get medical aid



	immediately. Wash clothing before reuse.
Ingestion:	Call physician immediately.
Inhalation:	If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult give Oxygen. Get medical aid immediately.
Notes to Physicians:	Absorption of Sodium nitrite into the body leads to the formation of methemoglobin which, in sufficient concentration, causes cyanosis. Since reversion of methemoglobin to hemoglobin occurs spontaneously after termination of exposure, moderate degrees of cyanosis need to be treated only by supportive measures such as bed rest and oxygen inhalation. Thorough cleansing of the entire contaminated area of the body including scalp and nails is of utmost importance. Cyanocobalamin (Vitamin B-12), 1 mg intramuscularly, will speed recovery. Intravenous fluids and blood transfusions may be indicated in very severe exposures.

Section 5: Fire Fighting Measures

Auto Ignition Temperature	Not Available
Flash Point	Not Available
Explosion Limits	Not Available
Unusual Fire and Explosion Hazards	Sodium Nitrite is not combustible but being a strong oxidizer, its contact with oxidizing agents may cause a violent explosion. It may explode on contact with cyanides, ammonium salts, cellulose, lithium, potassium plus ammonia, and sodium thiosulfate. Sodium Nitrite also explodes on heating above 538°C (1000 °F).
Extinguishing Media	Use water spray or foam. Avoid use of multi-purpose dry chemical fire extinguishers.
NFPA Rating	Health: 2; Flammability: 0; Reactivity: 1
Special Information	Fire fighters should wear a full protective gear, with a self-contained breathing apparatus with full face piece operated in positive pressure mode.

Section 6: Accidental Release Measures

General Information: Remove all sources of ignition. Ventilate area of leak or spill. Utilize recommended protective clothing and equipment as specified in section 8.

Spills: Clean the spill in a manner that does not disperse dust into the air. Use non-sparking tool and equipment. Spill area can be washed with water. Collect wash water for approved disposal. Water disposal should be in accordance with existing federal, state and local environmental regulations.

Section 7: Handling and Storage

Handling:	Wash thoroughly after handling. Do not ingest or inhale. Do not get in eyes, on skin or on clothing.
Storage:	Store in a dry, well-ventilated and cool area away from incompatible substances (refer section 10). Keep container tightly closed.

Section 8: Exposure Controls /Personal Protection

Engineering Controls:

Facilities storing or utilizing the material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to prevent contact with vapors or dust from dried down product.

Exposure Limits:

Chemical Name	OSHA	NIOSH	ACIGH
Sodium Nitrite	Not Established	Not Established	Not Established

Personal Protective Equipment:

Eyes:	Chemical safety goggles or eyeglasses. Maintain eye wash fountain and quick-drench facilities in work area.
Skin:	Uniform, apron and Rubber gloves.
Ventilation:	Approved respirators should be used if airborne concentration exceeds recommended limit.

Section 9: Physical and Chemical Properties

Physical State	Solid
Appearance	White or yellowish-white crystals
Molecular Formula	NaNO ₂
Molecular Weight	69.01
Odor	Odorless
pH	9.0 Aqueous solution
Specific gravity	2.17
Vapor pressure	Not Available
Vapor Density	Not Available
Evaporation Rate	Not Available
Viscosity	Not Available
Boiling Point	320 °C
Melting Point	281°C
Decomposition Temperature	490°C
Solubility in water	84.5 g / 100 g of water at 20°C 163.2 g / 100 g of water at 100°C
Solubility in Methyl Alcohol	4.4 g / 100 g 20°C
Solubility in Ether	0.3 g / 100 g 20°C

Section 10: Stability and Reactivity

Stability:	Stable under ordinary conditions of use and storage. Slowly oxidizes to Sodium Nitrate when exposed to air.
Incompatibilities:	Sodium Nitrite is incompatible with many substances including reducing agents, ammonium salts, organic matter, cyanides, thiosulphates, cellulose, lithium, potassium plus ammonia, amines and amides.
Conditions to avoid:	Heat, ignition sources, flame, shock, friction and incompatibilities.
Hazardous Decomposition Products:	May form Oxides of Nitrogen.
Hazardous Polymerization:	Will not occur.

