

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

Product identifier:

Trade name: Sodium Nitrite
CAS Number: 7632-00-0
EC number: 231-555-9
Index number: 007-010-00-4

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

Product category: PC21 Laboratory chemicals
PC24 Lubricants, greases, release products
PC25 Metal working fluids

Application of the substance / the mixture: Corrosion inhibitors

Uses advised against: Any use carrying a risk of direct contact with eyes/skin where workers are exposed without adequate personal protective equipment (PPE).
Any use involving significant release of aerosol, vapour or dust in the breathing zone of workers where they are exposed without suitable respiratory protective equipment (RPE).
Processes involving extreme heat use advised against.

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2. HAZARDS IDENTIFICATION

Classification of the substance or mixture:

Classification according to GB-CLP:

Ox. Sol. 3 H272 May intensify fire; oxidiser.
Acute Tox. 3 H301 Toxic if swallowed.
Aquatic Acute 1 H400 Very toxic to aquatic life.

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Label elements

Labelling according to GB-CLP: The substance is classified and labelled according to the GB CLP regulation.

Hazard pictogram:



GHS03

GHS06

GHS09

Signal Word:

Danger

Hazard Statements:

H272 May intensify fire; oxidiser.

H301 Toxic if swallowed.

H400 Very toxic to aquatic life.

Precautionary Statements:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P220 Keep away from combustible materials.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

P330 Rinse mouth.

P405 Store locked up.

P501 Dispose of contents/ container in accordance with national regulations.

Other hazards:

Results of PBT and vPvB assessment:

PBT: Not applicable.

vPvB: Not applicable.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substances:

CAS No.	Description
CAS: 7632-00-0	Sodium Nitrite

Identification number(s):

EC number: 231-555-9

Index number: 007-010-00-4

4. FIRST AID MEASURES

Description of first aid measures:

General information: Immediately remove any clothing soiled by the product.

In case of irregular breathing or respiratory arrest provide artificial respiration.

After inhalation:

In case of unconsciousness place patient stably in side position for transportation.

After skin contact:

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

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- After eye contact:** Check for and remove any contact lenses.
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- After swallowing:** Wash mouth out with water.
Do not induce vomiting; call for medical help immediately.
If vomiting occurs spontaneously, keep head below hips to prevent aspiration.
- Information for doctor:** Nitrites may cause effects on the blood, resulting in formation of methaemoglobin when ingested. The effects may be delayed. Medical observation is indicated.

Most important symptoms and effects, both acute and delayed: Methemoglobinemia.

Indication of any immediate medical attention and special treatment needed: No further relevant information available.

5. FIRE-FIGHTING MEASURES

Extinguishing media:

- Suitable extinguishing agents:** CO₂, powder or water spray.
Fight larger fires with water spray or alcohol resistant foam.
Use fire extinguishing methods suitable to surrounding conditions.

For safety reasons unsuitable extinguishing agents: Water with full jet.

Special hazards arising from the substance or mixture:

Strong oxidiser. Contact with combustible or flammable substances may cause fire.

In case of fire, the following can be released: Nitrogen oxides (NO_x).

Advice for firefighters:

- Protective equipment:** Wear self-contained respiratory protective device.
Wear fully protective suit.
Do not inhale explosion gases or combustion gases.

Additional information:

Cool endangered receptacles with water spray.
Collect contaminated firefighting water separately. It must not enter the sewage system.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Wear protective equipment.
Keep unprotected persons away.
Ensure adequate ventilation.

Environmental precautions:

Do not allow to penetrate the ground/soil.
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.

Methods and material for containment and cleaning up:

Pick up mechanically.
Do not use combustible materials such as paper towels to clean up spills.
Dispose contaminated material as waste according to section 13.

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Reference to other sections: See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7. HANDLING AND STORAGE

Precautions for safe handling:

Information about fire - and explosion protection: Substance/product is oxidising when dry.

Handling: Avoid direct personal contact (eyes, skin and inhalation).
Prevent formation of dust.

Conditions for safe storage, including any incompatibilities:

Storage:

Requirements to be met by storerooms and receptacles:

- Do not store in aluminium, galvanised or copper containers.
- Do not store on combustible materials such as wooden floors or wooden pallets.
- Prevent any seepage into the ground.

Information about storage in one common storage facility:

- Do not store together with oxidising and acidic materials.
- Store away from reducing agents.
- Do not store together with alkalis (caustic solutions).
- Store away from combustible materials.
- Store away from flammable substances.
- Store away from ammonium salts.

Further information about storage conditions: Store in cool, dry conditions in well-sealed receptacles.

Storage class: 5.1 B

Specific end use(s): No further relevant information available.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters:

Ingredients with limit values that require monitoring at the workplace: Not required.

DNELs:

Inhalative	Long-term systemic effects	2 mg/m ³ (worker)
	Short-term systemic effects	2 mg/m ³ (worker)

PNECs:

Freshwater	5.4 µg/L
Freshwater – Intermittent release	5.4 µg/L
Marine water	6.16 µg/L
Sewage Treatment Plant	21 mg/L
Sediment (freshwater)	19.5 µg/kg
Sediment (marine water)	22.3 µg/kg
Soil	733 ng/kg

Additional information: The lists valid during the making were used as basis.

