Sodium nitrite
MSDS# 21410

Section 1 - Chemical Product and Company Identification

MSDS Name: Sodium nitrite
Catalog Numbers:
19662-0000, 19662-0025, 21760-0000, 21760-0010, 42435-0000, 42435-0020,
42435-0050, 42435-5000, S/5600/53, S/5600/60, S/5600/62, S/5600/71,
Synonyms:
Nitrous acid, sodium salt.
Company Identification: Fisher Scientific UK
Bishop Meadow Road, Loughborough
Leics. LE11 5RG
For information in Europe, call: (01509) 231166
Emergency Number, Europe: 01509 231166

Section 2 - Composition, Information on Ingredients

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CAS#: 7632-00-0
Chemical Name: Sodium nitrite
%: >97
EINECS#: 231-555-9
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Hazard Symbols:
T O N
Risk Phrases:
25 50 8

Section 3 - Hazards Identification

EMERGENCY OVERVIEW
Toxic if swallowed. Contact with combustible material may cause fire. Very toxic to aquatic organisms. Hygroscopic (absorbs moisture from the air). Air sensitive.
Potential Health Effects
Eye:
Causes eye irritation. May cause conjunctivitis. May cause permanent corneal opacification.
Skin:
Causes skin irritation. May be absorbed through the skin.
Ingestion:
Harmful if swallowed. May cause methemoglobinemia, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), convulsions, and death. Causes digestive tract irritation.
Inhalation:
May cause weakness, muscular incoordination, fine tremors, loss of reflexes, convulsions and possible death from circulatory collapse. Inhalation may cause a decrease in blood pressure, rapid pulse and visual disturbances.
Inhalation:
May be fatal if inhaled. May cause methemoglobinemia, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), convulsions, tachycardia, dyspnea (labored breathing), and death. May cause acute pulmonary edema, asphyxia, chemical pneumonitis, and upper airway obstruction caused by edema.
Chronic:
May cause reproductive and fetal effects. Laboratory experiments
have resulted in mutagenic effects. Animal studies have reported the development of tumors. Sodium nitrate may react with secondary or tertiary amines to form nitrosamines (certain nitrosamines are cancer suspect agents).

**Section 4 – First Aid Measures**

**Eyes:**
Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

**Skin:**
Get medical aid. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

**Ingestion:**
Call a poison control center. If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.

**Inhalation:**
Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask. SPEED IS ESSENTIAL, OBTAIN MEDICAL AID IMMEDIATELY.

**Notes to Physician:**
Absorption of this product into the body may cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood). Moderate degrees of cyanosis need to be treated only by supportive measures: bed rest and oxygen inhalation. If cyanosis is severe, intravenous injection of Methylene Blue, 1 mg/kg of body weight may be of value.

**Section 5 – Fire Fighting Measures**

**General Information:**
As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Strong oxidizer. Contact with other material may cause fire. Use water with caution and in flooding amounts. May explode from heat or contamination. May accelerate burning if involved in a fire.

**Extinguishing Media:**
Use water only! Contact professional fire-fighters immediately.

**Cool**
Containers with flooding quantities of water until well after fire is out. For large fires, flood fire area with water from a distance.

**Do**
NOT use dry chemicals, CO2, Halon or foams.

**Section 6 – Accidental Release Measures**

**General Information:**
Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:**
Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the
Protective Equipment section. Avoid generating dusty conditions. Provide ventilation. Keep combustibles (wood, paper, oil, etc.) away from spilled material.

Section 7 - Handling and Storage

Handling:
Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid contact with clothing and other combustible materials. Do not ingest or inhale. Handle under an inert atmosphere. Store protected from air. Use only in a chemical fume hood.

Storage:
Do not store near combustible materials. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Do not expose to air. Store protected from moisture. Store under an inert atmosphere. Avoid storage on wood floors.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:
Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use only under a chemical fume hood.

Exposure Limits
CAS# 7632-00-0:

Personal Protective Equipment

Eyes:
Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin:
Wear appropriate protective gloves to prevent skin exposure.

Clothing:
Wear appropriate protective clothing to prevent skin exposure.

Respirators:
A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Crystals
Color: white to light yellow
Odor: odorless
pH: ~ 9
Vapor Pressure: Not available
Viscosity: Not available
Boiling Point: 320 deg C ( 608.00 F)
Freezing/Melting Point: 271 deg C ( 519.80 F)
Autoignition Temperature: Not available.
Flash Point: Not applicable.
Explosion Limits: Lower:Not available
Explosion Limits: Upper:Not available
Decomposition Temperature:
Solubility in water: Soluble
Specific Gravity/Density: 2.168
Molecular Formula: NaNO2
Molecular Weight: 69

Section 10 - Stability and Reactivity
Chemical Stability:
Stable at room temperature in closed containers under normal storage and handling conditions. Unstable if heated, may explode at temperatures greater than 533°C.
Conditions to Avoid:
Ignition sources, dust generation, exposure to air, exposure to moist air or water, temperatures above 320°C.
Incompatibilities with Other Materials
Reducing agents, acids, amines, chlorates, permanganates, cyanides (e.g. potassium cyanide, sodium cyanide), metals as powders (e.g. hafnium, raney nickel), hypophosphites, sulfites, tannic acid, organic matter, antipyrine, ammonium salts, acetonilide, iodides, mercury salts, moisture, air, activated carbon, vegetable astringents.
Hazardous Decomposition Products
Oxides of nitrogen, irritating and toxic fumes and gases.
Hazardous Polymerization
Will not occur.

Section 11 - Toxicological Information
RTECS#: CAS# 7632-00-0: RA1225000 RA1425000
LD50/LC50: RTECS: CAS# 7632-00-0: Draize test, rabbit, eye: 500 mg/24H Mild; Inhalation, rat: LC50 = 5.5 mg/m3/4H; Oral, mouse: LD50 = 175 mg/kg; Oral, rabbit: LD50 = 186 mg/kg; Oral, rat: LD50 = 180 mg/kg;
Carcinogenicity:
Sodium nitrite - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Other:
See actual entry in RTECS for complete information.

Section 12 - Ecological Information
Ecotoxicity:
Fish: Rainbow trout: LC50 = 0.19-0.39 mg/L; 96 Hr; Flow-through bioassay Fish: Mosquito Fish: TLm = 8.1 ppm; 24 Hr; Highly turbid water Fish: Creek chub: Critical range = 400-2000 ppm; 24 Hr; Detroit River
Other:
Harmful to aquatic life in very low concentrations.

Section 13 - Disposal Considerations
Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information
IATA
Shipping Name: SODIUM NITRITE
Hazard Class: 5.1
UN Number: 1500
Packing Group: III

IMO
Shipping Name: SODIUM NITRITE
Hazard Class: 5.1
UN Number: 1500
Packing Group: III

RID/ADR
Shipping Name: SODIUM NITRITE
Hazard Class: 5.1
UN Number: 1500
Packing Group: III

USA RQ: CAS# 7632-00-0: 100 lb final RQ; 45.4 kg final RQ

European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols: T O N
Risk Phrases:
   R 25  Toxic if swallowed.
   R 50  Very toxic to aquatic organisms.
   R 8  Contact with combustible material may cause fire.

Safety Phrases:
   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.

WGK (Water Danger/Protection)
CAS# 7632-00-0: 2

Canada
CAS# 7632-00-0 is listed on Canada's DSL List

US Federal
TSCA
CAS# 7632-00-0 is listed on the TSCA Inventory.

MSDS Creation Date:
7/02/1999
Revision #8 Date
4/19/2007
Revisions were made in Sections: 9

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