



Safety data sheet according to 1907/2006/EC, Article 31

Printing date 26.08.2021

Version number 4 (replaces version 3)

Revision: 03.07.2021

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

1.1 Product identifier

Product name: **Reagent N1 Nitrite Indicator**

Catalog number: 100336

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

Application of the substance / the preparation: Reagent for water analysis

1.3 Details of the supplier of the safety data sheet

Supplier:

Vecom Marine B.V.
Mozartlaan 3
3144 NA Maassluis
The Netherlands

phone: + 31 (0)10 5930 210
Email: sales@vecom-marine.com

1.4 Emergency telephone number:

Dutch Poisons Information Center (NVIC): +31 (0)88 755 8000 (24 hour service)
Only for the purpose of informing medical personnel in case of acute intoxications.
See section 4 on first aid measures.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 The product is classified and labelled according to the CLP regulation.

Hazard pictograms Void

Signal word Void

Hazard statements

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P273 Avoid release to the environment.

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

2.3 Other hazards No further relevant information available.

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

Determination of endocrine-disrupting properties

The product does not contain substances with endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Description: aqueous solution

Dangerous components:

CAS: 5144-89-8	1,10-phenanthroline hydrate	0.1-1.0%
EINECS: 200-629-2	Acute Tox. 3, H301; Aquatic Acute 1, H400; Aquatic Chronic 1, H410	
Index No: 613-092-00-8		

(Contd. on page 2)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 26.08.2021

Version number 4 (replaces version 3)

Revision: 03.07.2021

Product name: Reagent N1 Nitrite Indicator

(Contd. of page 1)

- **Additional information** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

· 4.1 Description of first aid measures

- **General information** Instantly remove any clothing soiled by the product.
- **After inhalation** Supply fresh air; consult doctor in case of symptoms.
- **After skin contact** Instantly rinse with water.
- **After eye contact**
Rinse opened eye for several minutes under running water (at least 15 min). If symptoms persist, consult doctor.
- **After swallowing**
Rinse out mouth and then drink 1-2 glasses of water.
In case of persistent symptoms consult doctor.
- **4.2 Most important symptoms and effects, both acute and delayed:** No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed:**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents** Use fire fighting measures that suit the environment.
- **5.2 Special hazards arising from the substance or mixture**
The product is not combustible.
Formation of toxic gases is possible during heating or in case of fire.
- **5.3 Advice for firefighters**
- **Protective equipment:**
Wear self-contained breathing apparatus.
Wear full protective suit.
- **Additional information**
Collect contaminated fire fighting water separately. It must not enter drains.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
Ambient fire may liberate hazardous vapours.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
- **Advice for non-emergency personnel:** Ensure adequate ventilation
- **Advice for emergency responders:** Protective equipment: see section 8
- **6.2 Environmental precautions:**
Do not allow product to reach sewage system or water bodies.
Inform respective authorities in case product reaches water or sewage system.
Dilute with much water.
- **6.3 Methods and material for containment and cleaning up:**
Ensure adequate ventilation.
Absorb with liquid-binding material (sand, diatomite, universal binders).
Dispose of contaminated material as waste according to item 13.
- **6.4 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 information on disposal.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling** No special precautions necessary if used correctly.
- **Advice on safe handling:** No special precautions necessary if used correctly.

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 26.08.2021

Version number 4 (replaces version 3)

Revision: 03.07.2021

Product name: Reagent N1 Nitrite Indicator

(Contd. of page 2)

- **Hygiene measures:**
 - Take off immediately all contaminated clothing.
 - Wash hands during breaks and at the end of the work.
 - Do not eat, drink or smoke when using this product.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Requirements to be met by storerooms and containers:** Store in cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
 - Protect from heat and direct sunlight.
 - Protect from the effects of light.
 - Protect from humidity and keep away from water.
- **Recommended storage temperature:** 20°C +/- 5°C
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· 8.1 Control parameters

- **Components with limit values that require monitoring at the workplace:**

CAS: 7782-63-0 ferrous sulfate heptahydrate

WEL (Great Britain)	Short-term value: 2 mg/m ³ Long-term value: 1 mg/m ³ as Fe
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- **Regulatory information** WEL (Great Britain): EH40/2011
- **Recommended monitoring procedures:**
 - Methods for measurement of the workplace atmosphere have to correspond to the requirements of norms DIN EN 482 and DIN EN 689.
- **Additional information:** The lists that were valid during the compilation were used as basis.
- **8.2 Exposure controls**
- **Engineering measures:**
 - Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.
 - See item 7.
- **Individual protection measures, such as personal protective equipment**
 - Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.
- **Eye/face protection**
 - Safety glasses
 - use against the effects of fumes / dust
- **Hand protection**
 - Preventive skin protection by use of skin-protecting agents is recommended.
 - After use of gloves apply skin-cleaning agents and skin cosmetics.
- **Material of gloves**
 - nitrile rubber, NBR
 - Recommended thickness of the material: ≥ 0.11 mm
- **Penetration time of glove material**
 - Value for the permeation: Level = 1 (< 10 min)
 - The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Other skin protection (body protection):** Protective work clothing.
- **Breathing equipment:** Use breathing protection against the effects of fumes/dust/aerosol.
- **Recommended filter device for short term use:** Filter B
- **Environmental exposure controls**
 - Avoid release to the environment.
 - Do not allow product to reach sewage system or water bodies.

— GB —
(Contd. on page 4)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 26.08.2021

Version number 4 (replaces version 3)

Revision: 03.07.2021

Product name: Reagent N1 Nitrite Indicator

(Contd. of page 3)

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

· Physical state	Fluid
· