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Safety data sheet

BASF safety data sheet. This is a translation of the country-specific safety data sheet into a language other than that required by law. This document does not replace the safety data sheet provided according to Regulation (EC) No 1907/2006.
Date / Revised: 13.01.2023 Version: 2.1
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Date / First version: 23.12.2020
Product: **Sodium Nitrite HQ free flowing (non-food grade)**
(ID no. 30046436/SDS_GEN_DE/EN)
Date of print 29.03.2023

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Sodium Nitrite HQ free flowing (non-food grade)

UFI: 36J5-Q4T9-600C-K5QY

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

Relevant identified uses: Chemical
Recommended use: Raw material, Intermediate, corrosion inhibitor, Surface treatment agent

For the detailed identified uses of the product see appendix of the safety data sheet.

1.3. Details of the supplier of the safety data sheet

Company:
BASF SE
67056 Ludwigshafen
GERMANY
Division Monomers

E-mail address: pss.monomers@basf.com

1.4. Emergency telephone number

International emergency number:
Telephone: +49 180 2273-112

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

For the classification of the mixture the following methods have been applied: extrapolation on the concentration levels of the hazardous substances, on basis of test results and after evaluation of experts. The methodologies used are mentioned at the respective test results.

According to Regulation (EC) No 1272/2008 [CLP]

Ox. Sol. 3	H272 May intensify fire; oxidizer.
Acute Tox. 3 (oral)	H301 Toxic if swallowed.
Eye Dam./Irrit. 2	H319 Causes serious eye irritation.
Aquatic Acute 1	H400 Very toxic to aquatic life.
M-factor acute: 1	

According to BASF current knowledge and application of the criteria given in Annex I of Regulation (EC) No. 1272/2008, the following classification exceeding the classification given in Regulation (EC) No 1272/2008, Annex VI, Table 3.1 is required.

Ox. Sol. 2
Acute Tox. 3 (oral)
Eye Dam./Irrit. 2
Aquatic Acute 1

For the classifications not written out in full in this section the full text can be found in section 16.

2.2. Label elements

According to Regulation (EC) No 1272/2008 [CLP]

Pictogram:

Signal Word:

Danger

Hazard Statement:

H272	May intensify fire; oxidizer.
H319	Causes serious eye irritation.
H301	Toxic if swallowed.
H400	Very toxic to aquatic life.

Precautionary Statements (Prevention):

P273	Avoid release to the environment.
P280	Wear protective gloves and eye protection or face protection.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P264	Wash contaminated body parts thoroughly after handling.
P220	Keep away from clothing and other combustible materials.

Precautionary Statements (Response):

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or physician.
P330	Rinse mouth
P391	Collect spillage.
P337 + P313	If eye irritation persists: Get medical attention.
P370 + P378	In case of fire, … to extinguish.

Precautionary Statements (Storage):

P405	Store locked up.

Precautionary Statements (Disposal):

P501	Dispose of contents and container to hazardous or special waste collection point.

Hazard determining component(s) for labelling: sodium nitrite

2.3. Other hazards

According to Regulation (EC) No 1272/2008 [CLP]

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.
No specific dangers known, if the regulations/notes for storage and handling are considered.
The product does not contain a substance above legal limits fulfilling the PBT (persistent/bioaccumulative/toxic) criteria or the vPvB (very persistent/very bioaccumulative) criteria.
Product does not contain a substance above legal limits included in the list established in accordance with Article 59(1) of Regulation (EC) No 1907/2006 for having endocrine disrupting properties or is identified to have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

SECTION 3: Composition/Information on Ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Chemical nature

sodium nitriteNaNO2

Contains:anticaking agent

Regulatory relevant ingredients

sodium nitrite

Content (W/W): >= 99 % CAS Number: 7632-00-0 EC-Number: 231-555-9 REACH registration number: 01-2119471836-27	Ox. Sol. 3 Acute Tox. 3 (oral) Eye Dam./Irrit. 2 Aquatic Acute 1 M-factor acute: 1 H272, H319, H301, H400 Differing classification according to current knowledge and the criteria given in Annex I of Regulation (EC) No. 1272/2008 Ox. Sol. 2 Acute Tox. 3 (oral) Eye Dam./Irrit. 2 Aquatic Acute 1

For the classifications not written out in full in this section, including the hazard classes and the hazard statements, the full text is listed in section 16.

SECTION 4: First-Aid Measures

4.1. Description of first aid measures

If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position).

If inhaled:
After inhalation of decomposition products, remove the affected person to a source of fresh air and keep calm. Provide medical aid. Immediately administer a corticosteroid from a controlled/metered dose inhaler.

On skin contact:
Wash thoroughly with soap and water

On contact with eyes:
Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

On ingestion:
Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11.

Hazards: Risk of pulmonary edema. Symptoms can appear later. Danger of methaemoglobin formation after ingestion.

4.3. Indication of any immediate medical attention and special treatment needed

Treatment: Treat according to symptoms (decontamination, vital functions), treat with toluonium chloride to reverse methaemoglobinanaemia.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing media

Suitable extinguishing media:
water spray

Unsuitable extinguishing media for safety reasons:
ABC powder, carbon dioxide

5.2. Special hazards arising from the substance or mixture

Endangering substances: nitrogen oxides
Advice: The substances/groups of substances mentioned can be released in case of fire. Has a fire-promoting effect due to release of oxygen.

5.3. Advice for fire-fighters

Special protective equipment:
Wear a self-contained breathing apparatus.

Further information:
Substance/product is an oxidizing agent and can supply oxygen to stimulate or accelerate the combustion of organic or other combustible substances/products.

SECTION 6: Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

Use breathing apparatus if exposed to vapours/dust/aerosol. Avoid contact with eyes.

6.2. Environmental precautions

Do not discharge into the subsoil/soil. Do not discharge into waterways or sewer systems without proper authorization.

6.3. Methods and material for containment and cleaning up

For residues: Pick up with suitable appliance and dispose of.

6.4. Reference to other sections

Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

SECTION 7: Handling and Storage

7.1. Precautions for safe handling

Keep container tightly sealed. Breathing must be protected when large quantities are decanted without local exhaust ventilation. Processing machines must be fitted with local exhaust ventilation. Protect against moisture. Protect against heat. Do not mix with combustible substances. Handle in accordance with good industrial hygiene and safety practice.

Protection against fire and explosion:
The substance/product is non-combustible. Has a fire-promoting effect due to release of oxygen. Where required Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy.

7.2. Conditions for safe storage, including any incompatibilities

Segregate from oxidizable substances. Segregate from acids. Segregate from ammonium salts.

Suitable materials for containers: Carbon steel (Iron), Stainless steel 1.4541, Stainless steel 1.4571, High density polyethylene (HDPE), Low density polyethylene (LDPE), rubberized
Further information on storage conditions: Keep container tightly closed and in a well-ventilated place. This product is classified as a dangerous substance for storage. The authority permits and storage regulations must be observed. Keep away from food, drink and animal feeding stuffs.

Storage class according to TRGS 510 (originally VCI, Germany): (5.1B) Oxidising substances

7.3. Specific end use(s)

See exposure scenario(s) in the attachment to this safety data sheet.

SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

Components with occupational exposure limits

No substance specific occupational exposure limits known.

PNEC

freshwater: 0,0054 mg/l

marine water: 0,00616 mg/l

intermittent release: 0,0054 mg/l

sediment (freshwater): 0,0195 mg/kg

sediment (marine water): 0,0223 mg/kg

soil: 0,000733 mg/kg

STP: 21 mg/l

DNEL

worker:
Long- and short-term exposure - systemic effects, Inhalation: 2 mg/m3

8.2. Exposure controls

Personal protective equipment

Respiratory protection:
Breathing protection if dusts are formed. Particle filter with high efficiency for solid and liquid particles (e.g. EN 143 or 149, Type P3 or FFP3).

Hand protection:
Chemical resistant protective gloves (EN ISO 374-1)
Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN ISO 374-1):
polyvinylchloride (PVC) - 0.7 mm coating thickness
nitrile rubber (NBR) - 0.4 mm coating thickness
chloroprene rubber (CR) - 0.5 mm coating thickness
butyl rubber (butyl) - 0.7 mm coating thickness
fluoroelastomer (FKM) - 0.7 mm coating thickness
Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing.
Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:
Safety glasses with side-shields (frame goggles) (e.g. EN 166)

Body protection:
Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

General safety and hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Do not breathe dust. Keep away from food, drink and animal feeding stuffs. No eating, drinking, smoking or tobacco use at the

place of work. Take off immediately all contaminated clothing. Hands and/or face should be washed before breaks and at the end of the shift.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

State of matter:	solid	
Form:	crystalline	
Colour:	white to slightly yellow	
Odour:	odourless	
Odour threshold:		
	Not determined due to potential health hazard by inhalation.	
Melting point:	280 °C	(other)
Boiling point:		
	(1.013,25 hPa) The substance / product decomposes therefore not determined.	
Flammability:	not highly flammable, not self-igniting	(other)
Lower explosion limit:		
	For solids not relevant for classification and labelling.	
Upper explosion limit:		
	For solids not relevant for classification and labelling.	
Flash point:		
	Study scientifically not justified.	
Thermal decomposition:	> 320 °C Nitrogen monoxide, nitrogen dioxide, Disodium oxide	
pH value:	7 - 9 (100 g/l) The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.	
Viscosity, kinematic:		
	No data available.	
Viscosity, dynamic:		
	Study scientifically not justified.	
Solubility in water:	readily soluble	
Partitioning coefficient n-octanol/water (log Kow):		
	Study scientifically not justified.	
Vapour pressure:		
	Study scientifically not justified.	

Relative density:	2,17 (20 °C) Literature data.	
Density:	2,17 g/cm3 (20 °C) Information based on the main component/s.	(ISO 2811-3)

Particle characteristics

Particle size distribution:	300 - 400 µm	(D50, measured)

9.2. Other information

Information with regard to physical hazard classes

Explosives

Explosion hazard:	Based on the chemical structure there is no indication of explosive properties.
Impact sensitivity:	not shock-sensitive Based on the chemical structure there is no shock-sensitivity.

Oxidizing properties

Fire promoting properties: Oxidizing.

Self-heating substances and mixtures

Self heating ability:	It is not a substance capable of spontaneous heating.

Corrosion to metals

Corrosive effects to metal are not anticipated. - In the presence of water or moisture metal corrosion cannot be excluded.

Other safety characteristics

Radioactivity:		not radioactive for transport purposes
Bulk density:	1.100 - 1.300 kg/m3	(other)
pKA:	Study scientifically not justified.	
Hygroscopy:	hygroscopic	
Surface tension:	Based on chemical structure, surface activity is not to be expected.	
Angle of repose:	50 °	(trickle test (lab for material testing))
Evaporation rate:	The product is a non-volatile solid.	

SECTION 10: Stability and Reactivity

10.1. Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals: Corrosive effects to metal are not anticipated. In the presence of water or moisture metal corrosion cannot be excluded.

10.2. Chemical stability

The product is chemically stable.

10.3. Possibility of hazardous reactions

Hazardous reactions in presence of mentioned substances to avoid.
The product is stable if stored and handled as prescribed/indicated. Reacts with organic substances.

10.4. Conditions to avoid

See SDS section 7 - Handling and storage.

10.5. Incompatible materials

Substances to avoid:
reducing agents, oxidizable substances, ammonium salts, amines, amine compounds, acids

10.6. Hazardous decomposition products

Hazardous decomposition products:
Disodium oxide
nitrogen oxides

SECTION 11: Toxicological Information

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

Acute toxicity

Assessment of acute toxicity:
Of high toxicity after single ingestion. There is a risk of damage to the blood (methemoglobinemia) after a single uptake.

Experimental/calculated data:
LD50 rat (oral): 180 mg/kg

(by inhalation):Study scientifically not justified.

(dermal):Study scientifically not justified.

Irritation

Assessment of irritating effects:
Not irritating to the skin. Eye contact causes irritation.

Experimental/calculated data:
Skin corrosion/irritation
rabbit: non-irritant (OECD Guideline 404)

Serious eye damage/irritation
rabbit: Irritant. (OECD Guideline 405)

Respiratory/Skin sensitization

Assessment of sensitization:
There is no evidence of a skin-sensitizing potential.

Experimental/calculated data:
Study scientifically not justified.

Germ cell mutagenicity

Information on: sodium nitrite
Assessment of mutagenicity:
The data available on mutagenic action are not consistent.

Carcinogenicity

Assessment of carcinogenicity:
In long-term studies in rats and mice in which the substance was given by drinking-water, a carcinogenic effect was not observed. Under certain conditions nitrites can enhance the formation of nitrosamines in vivo. Nitrosamines are carcinogenic in animal studies.

Reproductive toxicity

Assessment of reproduction toxicity:
The results of animal studies gave no indication of a fertility impairing effect.

Developmental toxicity

Assessment of teratogenicity:
In animal studies the substance did not cause malformations. Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals. After the uptake of small doses toxicity to development will not be expected in humans.

Specific target organ toxicity (single exposure)

Assessment of STOT single:
There is a risk of damage to the blood (methemoglobinemia) after a single uptake.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:
After repeated administration the prominent effect is damage of the blood (methemoglobin formation).

Aspiration hazard

No aspiration hazard expected.

Interactive effects

No data available.

11.2. Information on other hazards

Endocrine disrupting properties

Product does not contain a substance above legal limits included in the list established in accordance with Article 59(1) of Regulation (EC) No 1907/2006 for having endocrine disrupting properties or is identified to have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

SECTION 12: Ecological Information

12.1. Toxicity

Assessment of aquatic toxicity:
Very toxic (acute effect) to aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Toxicity to fish:
LC50 (96 h) 0,54 - 26,3 mg/l, Salmo gairdneri, syn. O. mykiss (other, Flow through.)

Aquatic invertebrates:
LC50 (96 h) 4,93 mg/l, aquatic crustacea (static)
Literature data.

EC50 (48 h) 15,4 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)
The statement of the toxic effect relates to the analytically determined concentration.

Aquatic plants:
EC50 (72 h) > 100 mg/l (growth rate), Scenedesmus subspicatus (OECD Guideline 201, static)
The statement of the toxic effect relates to the analytically determined concentration.

Microorganisms/Effect on activated sludge:
EC10 (3 h) 210 mg/l, activated sludge, domestic (OECD Guideline 209, static)
The details of the toxic effect relate to the nominal concentration.

EC50 (48 h) 421 mg/l, protozoa (other, static)

Chronic toxicity to fish:
No observed effect concentration (31 d) 6,16 mg/l, Ictalurus punctatus, syn: I. robustus (other, Flow through.)

Chronic toxicity to aquatic invertebrates:
No observed effect concentration (80 d) 9,86 mg/l, aquatic crustacea (Daphnia test chronic, static)

Assessment of terrestrial toxicity:
No data available.

12.2. Persistence and degradability

Assessment biodegradation and elimination (H2O):
Not applicable for inorganic substances.

Elimination information:
not applicable

Assessment of stability in water:
According to structural properties, hydrolysis is not expected/probable.

Information on Stability in Water (Hydrolysis):
not applicable

12.3. Bioaccumulative potential

Assessment bioaccumulation potential:
Accumulation in organisms is not to be expected.

Bioaccumulation potential:
Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.

12.4. Mobility in soil

Assessment transport between environmental compartments:
Volatility: The substance will not evaporate into the atmosphere from the water surface.
Adsorption in soil: Adsorption to solid soil phase is not expected.

12.5. Results of PBT and vPvB assessment

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not fulfill the criteria for PBT (Persistent/bioaccumulative/toxic) and vPvB (very persistent/very bioaccumulative). Self classification

12.6. Endocrine disrupting properties

Product does not contain a substance above legal limits included in the list established in accordance with Article 59(1) of Regulation (EC) No 1907/2006 for having endocrine disrupting properties or is identified to have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

12.7. Other adverse effects

The substance is not listed in Regulation (EC) 1005/2009 on substances that deplete the ozone layer.

12.8. Additional information

Other ecotoxicological advice:
Do not allow to enter soil, waterways or waste water channels. Do not release untreated into natural waters. Inhibition of degradation activity in activated sludge is not to be anticipated during correct introduction of low concentrations.

SECTION 13: Disposal Considerations

13.1. Waste treatment methods

Contact manufacturer regarding recycling.
Check for possible recycling.
Contact waste centre regarding recycling.

Contaminated packaging:
Contaminated packaging should be emptied as far as possible and disposed of in accordance with official regulations after being thoroughly cleaned.

SECTION 14: Transport Information

Land transport

ADR

UN number or ID number:	UN1500
UN proper shipping name:	SODIUM NITRITE
Transport hazard class(es):	5.1, 6.1, EHSM
Packing group:	III
Environmental hazards:	yes
Special precautions for user:	Tunnel code: E

RID

UN number or ID number:	UN1500
UN proper shipping name:	SODIUM NITRITE
Transport hazard class(es):	5.1, 6.1, EHSM
Packing group:	III
Environmental hazards:	yes
Special precautions for user:	None known

Inland waterway transport

ADN

UN number or ID number:	UN1500
UN proper shipping name:	SODIUM NITRITE
Transport hazard class(es):	5.1, 6.1, EHSM
Packing group:	III
Environmental hazards:	yes

Special precautions for user:	None known

Transport in inland waterway vessel
Not evaluated

Sea transport

IMDG

UN number or ID number:	UN 1500
UN proper shipping name:	SODIUM NITRITE
Transport hazard class(es):	5.1, 6.1, EHSM
Packing group:	III
Environmental hazards:	yes Marine pollutant: YES
Special precautions for user:	EmS: F-A; S-Q

Air transport

IATA/ICAO

UN number or ID number:	UN 1500
UN proper shipping name:	SODIUM NITRITE
Transport hazard class(es):	5.1, 6.1
Packing group:	III
Environmental hazards:	No Mark as dangerous for the environment is needed
Special precautions for user:	None known

14.1. UN number or ID number
See corresponding entries for “UN number or ID number” for the respective regulations in the tables above.

14.2. UN proper shipping name
See corresponding entries for “UN proper shipping name” for the respective regulations in the tables above.

14.3. Transport hazard class(es)
See corresponding entries for “Transport hazard class(es)” for the respective regulations in the tables above.

14.4. Packing group
See corresponding entries for “Packing group” for the respective regulations in the tables above.

14.5. Environmental hazards
See corresponding entries for “Environmental hazards” for the respective regulations in the tables above.

14.6. Special precautions for user
See corresponding entries for “Special precautions for user” for the respective regulations in the tables above.

14.7. Maritime transport in bulk according to IMO instruments

Maritime transport in bulk is not intended.

SECTION 15: Regulatory Information

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

Hazardous Incident Ordinance (Germany):
List entry in regulation: 1.1.2
List entry in regulation: 1.2.8
List entry in regulation: 1.3.1

Directive 2012/18/EU - Control of Major Accident Hazards involving dangerous substances (EU):
List entry in regulation: E1
List entry in regulation: H2
List entry in regulation: P8

Classification according to 'TA-Luft' (Germany):
5.2.1: total dust, including fine dust

Water hazard class (§8/§10 AwSV (Self-classification of the mixture according to calculation method)): (3) Strongly water polluting.
Self classification

Regulation on prohibitions and restrictions on the marketing of dangerous substances, preparations and goods in accordance with the chemical law (Germany)

15.2. Chemical Safety Assessment

Chemical Safety Assessment performed

SECTION 16: Other Information

Assessment of the hazard classes according to UN GHS criteria (most recent version)

Ox. Sol. 2
Acute Tox. 3 (oral)
Eye Dam./Irrit. 2A
Aquatic Acute 1

M-factor acute: 1

This product is of industrial quality and unless otherwise specified or agreed intended exclusively for industrial use. Any other intended applications should be discussed with the manufacturer.

Ox. Sol.	Oxidising solids
Acute Tox.	Acute toxicity
Eye Dam./Irrit.	Serious eye damage/eye irritation
Aquatic Acute	Hazardous to the aquatic environment - acute
H272	May intensify fire; oxidizer.
H319	Causes serious eye irritation.
H301	Toxic if swallowed.
H400	Very toxic to aquatic life.

Abbreviations
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road. ADN = The European Agreement concerning the International Carriage of Dangerous Goods by Inland waterways. ATE = Acute Toxicity Estimates. CAO = Cargo Aircraft Only. CAS = Chemical Abstract Service. CLP = Classification, Labelling and Packaging of substances and mixtures. DIN = German national organization for standardization. DNEL = Derived No Effect Level. EC50 = Effective concentration median for 50% of the population. EC = European Community. EN = European Standards. IARC = International Agency for Research on Cancer. IATA = International Air Transport Association. IBC-Code = Intermediate Bulk Container code. IMDG = International Maritime Dangerous Goods Code. ISO = International Organization for Standardization. STEL = Short-Term Exposure Limit. LC50 = Lethal concentration median for 50% of the population. LD50 = Lethal dose median for 50% of the population. TLV = Threshold Limit Value. MARPOL = The International Convention for the Prevention of Pollution from Ships. NEN = Dutch Norm. NOEC = No Observed Effect Concentration. OEL = Occupational Exposure Limit. OECD = Organization for Economic Cooperation and Development. PBT = Persistent, Bioaccumulative and Toxic. PNEC = Predicted No Effect Level. PPM = Parts per million. RID = The European Agreement concerning the International Carriage of Dangerous Goods by Rail. TWA = Time Weight Average. UN-number = UN number at transport. vPvB = very Persistent and very Bioaccumulative.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

Vertical lines in the left hand margin indicate an amendment from the previous version.

Annex: Exposure Scenarios

Index

1. Formulation & (re)packing of substances and mixtures, (handling as solid), Industrial applications
SU3; SU3, SU9; ERC2; PROC4, PROC5, PROC8b, PROC9, PROC19, PROC26, PROC15

2. Formulation & (re)packing of substances and mixtures, (handling as solid in solution), (handling as melted mass), Industrial applications
SU3; SU3, SU10; ERC2; PROC4, PROC5, PROC8b, PROC9, PROC15, PROC19, PROC26

3. Formulation & (re)packing of substances and mixtures, (handling as solid), Professional applications
SU22; SU3, SU10; ERC2; PROC4, PROC5, PROC8b, PROC9, PROC15, PROC19, PROC26

4. Formulation & (re)packing of substances and mixtures, (handling as solid in solution), (handling as melted mass), Professional applications
SU22; SU3, SU8, SU9; ERC2; PROC3, PROC4, PROC8b, PROC9, PROC5, PROC15, PROC19, PROC26

5. Use as an intermediate, Use in chemical synthesis, Industrial applications
SU3; SU3, SU8, SU9; ERC6a; PROC3, PROC4, PROC8b, PROC15, PROC26

6. Use in Metallurgy, Use for Heat storage, Industrial applications
SU3; SU15; ERC7; PROC3, PROC4, PROC9, PROC25

7. Use as Corrosion inhibitor, (use in professional settings)
SU22; SU2b, SU3, SU17, SU22; ERC7; PROC5, PROC17, PROC20

8. Use in Metal surface treatment, (use in industrial settings), (handling as solid)
SU3; ERC6b; PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC15

9. Use in Metal surface treatment, (handling as solid in solution), (handling as melted mass), (use in industrial settings)
SU3; ERC6b; PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC15

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1. Short title of exposure scenario

Formulation & (re)packing of substances and mixtures, (handling as solid), Industrial applications
SU3; SU3, SU9; ERC2; PROC4, PROC5, PROC8b, PROC9, PROC19, PROC26, PROC15

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	PROC4: Chemical production where opportunity for exposure arises PROC5: Mixing or blending in batch processes PROC15: Use a laboratory reagent.

	Use domain: industrial
Operational conditions	
Concentration of the substance	sodium nitrite Content: >= 0 % - <= 100 %
Physical state	Solid – low dustiness
Duration and Frequency of activity	Application duration: 480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Use suitable eye protection.	
Risk Management Measures are based on qualitative risk characterisation.	
Exposure estimate and reference to its source	
PROC4, PROC5	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0,5 mg/m³
Risk Characterization Ratio (RCR)	0,25
	The short-term exposure value corresponds to the long-term value multiplied by a factor of 2.
PROC9, PROC15	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0,1 mg/m³
Risk Characterization Ratio (RCR)	0,05
	The short-term exposure value corresponds to the long-term value multiplied by a factor of 2.
Assessment method	Qualitative assessment
	Worker - contact with eyes
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities Use domain: industrial
Operational conditions	
Concentration of the substance	sodium nitrite Content: >= 0 % - <= 100 %
Physical state	Solid – low dustiness
Duration and Frequency of activity	Application duration: 480 min 5 days per week
Indoor/Outdoor	Indoor

Risk Management Measures	
Use suitable eye protection.	
Risk Management Measures are based on qualitative risk characterisation.	
Exposure estimate and reference to its source	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0,5 mg/m³
Risk Characterization Ratio (RCR)	0,25
	The short-term exposure value corresponds to the long-term value multiplied by a factor of 2.
Assessment method	Qualitative assessment
	Worker - contact with eyes
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Use domain: industrial
Operational conditions	
Concentration of the substance	sodium nitrite Content: >= 0 % - <= 100 %
Physical state	Solid – low dustiness
Duration and Frequency of activity	Application duration: 480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Use suitable eye protection.	
Risk Management Measures are based on qualitative risk characterisation.	
Exposure estimate and reference to its source	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0,1 mg/m³
Risk Characterization Ratio (RCR)	0,05
	The short-term exposure value corresponds to the long-term value multiplied by a factor of 2.
Assessment method	Qualitative assessment
	Worker - contact with eyes
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario

Use descriptors covered	PROC19: Manual activities involving hand contact Use domain: industrial
Operational conditions	
Concentration of the substance	sodium nitrite Content: >= 0 % - <= 100 %
Physical state	Solid – low dustiness
Duration and Frequency of activity	Application duration: 480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Use suitable eye protection.	
Risk Management Measures are based on qualitative risk characterisation.	
Exposure estimate and reference to its source	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0,5 mg/m³
Risk Characterization Ratio (RCR)	0,25
	The short-term exposure value corresponds to the long-term value multiplied by a factor of 2.
Assessment method	Qualitative assessment
	Worker - contact with eyes
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC26: Handling of solid inorganic substances at ambient temperature Use domain: industrial Solid in solution. For non-spraying processes (no aerosol generation), an inhalative exposure is considered to be not relevant.
Operational conditions	
Concentration of the substance	sodium nitrite Content: >= 0 % - <= 100 %
Physical state	Solid in solution, Melted mass
Risk Management Measures	
Ensure that no inhalable aerosols are generated.	
Use suitable eye protection.	
Risk Management Measures are based on qualitative risk characterisation.	
Exposure estimate and reference to its source	

Assessment method	Qualitative assessment
	Worker - contact with eyes
Additional good practice advice	
In case of possible exposure towards degradation products use a suitable respiratory protection Avoid release of degradation products	

Contributing exposure scenario		
Use descriptors covered	ERC2: Formulation into mixture	
Operational conditions		
Annual amount per site	700.000 kg	
Minimum emission days per year Continuous	300	
Emission factor air	0 %	
Emission factor water	2 %	
Emission factor soil	0 %	
Receive Surf. Water (Flow Rate).	18.000 m3/d	
Dilution factor river	10	
Dilution factor coast	100	
Other Factors: Environment	Indoor and outdoor use.	
Risk Management Measures		
Treat wastewater (prior to discharge to STP) to provide the required removal efficiency of (%)		99 %
Wastewater treatment measures considered suitable are, e.g.		Oxidation
Type of STP		Municipal STP
Estimated subst. removal from wastewater via sewage treatm. (%)		87,3 %
Total effic. of removal from wastewater after RMMs and STP(%)		87,3 %
Assumed sewage treatment plant flow (m3/d)		2.000 m3/d
Exposure estimate and reference to its source		
Assessment method	EUSES v2.1	
Maximum amount of safe use	4.257 kg/d	
Risk from environmental exposure is driven by freshwater.		

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2. Short title of exposure scenario

Formulation & (re)packing of substances and mixtures, (handling as solid in solution), (handling as melted mass), Industrial applications

SU3; SU3, SU10; ERC2; PROC4, PROC5, PROC8b, PROC9, PROC15, PROC19, PROC26

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	PROC4: Chemical production where opportunity for exposure arises Use domain: industrial Solid in solution. For non-spraying processes (no aerosol generation), an inhalative exposure is considered to be not relevant.
Operational conditions	
Concentration of the substance	sodium nitrite Content: >= 0 % - <= 100 %
Physical state	Solid in solution, Melted mass
Risk Management Measures	
Ensure that no inhalable aerosols are generated.	
Use suitable eye protection.	
Risk Management Measures are based on qualitative risk characterisation.	
Exposure estimate and reference to its source	
Assessment method	Qualitative assessment
	Worker - contact with eyes
Additional good practice advice	
In case of possible exposure towards degradation products use a suitable respiratory protection Avoid release of degradation products	

Contributing exposure scenario	
Use descriptors covered	PROC5: Mixing or blending in batch processes Use domain: industrial Solid in solution. For non-spraying processes (no aerosol generation), an inhalative exposure is considered to be not relevant.
Operational conditions	
Concentration of the substance	sodium nitrite Content: >= 0 % - <= 100 %
Physical state	Solid in solution, Melted mass
Risk Management Measures	
Ensure that no inhalable aerosols are generated.	
Use suitable eye protection.	
Risk Management Measures are based on qualitative risk characterisation.	