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Exposure controls:

Appropriate engineering controls: No further data; see section 7.

Individual protection measures, such as personal protective equipment:

General protective and hygienic measures:

Do not breathe dust

Avoid contact with the eyes and skin.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

A safe system of work must be formulated and followed to ensure safe working with this product.

Relevant workers must receive suitable and sufficient training and supervision.

Ensure that eyewash stations and safety showers are close to the workstation location.

Respiratory protection:

Use suitable respiratory protective device in case of insufficient ventilation. Filter P3.

Hand protection:

Protective gloves:



Use gloves tested and approved under appropriate government standards such as NIOSH (US) or EN374 (EU).

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Selection of the glove material on consideration of the penetration times rates of diffusion and the degradation.

Material of gloves:

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

PVC gloves

Nitrile rubber, NBR

Chloroprene rubber, CR

Penetration time of glove material: Break-through time: 480 minutes

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye/face protection:



Safety glasses with side-shields conforming to EN166.

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

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Body protection:

Protective work clothing:



Body protection must be chosen depending on product properties, activity and possible exposure.

Environmental exposure controls: Do not allow to enter drains, sewers or watercourses.

Risk management measures: The operators shall be instructed adequately.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties:

General information:

Physical state:	Solid
Colour:	Yellowish
Odour:	Characteristic
Odour threshold:	Not determined
Melting point/freezing point:	271 (decomp) °C
Boiling point or initial boiling point and boiling range:	Undetermined
Flammability:	Contact with combustible material may cause fire
Flash point:	Not applicable
pH (100 g/l) at 20°C:	9
Solubility:	
Water at 20°C:	820 g/l
Density and/or relative density:	
Density at 20°C:	2.168 g/cm ³

Other information:

Appearance:

Form: Crystalline

Important information on protection of health and environment, and on safety:

Explosive properties: Heating may cause an explosion

Information with regard to physical hazard classes:

Explosives:	Void
Flammable gases:	Void
Aerosols:	Void
Oxidising gases:	Void
Gases under pressure:	Void
Flammable liquids:	Void
Flammable solids:	Void
Self-reactive substances and mixtures:	Void
Pyrophoric liquids:	Void
Pyrophoric solids:	Void
Self-heating substances and mixtures:	Void

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Substances and mixtures, which emit flammable gases in contact with water: Void

Oxidising liquids: Void
Oxidising solids: May intensify fire; oxidiser
Organic peroxides: Void
Corrosive to metals: Void
Desensitised explosives: Void

10. STABILITY AND REACTIVITY

Reactivity: No further relevant information available.

Chemical stability:

Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

Possibility of hazardous reactions: Acts as an oxidising agent on organic materials such as wood, paper and fats.
Reaction with nitro sating agents (e.g. nitrites, nitrous acid, nitrous gases) can release carcinogenic nitrosamines.

Conditions to avoid: Heat and static discharge.

Incompatible materials: Amines
Acids
Ammonium salts
Chromates
Cyanides
Finely powdered metals
Reducing agents
Combustible materials
Organic solvents

Hazardous decomposition products: Nitrogen Oxides (NO_x)
Sodium Oxide

11. TOXICOLOGICAL INFORMATION

Information on hazard classes as defined in Regulation (EC) No 1272/2008:

Acute toxicity: Toxic if swallowed.

LD/LC50 values relevant for classification:

Oral	LD50	180 mg/kg (rat)
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Primary irritant effect:

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Serious eye damage/irritation: Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation: Based on available data, the classification criteria are not met.

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity: Based on available data, the classification criteria are not met.

STOT-single exposure: Based on available data, the classification criteria are not met.

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STOT-repeated exposure: Based on available data, the classification criteria are not met.

Aspiration hazard: Based on available data, the classification criteria are not met.

Additional toxicological information:

Inorganic nitrate and nitrite substances are carcinogenic when present under conditions of endogenous nitrosation, i.e. if present in conjunction with secondary amines, under certain physical and thermal conditions, leading to the formation of hazardous and carcinogenic nitrosamines.

Contains sodium nitrite.

May cause nausea, headache, dizziness, weakness and shortness of breath. In severe cases methemoglobinemia and a lowering of blood pressure may occur and could prove fatal.

Symptoms may include a greyish-blue discoloration of the skin and mucous membranes, rapid shallow breathing, lowered blood pressure and increased heart rate. Exposure may result in death. The effects may be delayed. Medical observation is indicated.

Information on other hazards:

Endocrine disrupting properties: Substance is not listed.

12. ECOLOGICAL INFORMATION

Toxicity

Aquatic toxicity: No further relevant information available.

Persistence and degradability: No further relevant information available.

Bioaccumulative potential: No further relevant information available.

Mobility in soil: No further relevant information available.

Results of PBT and vPvB assessment:

PBT: Not applicable.

vPvB: Not applicable.

Endocrine disrupting properties: The product does not contain substances with endocrine disrupting properties.