Section 11: Toxicological Information

CAS Number	RTECS Number
7632-00-0	RA1225000

SKIN AND EYE IRRITATION DATA:

Route/Organism	Dose	Effect
Eye-Rabbit	500 mg/24 hour	Mild

ACUTE TOXICITY DATA:

Route/Organism	Dose	Effect
Oral- Human	Lowest published toxic dose: 14mg / kg	Behavioral: Change in motor activity (specific assay) Vascular: Regional or general arteriolar or venous dilation Gastrointestinal: Nausea or vomiting Behavioral: Coma
Oral- Human	Lowest published lethal dose: 71mg / kg	Gastrointestinal: Nausea or vomiting Blood: Methemoglobinemia- Carboxhemoglobinemia Cardiac: Pulse rate increased without fall in BP
Oral-Man	Lowest published toxic dose: 1714 µg/ kg/ 70 minute	Vascular: BP lowering not characterized in autonomic section Behavioral: Coma
Oral-Man	Lowest published lethal dose: 321 mg/kg	Lung, Thorax, or Respiration: Cyanosis Blood: Methemoglobinemia- Carboxhemoglobinemia

Investigated as a tumorigenic, mutagen and reproductive effector. Only selected data from Registry of Toxic Effects of Chemical Substances (RTECS #: RA1225000) is presented here. [See actual entry for complete information.](#)

CARCINOGENICITY:

Sodium Nitrite Not Listed by ACGIH, IARC, NIOSH, NTP or OSHA as a carcinogen.

Section 12: Ecological Information

Environmental Fate: No Information available.

Ecotoxicity:

LC50	0.19 mg/L, 96 hours, Rainbow Trout (Juvenile) 43.6 mg/L, 24 hours, Water Flea 20 mg/L, 96 hours, Fathead Minnow
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Section 13: Disposal Considerations

Disposal should be done in accordance with local, state and federal regulations.

Section 14: Transport Information

	US DOT	IMO
Proper Shipping Name	Sodium Nitrite	Sodium Nitrite
UN Number	1500	1500
Hazard Class	5.1, 6.1	5.1, 6.1
Packing Group	III	III

Section 15: Regulatory Information
Classification and labeling information in accordance with EC directives

Classification	O;R8 – T; R25 – N; R50	
Hazard Symbol		O: Oxidizing
		T: Toxic
		N: Dangerous for the environment
Risk Phrases	R8 R25 R50	Contact with combustible material may cause fire Toxic if swallowed Very toxic to aquatic organisms
Safety Phrases	S1/2 S45 S61	Keep locked up and out of reach of children In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible) Avoid release to the environment. Refer to special instructions / Safety data sheets
Specific Concentration Limits	Concentration	Classification
	$C \geq 25\%$	T, N; R25, R50
	$5\% \leq C < 25\%$	T; R25
	$1\% \leq C < 5\%$	Xn; R22

Section 16: Other Information
References:

IUCLID Chemical Data Sheet - ESIS

Chemical Toxicity studies on Aquatic Organisms in PAN pesticides database

MSDS available on the internet

Legend:

CAS	Chemical Abstract Service
EINECS	European Inventory of Existing Commercial Chemical substance
NFPA	National Fire Protection Association (USA)



OSHA	Occupational Safety & Health Administration (USA)
NIOSH	National Institute for Occupational Safety & Health (USA)
IUCLID	International Uniform Chemical Information Database
ESIS	European chemical Substances Information System
ACIGH	American Conference of Governmental Industrial Hygienists
IARC	International Agency for Research on Cancer
RTECS	Registry of Toxic Effects of Chemical Substances
NTP	National Toxicology Program (USA)
PAN	Pesticide Action Network (USA)
US DOT	US Department of Transportation
IMO	International Maritime Organisation
LD50	Lethal Dosage causing death in 50%
LC50	Lethal concentration causing death in 50%

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