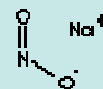


SODIUM NITRITE

PRODUCT IDENTIFICATION

CAS NO.	7632-00-0
EINECS NO.	231-555-9
FORMULA	NaNO ₂
MOL WT.	69.00
H.S. CODE	2834.10.1000
UN NO.	1500
TOXICITY	Oral Rat LD50: 180mg/kg
SYNONYMS	Sodium Nitrite; Azotyn sodowy [Polish]; Dusitan sodny [Czech]; Natrium nitrit [German]; Nitrite de sodium [French]; Nitrito sodico [Spanish]; Nitrous acid sodium salt; Other RN: 32863-15-3, 56227-20-4, 82497-43-6, 82998-40-1.



SMILES	N(=O)[O-].[Na+]
CLASSIFICATION	Oxidizer, Hydrazine, Anti-rust, Diazotizing agent
EXTRA NOTES	EPA Pesticide Chemical Code 076204. Nitrous acid (HNO ₂). A weak acid that exists only in solution. It can form water-soluble nitrites and stable esters. (From Merck Index, 11th ed) Nitrous acid sodium salt. Used in many industrial processes, in meat curing, coloring, and preserving, and as a reagent in analytical chemistry. It is used therapeutically as an antidote in cyanide poisoning. The compound is toxic and mutagenic and will react in vivo with secondary or tertiary amines thereby producing highly carcinogenic nitrosamines.

PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	slightly yellow crystalline powder
MELTING POINT	270 C
BOILING POINT	320 C
SPECIFIC GRAVITY	
SOLUBILITY IN WATER	820 g/l at 20 C
SOLVENT SOLUBILITY	Methanol 4.5g/l, Ethanol 3g/l, slightly soluble in ether, very soluble in NH ₃
pH	8-9 (10 g/l aq.sol)
VAPOR DENSITY	
AUTOIGNITION	> 320 C (Decomposition)
NFPA RATINGS	Health 3, Flammability 0, Instability 2, Physical hazards OX
REFRACTIVE INDEX	
FLASH POINT	
STABILITY	Stable under ordinary conditions

EXTERNAL LINKS & GENERAL DESCRIPTION

Uses of Sodium Nitrate

Pesticides: Many different pesticides utilize sodium nitrate, including rodenticides (for killing rodents like mice and rats), insecticides (for killing insects and other bugs) and predacides (for killing large pests like raccoons and skunks). Sodium nitrate does not directly poison these pests, but instead, it chemically reacts with other substances (like sulfur) to combust charcoal, according to the Environmental Protection Agency at epa.gov. All of this occurs inside of a cartridge, which then seeps out a toxic gas that is produced by the combustion.

Food Preservatives: Sodium nitrate is also known for its antimicrobial properties. For this reason, it is commonly used for preserving foods, particularly when it comes to curing meats, according to edinformatics.com. Sodium nitrate is not harmful when ingested (as mentioned above, it is found naturally in some vegetables); however, you should make sure not to confuse the compound with sodium nitrite; another preservative, which has been known to produce carcinogenic effects in certain circumstances.

Fireworks: The brilliant colors associated with fireworks are the result of burning metal salts, such as

calcium chloride, barium chloride and sodium nitrate. According to scifun.org, the atoms in each salt generate specific colors as they combust, which is a function of how much energy they release. When sodium nitrate combusts, the heated sodium electrons become excited, and eventually release energy at approximately 200 kJ/mol. This happens to be the energy amount that produces the color yellow, and for that reason firework makers use sodium nitrate to generate yellow flames and sparks.

Fertilizers: Sodium nitrate is also used as an ingredient in many fertilizers, as a way to increase nitrogen content in soil. In addition to helping prevent soil erosion, nitrogen helps roots grow thick and strong by increasing carbon production in plants, which in turn increases biomass. The majority of mixed fertilizers include sodium nitrate, or another nitrogen-based compound, as one of their three main ingredients, with the other two substances being phosphorus and potassium (although it is also possible to buy a strictly nitrogen-based fertilizer, if you want). According to ncagr.gov, when choosing a mixed fertilizer, the amount of nitrogen will be the first number listed on the packaging, and usually represents a percentage amount (the second two numbers will indicate phosphorus and potassium content).

<http://www.inchem.org/>

Production Volumes and Use Pattern: Total production of sodium nitrite in Japan was 10,000 - 50,000 t/year in 2001. Worldwide production of sodium nitrite is not available. Sodium nitrite is widely used in various industries in categories including agricultural, basic chemicals, chemical industry, electrical/electronic engineering industry, fuel industry, metal extraction, refining and processing of metals, paints/lacquers and varnishes industry, polymers industry, public domain, textile processing industry and others. Sodium nitrite is used as a raw material for the production of caprolactam polymers and antioxidants for synthetic polymers. It is used as a colour fixative and preservative in meats and fish. It is also used in: adhesives, binding agents, anti-freezing agents, cleaning/washing agents, disinfectants, colouring agents, construction materials additives, corrosive inhibitors, cutting fluids, fillers, food/foodstuff additives, heat transferring agents, intermediates, laboratory chemicals, lubricants and additives, non agricultural pesticides, oxidizing agents, pesticides, pharmaceuticals, process regulators, reducing agents, stabilizers, surface-active agents.

SALES SPECIFICATION

APPEARANCE	slightly yellow crystalline powder
ASSAY	98.5% min
MOISTURE	0.5% max
ANTICAKING AGENT	0.1% max

TRANSPORTATION

PACKING	25kgs, 50kgs in bag
HAZARD CLASS	5.1 (Packing Group: III)
UN NO.	1500

SAFETY INFORMATION

Hazard Overview: Oxidizer: Contact with combustible/organic material may cause fire. Toxic if swallowed. May cause central nervous system effects. May cause cyanosis. May cause methemoglobinemia. May cause skin, eye, and respiratory tract irritation. Very toxic to aquatic organisms.

Hazard Symbols: O T N, **Risk Phrases:** 8-25-50, **Safety Phrases:** 45-61

PRICE INFORMATION