Other adverse effects:

Remark: Very toxic for fish.

Additional ecological information:

General notes: Very toxic for aquatic organisms.

Also poisonous for fish and plankton in water bodies.

Water hazard class 3 (German Regulation) (Assessment by list): Extremely hazardous for water.

Do not allow product to reach ground water, water course or sewage system, even in small quantities. Danger to drinking water if even extremely small quantities leak into the ground.

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13. DISPOSAL CONSIDERATIONS

Waste treatment methods:

Recommendation:

Recommended Hierarchy of Controls: Minimise waste.

Reuse if not contaminated.

Recycle, if possible; or safe disposal (if all else fails).

Must not be disposed together with household garbage.

Do not allow product to reach sewage system.

Contact waste processors for recycling information.

Used, degraded or contaminated product may be classified as hazardous waste.

Anyone classifying hazardous waste and determining its fate must be qualified in accordance with state and international legislation.

Uncleaned packaging:

Recommendation:

Empty contaminated packaging thoroughly.

They may be recycled after thorough and proper cleaning.

Container remains hazardous when empty.

Continue to observe all precautions.

Containers, even those that are "empty," may contain residues that can develop flammable and/or hazardous vapours upon heating.

Do not cut, drill, grind, weld, or perform similar operations on or near empty containers.

Disposal must be made according to official regulations.

Recommended cleansing agents: Water, if necessary, together with cleansing agents.

14. TRANSPORT INFORMATION

UN number or ID number:

ADR/RID/ADN, IMDG, IATA: 1500

UN proper shipping name:

ADR/RID/ADN: UN1500 SODIUM NITRITE, ENVIRONMENTALLY HAZARDOUS

IMDG, IATA: Sodium Nitrite

Transport hazard class(es)

ADR/RID/ADN:



Class: 5.1 (OT2) Oxidising substances

Label: 5.1 + 6.1

IMDG:



Class: 5.1 Oxidising substances

Label: 5.1/6.1

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IATA:



Class: 5.1 Oxidising substances

Label: 5.1 (6.1)

Packing group:

ADR/RID/ADN, IMDG, IATA: III

Environmental hazards: Environmentally hazardous substance, solid

Marine pollutant: Symbol (fish and tree)

Special marking (ADR/RID/ADN): Symbol (fish and tree)

Special precautions for user: Warning: Oxidising substances.

Hazard identification number (Kemler code): 56

Hazchem Code: 1Z

EMS Number: F=A, S-Q

Segregation groups: (SGG12) Nitrites and their mixtures

Stowage Category: A

Segregation Code: SG38 Stow "separated from" SGG2-ammonium compounds
SG49 Stow "separated from" SGG6-cyanides

Maritime transport in bulk according to IMO instruments: Not applicable

Transport/Additional information:

ADR/RID/ADN:

Limited quantities (LQ): 5kg

Excepted quantities (EQ): Code: E1

Maximum net quantity per inner packaging: 30g

Maximum net quantity per outer packaging: 1000g

Transport category: 3

Tunnel restriction code: E

IMDG:

Limited quantities (LQ): 5kg

Excepted quantities (EQ): Code: E1

Maximum net quantity per inner packaging: 30g

Maximum net quantity per outer packaging: 1000g

UN "Model Regulation": UN 1500 SODIUM NITRITE, 5.1 (6.1), III, ENVIRONMENTALLY HAZARDOUS

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15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

Poisons Act:

Regulated explosives precursors: Substance is not listed.

Regulated poisons: Substance is not listed.

Reportable explosives precursors: Substance is not listed.

Reportable poisons: Listed

Control Of Major Accident Hazards Regulations 2015 (COMAH):

Named dangerous substances - ANNEX I: Substance is not listed.

COMAH category: H2

P8

E1

Qualifying quantity (tonnes) for the application of lower-tier requirements: 50 t

Qualifying quantity (tonnes) for the application of upper-tier requirements: 200 t

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

Note: The regulatory information given above only indicates the principal regulations specifically applicable to the product described in the safety data sheet. The user's attention is drawn to the possible existence of additional provisions which complete these regulations. Refer to all applicable national, international and local regulations or provisions.

16. OTHER INFORMATION

Abbreviations and acronyms:

ADR:	Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG:	International Maritime Code for Dangerous Goods
IATA:	International Air Transport Association
GHS:	Globally Harmonised System of Classification and Labelling of Chemicals
EINECS:	European Inventory of Existing Commercial Chemical Substances
CAS:	Chemical Abstracts Service (division of the American Chemical Society)
DNEL:	Derived No-Effect Level (UK REACH)
PNEC:	Predicted No-Effect Concentration (UK REACH)
LC50:	Lethal concentration, 50 percent
LD50:	Lethal dose, 50 percent
PBT:	Persistent, Bioaccumulative and Toxic
vPvB:	very Persistent and very Bioaccumulative
Ox. Sol. 3:	Oxidizing solids – Category 3
Acute Tox. 3:	Acute toxicity – Category 3
Aquatic Acute 1:	Hazardous to the aquatic environment - acute aquatic hazard – Category 1

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Legal disclaimer:

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