Exposure estimate and reference to its source	
Assessment method	Qualitative assessment
	Worker - contact with eyes
Additional good practice advice	
In case of possible exposure towards degradation products use a suitable respiratory protection Avoid release of degradation products	

Contributing exposure scenario	
Use descriptors covered	PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC15: Use a laboratory reagent. Use domain: industrial Solid in solution. For non-spraying processes (no aerosol generation), an inhalative exposure is considered to be not relevant.
Operational conditions	
Concentration of the substance	sodium nitrite Content: >= 0 % - <= 100 %
Physical state	Solid in solution, Melted mass
Risk Management Measures	
Ensure that no inhalable aerosols are generated.	
Use suitable eye protection.	
Risk Management Measures are based on qualitative risk characterisation.	
Exposure estimate and reference to its source	
Assessment method	Qualitative assessment
	Worker - contact with eyes
Additional good practice advice	
In case of possible exposure towards degradation products use a suitable respiratory protection Avoid release of degradation products	

Contributing exposure scenario	
Use descriptors covered	PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Use domain: industrial Solid in solution. For non-spraying processes (no aerosol generation), an inhalative exposure is considered to be not relevant.
Operational conditions	
Concentration of the substance	sodium nitrite Content: >= 0 % - <= 100 %
Physical state	Solid in solution, Melted mass
Risk Management Measures	
Ensure that no inhalable aerosols are	

generated.	
Use suitable eye protection.	
Risk Management Measures are based on qualitative risk characterisation.	
Exposure estimate and reference to its source	
Assessment method	Qualitative assessment
	Worker - contact with eyes
Additional good practice advice	
In case of possible exposure towards degradation products use a suitable respiratory protection Avoid release of degradation products	

Contributing exposure scenario	
Use descriptors covered	PROC19: Manual activities involving hand contact Use domain: industrial Solid in solution. For non-spraying processes (no aerosol generation), an inhalative exposure is considered to be not relevant.
Operational conditions	
Concentration of the substance	sodium nitrite Content: >= 0 % - <= 100 %
Physical state	Solid in solution, Melted mass
Risk Management Measures	
Ensure that no inhalable aerosols are generated.	
Use suitable chemically resistant gloves.	
Risk Management Measures are based on qualitative risk characterisation.	
Exposure estimate and reference to its source	
Assessment method	Qualitative assessment
	Worker - contact with eyes
Additional good practice advice	
In case of possible exposure towards degradation products use a suitable respiratory protection Avoid release of degradation products	

Contributing exposure scenario	
Use descriptors covered	PROC26: Handling of solid inorganic substances at ambient temperature Use domain: industrial Solid in solution. For non-spraying processes (no aerosol generation), an inhalative exposure is considered to be not relevant.
Operational conditions	
Concentration of the substance	sodium nitrite Content: >= 0 % - <= 100 %

Physical state	Solid in solution, Melted mass
Risk Management Measures	
Ensure that no inhalable aerosols are generated.	
Use suitable eye protection.	
Risk Management Measures are based on qualitative risk characterisation.	
Exposure estimate and reference to its source	
Assessment method	Qualitative assessment
	Worker - contact with eyes
Additional good practice advice	
In case of possible exposure towards degradation products use a suitable respiratory protection Avoid release of degradation products	

Contributing exposure scenario		
Use descriptors covered	ERC2: Formulation into mixture	
Operational conditions		
Annual amount per site	700.000 kg	
Minimum emission days per year Continuous	300	
Emission factor air	0 %	
Emission factor water	2 %	
Emission factor soil	0 %	
Receive Surf. Water (Flow Rate).	18.000 m3/d	
Dilution factor river	10	
Dilution factor coast	100	
Other Factors: Environment	Indoor and outdoor use.	
Risk Management Measures		
Treat wastewater (prior to discharge to STP) to provide the required removal efficiency of (%)		99 %
Wastewater treatment measures considered suitable are, e.g.		Oxidation
Type of STP		Municipal STP
Estimated subst. removal from wastewater via sewage treatm. (%)		87,3 %
Total effic. of removal from wastewater after RMMs and STP(%)		87,3 %
Assumed sewage treatment plant flow (m3/d)		2.000 m3/d
Exposure estimate and reference to its source		
Assessment method	EUSES v2.1	
Maximum amount of safe use	4.257	

	kg/d
Risk from environmental exposure is driven by freshwater.	

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3. Short title of exposure scenario

Formulation & (re)packing of substances and mixtures, (handling as solid), Professional applications SU22; SU3, SU10; ERC2; PROC4, PROC5, PROC8b, PROC9, PROC15, PROC19, PROC26

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	PROC4: Chemical production where opportunity for exposure arises PROC5: Mixing or blending in batch processes Use domain: professional
Operational conditions	
Concentration of the substance	sodium nitrite Content: >= 0 % - <= 90 %
Physical state	Solid – low dustiness
Duration and Frequency of activity	Application duration: 480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Use suitable eye protection.	
Risk Management Measures are based on qualitative risk characterisation.	
Exposure estimate and reference to its source	
PROC4, PROC5	
Assessment method	ECETOC TRA v2.0 Worker; modified version, The concentration of the substance has been considered using a linear approach.
	Worker - inhalation, long-term - systemic
Exposure estimate	0,9 mg/m³
Risk Characterization Ratio (RCR)	0,45
	The short-term exposure value corresponds to the long-term value multiplied by a factor of 2.
Assessment method	Qualitative assessment
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	
Please note that a modified version has been used (see exposure estimates)	

Contributing exposure scenario

Use descriptors covered	PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). PROC15: Use a laboratory reagent. PROC19: Manual activities involving hand contact Use domain: professional
Operational conditions	
Concentration of the substance	sodium nitrite Content: >= 0 % - <= 100 %
Physical state	Solid – low dustiness
Duration and Frequency of activity	Application duration: 480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Use suitable eye protection.	
Risk Management Measures are based on qualitative risk characterisation.	
Exposure estimate and reference to its source	
PROC8b, PROC9, PROC19	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0,5 mg/m³
Risk Characterization Ratio (RCR)	0,25
	The short-term exposure value corresponds to the ECETOC TRA initial exposure value multiplied by a factor of 2.
PROC15	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0,1 mg/m³
Risk Characterization Ratio (RCR)	0,05
	The short-term exposure value corresponds to the long-term value multiplied by a factor of 2.
Assessment method	Qualitative assessment
	Worker - contact with eyes
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC26: Handling of solid inorganic substances at ambient temperature Use domain: professional covered by PROC8b covered by PROC9 covered by PROC5

Contributing exposure scenario		
Use descriptors covered	ERC2: Formulation into mixture	
Operational conditions		
Annual amount per site	700.000 kg	
Minimum emission days per year Continuous	300	
Emission factor air	0 %	
Emission factor water	2 %	
Emission factor soil	0 %	
Receive Surf. Water (Flow Rate).	18.000 m3/d	
Dilution factor river	10	
Dilution factor coast	100	
Other Factors: Environment	Indoor and outdoor use.	
Risk Management Measures		
Treat wastewater (prior to discharge to STP) to provide the required removal efficiency of (%)		99 %
Wastewater treatment measures considered suitable are, e.g.		Oxidation
Type of STP		Municipal STP
Estimated subst. removal from wastewater via sewage treatm. (%)		87,3 %
Total effic. of removal from wastewater after RMMs and STP(%)		87,3 %
Assumed sewage treatment plant flow (m3/d)		2.000 m3/d
Exposure estimate and reference to its source		
Assessment method	EUSES v2.1	
Maximum amount of safe use	4.257 kg/d	
Risk from environmental exposure is driven by freshwater.		

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4. Short title of exposure scenario

Formulation & (re)packing of substances and mixtures, (handling as solid in solution), (handling as melted mass), Professional applications
SU22; SU3, SU8, SU9; ERC2; PROC3, PROC4, PROC8b, PROC9, PROC5, PROC15, PROC19, PROC26

Control of exposure and risk management measures

Contributing exposure scenario

Use descriptors covered	PROC4: Chemical production where opportunity for exposure arises PROC5: Mixing or blending in batch processes PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). PROC15: Use a laboratory reagent. PROC19: Manual activities involving hand contact PROC26: Handling of solid inorganic substances at ambient temperature Use domain: professional Solid in solution. For non-spraying processes (no aerosol generation), an inhalative exposure is considered to be not relevant.
Operational conditions	
Concentration of the substance	sodium nitrite Content: >= 0 % - <= 100 %
Physical state	Solid in solution, Melted mass
Risk Management Measures	
Ensure that no inhalable aerosols are generated.	
Use suitable eye protection.	
Risk Management Measures are based on qualitative risk characterisation.	
Exposure estimate and reference to its source	
Assessment method	Qualitative assessment
	Worker - contact with eyes
Additional good practice advice	
In case of possible exposure towards degradation products use a suitable respiratory protection Avoid release of degradation products	

Contributing exposure scenario	
Use descriptors covered	ERC2: Formulation into mixture
Operational conditions	
Annual amount per site	700.000 kg
Minimum emission days per year Continuous	300
Emission factor air	0 %
Emission factor water	2 %
Emission factor soil	0 %
Receive Surf. Water (Flow Rate).	18.000 m3/d

Dilution factor river	10	
Dilution factor coast	100	
Other Factors: Environment	Indoor and outdoor use.	
Risk Management Measures		
Treat wastewater (prior to discharge to STP) to provide the required removal efficiency of (%)		99 %
Wastewater treatment measures considered suitable are, e.g.		Oxidation
Type of STP		Municipal STP
Estimated subst. removal from wastewater via sewage treatm. (%)		87,3 %
Total effic. of removal from wastewater after RMMs and STP(%)		87,3 %
Assumed sewage treatment plant flow (m3/d)		2.000 m3/d
Exposure estimate and reference to its source		
Assessment method	EUSES v2.1	
Maximum amount of safe use	4.257 kg/d	
Risk from environmental exposure is driven by freshwater.		

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5. Short title of exposure scenario

Use as an intermediate, Use in chemical synthesis, Industrial applications
SU3; SU3, SU8, SU9; ERC6a; PROC3, PROC4, PROC8b, PROC15, PROC26

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition Use domain: industrial Solid in solution. For non-spraying processes (no aerosol generation), an inhalative exposure is considered to be not relevant.
Operational conditions	
Concentration of the substance	sodium nitrite Content: >= 0 % - <= 100 %
Physical state	Solid in solution, Melted mass
Risk Management Measures	
Ensure that no inhalable aerosols are generated.	
Use suitable eye protection.	
Risk Management Measures are	

based on qualitative risk characterisation.	
Exposure estimate and reference to its source	
Assessment method	Qualitative assessment
	Worker - contact with eyes
Additional good practice advice	
In case of possible exposure towards degradation products use a suitable respiratory protection Avoid release of degradation products	

Contributing exposure scenario	
Use descriptors covered	PROC4: Chemical production where opportunity for exposure arises Use domain: industrial Solid in solution. For non-spraying processes (no aerosol generation), an inhalative exposure is considered to be not relevant.
Operational conditions	
Concentration of the substance	sodium nitrite Content: >= 0 % - <= 100 %
Physical state	Solid in solution, Melted mass
Risk Management Measures	
Ensure that no inhalable aerosols are generated.	
Use suitable eye protection.	
Risk Management Measures are based on qualitative risk characterisation.	
Exposure estimate and reference to its source	
Assessment method	Qualitative assessment
	Worker - contact with eyes
Additional good practice advice	
In case of possible exposure towards degradation products use a suitable respiratory protection Avoid release of degradation products	

Contributing exposure scenario	
Use descriptors covered	PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC15: Use a laboratory reagent. Use domain: industrial Solid in solution. For non-spraying processes (no aerosol generation), an inhalative exposure is considered to be not relevant.
Operational conditions	
Concentration of the substance	sodium nitrite Content: >= 0 % - <= 100 %
Physical state	Solid in solution, Melted mass

Risk Management Measures	
Ensure that no inhalable aerosols are generated.	
Use suitable eye protection.	
Risk Management Measures are based on qualitative risk characterisation.	
Exposure estimate and reference to its source	
Assessment method	Qualitative assessment
	Worker - contact with eyes
Additional good practice advice	
In case of possible exposure towards degradation products use a suitable respiratory protection Avoid release of degradation products	

Contributing exposure scenario	
Use descriptors covered	PROC26: Handling of solid inorganic substances at ambient temperature Use domain: industrial Solid in solution. For non-spraying processes (no aerosol generation), an inhalative exposure is considered to be not relevant.
Operational conditions	
Concentration of the substance	sodium nitrite Content: >= 0 % - <= 100 %
Physical state	Solid in solution, Melted mass
Risk Management Measures	
Ensure that no inhalable aerosols are generated.	
Use suitable eye protection.	
Risk Management Measures are based on qualitative risk characterisation.	
Exposure estimate and reference to its source	
Assessment method	Qualitative assessment
	Worker - contact with eyes
Additional good practice advice	
In case of possible exposure towards degradation products use a suitable respiratory protection Avoid release of degradation products	

Contributing exposure scenario	
Use descriptors covered	ERC6a: Use of intermediate
Operational conditions	
Annual amount per site	8.000.000 kg
Minimum emission days per year Continuous	300

Emission factor air	0 %
Emission factor water	0,05 %
Emission factor soil	0 %
Receive Surf. Water (Flow Rate).	400.000 m3/d
Dilution factor river	40
Dilution factor coast	400
Other Factors: Environment	Indoor and outdoor use.
Risk Management Measures	
Type of STP	Municipal STP
Assumed sewage treatment plant flow (m3/d)	10.000 m3/d
Exposure estimate and reference to its source	
Assessment method	EUSES v2.1
Risk Characterization Ratio (RCR)	0,803
	Risk from environmental exposure is driven by freshwater.
Maximum amount of safe use	26.692 kg/d
Risk from environmental exposure is driven by freshwater.	

