MATERIAL SAFETY DATA SHEET

according to the Hazard Communication Standard (29 CFR 1910.1200)

Date of issue: 07/05/2012 Version 1.0

SECTION 1. Identification

Product identifier

Product number 822285

Product name Sodium nitrite cryst. for synthesis

Relevant identified uses of the substance or mixture and uses advised against

Identified uses Chemical for synthesis

Details of the supplier of the safety data sheet

Company EMD Millipore Corporation | 290 Concord Road, Billerica, MA 01821, United States of America | SDS Phone Support: +1-978-715-1335 | General Inquiries: +1-978-715-4321 | Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5)

e-mail: mm_sds@merckgroup.com

Emergency telephone 800-424-9300 CHEMTREC (USA)
+1-703-527-3887 CHEMTREC (International)
24 Hours/day; 7 Days/week

SECTION 2. Hazards identification

GHS Classification

Oxidizing solid, Category 3, H272
Acute toxicity, Category 3, Oral, H301
Acute aquatic toxicity, Category 1, H400

For the full text of the H-Statements mentioned in this Section, see Section 16.

GHS-Labeling

Hazard pictograms

Signal Word
Danger

Hazard Statements
H272 May intensify fire; oxidizer.

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

Precautionary Statements
P273 Avoid release to the environment.
P309 + P310 IF exposed or if you feel unwell: Immediately call a POISON CENTER or doctor/physician.

OSHA Hazards
This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Other hazards
None known.

SECTION 3. Composition/information on ingredients

Formula	$NaNO_2$	$NNaO_2$ (Hill)
CAS-No.	7632-00-0	
Molar mass	69.00 g/mol	

Hazardous ingredients
Chemical Name (Concentration)
CAS-No.
sodium nitrite (<= 100 %)
7632-00-0

SECTION 4. First aid measures

Description of first-aid measures

Inhalation
After inhalation: fresh air. Consult doctor if feeling unwell.

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

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

Ingestion
If swallowed: give water to drink (two glasses at 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 as possible.

Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed
irritant effects, depressed respiration, Cyanosis, Unconsciousness, narcosis, Nausea, Vomiting, collapse, Headache

Indication of any immediate medical attention and special treatment needed

Laxative: Sodium sulfate (1 tablespoon/1/4 l water).

SECTION 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

Special hazards arising from the substance or mixture

Not combustible.
Has a fire-promoting effect due to release of oxygen.
Ambient fire may liberate hazardous vapors.
Fire may cause evolution of:
nitrogen oxides

Advice for firefighters

Special protective equipment for fire-fighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid generation of dusts; do not inhale dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

Environmental precautions

Do not empty into drains.

Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills.
Observe possible material restrictions (see sections 7 and 10).
Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

SECTION 7. Handling and storage

Precautions for safe handling

Observe label precautions.

Conditions for safe storage, including any incompatibilities

Tightly closed. Dry. Away from combustible substances. Keep away from heat and sources of ignition. Keep locked up or in an area accessible only to qualified or authorized persons.

Store at +15°C to +25°C (+59°F to +77°F).

SECTION 8. Exposure controls/personal protection

Exposure limit(s)

Contains no substances with occupational exposure limit values.

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

Hygiene measures

Immediately change contaminated clothing. Apply skin- protective barrier cream. Wash hands and face after working with substance. Work under hood. Do not inhale substance/mixture.

Eye/face protection

Safety glasses

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Recommended:

full contact:

Glove material:	Nitrile rubber
Glove thickness:	0.11 mm
Break through time:	> 480 min

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0.11 mm
Break through time:	> 480 min

Respiratory protection

required when dusts are generated.

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

SECTION 9. Physical and chemical properties

Physical state	solid
Color	white
Odor	odorless
Odor Threshold	No information available.

pH	9 at 100 g/l 68 °F (20 °C)
Melting point	536 °F (280 °C) (decomposition)
Boiling point/boiling range	608 °F (320 °C) (decomposition)
Flash point	not applicable
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapor pressure	No information available.
Relative vapor density	No information available.
Relative density	2.1 g/cm³ at 68 °F (20 °C)
Water solubility	820 g/l at 68 °F (20 °C)
Partition coefficient: n-octanol/water	log Pow: -3.7 OECD Test Guideline 107 Bioaccumulation is not expected (log Pow <1).
Autoignition temperature	No information available.
Decomposition temperature	> 608 °F (> 320 °C)
Viscosity, dynamic	No information available.
Bulk density	1,200 kg/m³

SECTION 10. Stability and reactivity

Reactivity

See below

Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

Possibility of hazardous reactions

Risk of explosion with:

combustible substances, Aluminum, Sulfides, Cyanides, potassium cyanide, urea, hydrazine and derivatives, oxidizable substances, unsaturated hydrocarbons, sodium amide, phenol, Ethylene oxide, strong reducing agents

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

Acids, Amines, Nitrosamine

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

butadiene

Conditions to avoid

Strong heating (decomposition).

Incompatible materials

no information available

Hazardous decomposition products

in the event of fire: See section 5.

SECTION 11. Toxicological information

Information on toxicological effects

Likely route of exposure

Eye contact, Skin contact, Ingestion

Acute oral toxicity

LDLO human: 71 mg/kg (RTECS)

LD50 rat: 85 mg/kg (IUCLID)

absorption

Acute inhalation toxicity

LC50 rat: 5.5 mg/l; 4 h (RTECS)
Symptoms: slight mucosal irritations, After a latency period:, Lung edema

Skin irritation

rabbit
Result: No irritation
OECD Test Guideline 404

Eye irritation

rabbit
Result: slight irritation
OECD Test Guideline 405

Carcinogenicity

Did not show carcinogenic effects in animal experiments. (IUCLID)

Reproductive toxicity

No impairment of reproductive performance in animal experiments. (IUCLID)

Teratogenicity

Did not show teratogenic effects in animal experiments. (IUCLID)

Specific target organ systemic toxicity - single exposure
The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ systemic toxicity - repeated exposure
The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard
Regarding the available data the classification criteria are not fulfilled.

Carcinogenicity

IARC	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
ACGIH	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Further information
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 methemoglobin 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.

SECTION 12. Ecological information

Ecotoxicity

Toxicity to fish
LC50 Oncorhynchus mykiss (rainbow trout): 0.09 - 0.13 mg/l; 96 h (ECOTOX Database)

Toxicity to daphnia and other aquatic invertebrates
EC5 E.sulcatum: 2.8 mg/l; 72 h (IUCLID)

EC50 Daphnia magna (Water flea): 12.5 - 100 mg/l; 48 h
OECD Test Guideline 202

Toxicity to bacteria
EC5 Pseudomonas putida: 123 mg/l; 16 h
OECD Test Guideline 209

Persistence and degradability
Biodegradability

The methods for determining the biological degradability are not applicable to inorganic substances.

Bioaccumulative potential
Partition coefficient: n-octanol/water
log Pow: -3.7
OECD Test Guideline 107
Bioaccumulation is not expected (log Pow <1).

Mobility in soil
No information available.

Other adverse effects
Additional ecological information
Discharge into the environment must be avoided.

SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

SECTION 14. Transport information

Land transport (DOT)

UN number	UN 1500
Proper shipping name	SODIUM NITRITE
Class	5.1 (6.1)
Packing group	III
Environmentally hazardous	--

Air transport (IATA)

UN number	UN 1500
Proper shipping name	SODIUM NITRITE
Class	5.1 (6.1)
Packing group	III
Environmentally hazardous	--
Special precautions for user	no

Sea transport (IMDG)

UN number	UN 1500
Proper shipping name	SODIUM NITRITE
Class	5.1 (6.1)
Packing group	III
Environmentally hazardous	--
Special precautions for user	yes
EmS	F-A S-Q

SECTION 15. Regulatory information

United States of America

OSHA Hazards

Oxidizer
Toxic by ingestion

This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS, and may deviate from the GHS information on the label and in section 2.

SARA 311/312 Hazards

Fire Hazard
Acute Health Hazard

US State Regulations

Massachusetts Right To Know

Ingredients
sodium nitrite

Pennsylvania Right To Know

Ingredients
sodium nitrite

New Jersey Right To Know

Ingredients

sodium nitrite

California Prop 65 Components

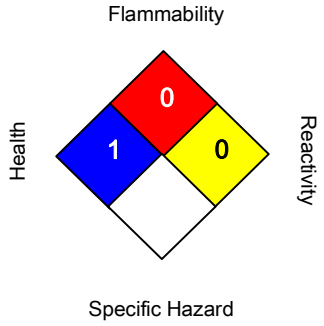
This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

Notification status

TSCA:	On TSCA Inventory
DSL:	All components of this product are on the Canadian DSL list.

SECTION 16. Other information

National Fire Protection Association (U.S.A)



Training advice

Provide adequate information, instruction and training for operators.

Full text of H-Statements referred to under sections 2 and 3.

H272	May intensify fire; oxidizer.
H301	Toxic if swallowed.
H400	Very toxic to aquatic life.

Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at www.wikipedia.org.