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6. Short title of exposure scenario

Use in Metallurgy, Use for Heat storage, Industrial applications
SU3; SU15; ERC7; PROC3, PROC4, PROC9, PROC25

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition Use domain: industrial Solid in solution. For non-spraying processes (no aerosol generation), an inhalative exposure is considered to be not relevant.
Operational conditions	
Concentration of the substance	sodium nitrite Content: >= 0 % - <= 100 %
Physical state	Solid in solution, Melted mass

Risk Management Measures	
Ensure that no inhalable aerosols are generated.	
Use suitable eye protection.	
Risk Management Measures are based on qualitative risk characterisation.	
Exposure estimate and reference to its source	
Assessment method	Qualitative assessment
	Worker - contact with eyes
Additional good practice advice	
In case of possible exposure towards degradation products use a suitable respiratory protection Avoid release of degradation products	

Contributing exposure scenario	
Use descriptors covered	PROC4: Chemical production where opportunity for exposure arises Use domain: industrial Solid in solution. For non-spraying processes (no aerosol generation), an inhalative exposure is considered to be not relevant.
Operational conditions	
Concentration of the substance	sodium nitrite Content: >= 0 % - <= 100 %
Physical state	Solid in solution, Melted mass
Risk Management Measures	
Ensure that no inhalable aerosols are generated.	
Use suitable eye protection.	
Risk Management Measures are based on qualitative risk characterisation.	
Exposure estimate and reference to its source	
Assessment method	Qualitative assessment
	Worker - contact with eyes
Additional good practice advice	
In case of possible exposure towards degradation products use a suitable respiratory protection Avoid release of degradation products	

Contributing exposure scenario	
Use descriptors covered	PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Use domain: industrial Solid in solution. For non-spraying processes (no aerosol generation), an inhalative exposure is considered to be not relevant.
Operational conditions	

Concentration of the substance	sodium nitrite Content: >= 0 % - <= 100 %
Physical state	Solid in solution, Melted mass
Risk Management Measures	
Ensure that no inhalable aerosols are generated.	
Use suitable eye protection.	
Risk Management Measures are based on qualitative risk characterisation.	
Exposure estimate and reference to its source	
Assessment method	Qualitative assessment
	Worker - contact with eyes
Additional good practice advice	
In case of possible exposure towards degradation products use a suitable respiratory protection Avoid release of degradation products	

Contributing exposure scenario	
Use descriptors covered	PROC25: Other hot work operations with metals Exposure is considered negligible.
Operational conditions	
Concentration of the substance	sodium nitrite Content: >= 0 % - <= 100 %
Physical state	Melted mass
Risk Management Measures	
Ensure that no inhalable aerosols are generated.	
Use suitable eye protection.	
Risk Management Measures are based on qualitative risk characterisation.	
Exposure estimate and reference to its source	
Assessment method	Qualitative assessment
	Worker - contact with eyes
	Exposure is considered negligible.
Additional good practice advice	
In case of possible exposure towards degradation products use a suitable respiratory protection Avoid release of degradation products	

Contributing exposure scenario	
Use descriptors covered	ERC7: Use of functional fluid at industrial site
Operational conditions	
Annual amount per site	1.500.000 kg

Minimum emission days per year Continuous	0	
Emission factor air	0,00 %	
Receive Surf. Water (Flow Rate).	18.000 m3/d	
Dilution factor river	10	
Dilution factor coast	100	
Other Factors: Environment	Indoor and outdoor use.	
Risk Management Measures		
Type of STP		Municipal STP
Assumed sewage treatment plant flow (m3/d)		2.000 m3/d
Exposure estimate and reference to its source		
Assessment method	EUSES v2.1	

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7. Short title of exposure scenario

Use as Corrosion inhibitor, (use in professional settings)
SU22; SU2b, SU3, SU17, SU22; ERC7; PROC5, PROC17, PROC20

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	PROC5: Mixing or blending in batch processes PROC17: Lubrication at high energy conditions in metal working operations PROC20: Use of functional fluids in small devices Use domain: industrial Solid in solution. For non-spraying processes (no aerosol generation), an inhalative exposure is considered to be not relevant.
Operational conditions	
Concentration of the substance	sodium nitrite Content: >= 0 % - <= 10 %
Physical state	Solid in solution
Risk Management Measures	
Ensure segregation of worker from the source	
Use suitable eye protection.	
Risk Management Measures are based on qualitative risk characterisation.	
Exposure estimate and reference to its source	

Assessment method	Qualitative assessment
	Worker - contact with eyes
Additional good practice advice	
In case of possible exposure towards degradation products use a suitable respiratory protection Avoid release of degradation products	

Contributing exposure scenario		
Use descriptors covered	ERC7: Use of functional fluid at industrial site The environmental release is considered negligible.	
Operational conditions		
Annual amount per site	1.500.000 kg	
Minimum emission days per year Continuous	0	
Emission factor air	0,00 %	
Receive Surf. Water (Flow Rate).	18.000 m3/d	
Dilution factor river	10	
Dilution factor coast	100	
Other Factors: Environment	Indoor and outdoor use.	
Risk Management Measures		
Type of STP		Municipal STP
Assumed sewage treatment plant flow (m3/d)		2.000 m3/d
Exposure estimate and reference to its source		
Assessment method	EUSES v2.1	

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8. Short title of exposure scenario

Use in Metal surface treatment, (use in industrial settings), (handling as solid)
SU3; ERC6b; PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC15

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions. PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

	Use domain: industrial
Operational conditions	
Concentration of the substance	sodium nitrite Content: >= 0 % - <= 100 %
Physical state	Solid – low dustiness
Duration and Frequency of activity	Application duration: 480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Use suitable eye protection.	
Risk Management Measures are based on qualitative risk characterisation.	
Exposure estimate and reference to its source	
PROC1	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0,01 mg/m³
Risk Characterization Ratio (RCR)	0,005
	The short-term exposure value corresponds to the long-term value multiplied by a factor of 2.
PROC8a	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0,5 mg/m³
Risk Characterization Ratio (RCR)	0,25
	The short-term exposure value corresponds to the long-term value multiplied by a factor of 2.
PROC3	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0,1 mg/m³
Risk Characterization Ratio (RCR)	0,05
	The short-term exposure value corresponds to the long-term value multiplied by a factor of 2.
Assessment method	Qualitative assessment
	Worker - contact with eyes
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC4: Chemical production where opportunity for exposure arises PROC5: Mixing or blending in batch processes PROC15: Use a laboratory reagent. Use domain: industrial

Operational conditions	
Concentration of the substance	sodium nitrite Content: >= 0 % - <= 100 %
Physical state	Solid – low dustiness
Duration and Frequency of activity	Application duration: 480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Use suitable eye protection.	
Risk Management Measures are based on qualitative risk characterisation.	
Exposure estimate and reference to its source	
PROC4, PROC5	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0,5 mg/m³
Risk Characterization Ratio (RCR)	0,25
	The short-term exposure value corresponds to the long-term value multiplied by a factor of 2.
PROC9, PROC15	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0,1 mg/m³
Risk Characterization Ratio (RCR)	0,05
	The short-term exposure value corresponds to the long-term value multiplied by a factor of 2.
Assessment method	Qualitative assessment
	Worker - contact with eyes
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities Use domain: industrial
Operational conditions	
Concentration of the substance	sodium nitrite Content: >= 0 % - <= 100 %
Physical state	Solid – low dustiness
Duration and Frequency of activity	Application duration: 480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Use suitable eye protection.	

Risk Management Measures are based on qualitative risk characterisation.	
Exposure estimate and reference to its source	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0,5 mg/m³
Risk Characterization Ratio (RCR)	0,25
	The short-term exposure value corresponds to the long-term value multiplied by a factor of 2.
Assessment method	Qualitative assessment
	Worker - contact with eyes
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Use domain: industrial
Operational conditions	
Concentration of the substance	sodium nitrite Content: >= 0 % - <= 100 %
Physical state	Solid – low dustiness
Duration and Frequency of activity	Application duration: 480 min 5 days per week
Indoor/Outdoor	Indoor
Risk Management Measures	
Use suitable eye protection.	
Risk Management Measures are based on qualitative risk characterisation.	
Exposure estimate and reference to its source	
Assessment method	ECETOC TRA v2.0 Worker
	Worker - inhalation, long-term - systemic
Exposure estimate	0,1 mg/m³
Risk Characterization Ratio (RCR)	0,05
	The short-term exposure value corresponds to the long-term value multiplied by a factor of 2.
Assessment method	Qualitative assessment
	Worker - contact with eyes
Guidance to Downstream Users	
For scaling see: http://www.ecetoc.org/tra	

Contributing exposure scenario	
Use descriptors covered	ERC6b: Use of reactive processing aid at industrial site (no inclusion into or onto article)

Operational conditions		
	OECD ESD No.12 used, assessment independent from tonnage.	
Minimum emission days per year Continuous		
Release to waste water from process	0,528 kg/d	
Receive Surf. Water (Flow Rate).	18.000 m3/d	
Dilution factor river	10	
Dilution factor coast	100	
Other Factors: Environment	Indoor and outdoor use.	
Risk Management Measures		
Type of STP		Municipal STP
Estimated subst. removal from wastewater via sewage treatm. (%)		87,3 %
Total effic. of removal from wastewater after RMMs and STP(%)		87,3 %
Assumed sewage treatment plant flow (m3/d)		2.000 m3/d
Exposure estimate and reference to its source		
Assessment method	EUSES v2.1	
Risk Characterization Ratio (RCR)	0,794	
	Risk from environmental exposure is driven by freshwater.	

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9. Short title of exposure scenario

Use in Metal surface treatment, (handling as solid in solution), (handling as melted mass), (use in industrial settings)
SU3; ERC6b; PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC15

Control of exposure and risk management measures

Contributing exposure scenario	
Use descriptors covered	PROC1: Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions. PROC8a: Transfer of substance or mixture (charging and discharging) at non-dedicated facilities Use domain: industrial Solid in solution. For non-spraying processes (no aerosol generation), an inhalative exposure is considered to be not relevant.
Operational conditions	
Concentration of the substance	sodium nitrite Content: >= 0 % - <= 100 %

Physical state	Solid in solution
Risk Management Measures	
Ensure that no inhalable aerosols are generated.	
Use suitable eye protection.	
Risk Management Measures are based on qualitative risk characterisation.	
Exposure estimate and reference to its source	
Assessment method	Qualitative assessment
	Worker - contact with eyes
Additional good practice advice	
In case of possible exposure towards degradation products use a suitable respiratory protection Avoid release of degradation products	

Contributing exposure scenario	
Use descriptors covered	PROC3: Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition Use domain: industrial Solid in solution. For non-spraying processes (no aerosol generation), an inhalative exposure is considered to be not relevant.
Operational conditions	
Concentration of the substance	sodium nitrite Content: >= 0 % - <= 100 %
Physical state	Solid in solution, Melted mass
Risk Management Measures	
Ensure that no inhalable aerosols are generated.	
Use suitable eye protection.	
Risk Management Measures are based on qualitative risk characterisation.	
Exposure estimate and reference to its source	
Assessment method	Qualitative assessment
	Worker - contact with eyes
Additional good practice advice	
In case of possible exposure towards degradation products use a suitable respiratory protection Avoid release of degradation products	

Contributing exposure scenario	
Use descriptors covered	PROC4: Chemical production where opportunity for exposure arises Use domain: industrial Solid in solution. For non-spraying

	processes (no aerosol generation), an inhalative exposure is considered to be not relevant.
Operational conditions	
Concentration of the substance	sodium nitrite Content: >= 0 % - <= 100 %
Physical state	Solid in solution, Melted mass
Risk Management Measures	
Ensure that no inhalable aerosols are generated.	
Use suitable eye protection.	
Risk Management Measures are based on qualitative risk characterisation.	
Exposure estimate and reference to its source	
Assessment method	Qualitative assessment
	Worker - contact with eyes
Additional good practice advice	
In case of possible exposure towards degradation products use a suitable respiratory protection Avoid release of degradation products	

Contributing exposure scenario	
Use descriptors covered	PROC5: Mixing or blending in batch processes Use domain: industrial Solid in solution. For non-spraying processes (no aerosol generation), an inhalative exposure is considered to be not relevant.
Operational conditions	
Concentration of the substance	sodium nitrite Content: >= 0 % - <= 100 %
Physical state	Solid in solution, Melted mass
Risk Management Measures	
Ensure that no inhalable aerosols are generated.	
Use suitable eye protection.	
Risk Management Measures are based on qualitative risk characterisation.	
Exposure estimate and reference to its source	
Assessment method	Qualitative assessment
	Worker - contact with eyes
Additional good practice advice	
In case of possible exposure towards degradation products use a suitable respiratory protection Avoid release of degradation products	

Contributing exposure scenario

Use descriptors covered	PROC8b: Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC15: Use a laboratory reagent. Use domain: industrial Solid in solution. For non-spraying processes (no aerosol generation), an inhalative exposure is considered to be not relevant.
Operational conditions	
Concentration of the substance	sodium nitrite Content: >= 0 % - <= 100 %
Physical state	Solid in solution, Melted mass
Risk Management Measures	
Ensure that no inhalable aerosols are generated.	
Use suitable eye protection.	
Risk Management Measures are based on qualitative risk characterisation.	
Exposure estimate and reference to its source	
Assessment method	Qualitative assessment
	Worker - contact with eyes
Additional good practice advice	
In case of possible exposure towards degradation products use a suitable respiratory protection Avoid release of degradation products	

Contributing exposure scenario	
Use descriptors covered	PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing). Use domain: industrial Solid in solution. For non-spraying processes (no aerosol generation), an inhalative exposure is considered to be not relevant.
Operational conditions	
Concentration of the substance	sodium nitrite Content: >= 0 % - <= 100 %
Physical state	Solid in solution, Melted mass
Risk Management Measures	
Ensure that no inhalable aerosols are generated.	
Use suitable eye protection.	
Risk Management Measures are based on qualitative risk characterisation.	
Exposure estimate and reference to its source	
Assessment method	Qualitative assessment
	Worker - contact with eyes

Additional good practice advice
In case of possible exposure towards degradation products use a suitable respiratory protection Avoid release of degradation products

Contributing exposure scenario		
Use descriptors covered	ERC6b: Use of reactive processing aid at industrial site (no inclusion into or onto article)	
Operational conditions		
	OECD ESD No.12 used, assessment independent from tonnage.	
Minimum emission days per year Continuous		
Release to waste water from process	0,528 kg/d	
Receive Surf. Water (Flow Rate).	18.000 m3/d	
Dilution factor river	10	
Dilution factor coast	100	
Other Factors: Environment	Indoor and outdoor use.	
Risk Management Measures		
Type of STP		Municipal STP
Estimated subst. removal from wastewater via sewage treatm. (%)		87,3 %
Total effic. of removal from wastewater after RMMs and STP(%)		87,3 %
Assumed sewage treatment plant flow (m3/d)		2.000 m3/d
Exposure estimate and reference to its source		
Assessment method	EUSES v2.1	
Risk Characterization Ratio (RCR)	0,794	
	Risk from environmental exposure is driven by freshwater.	

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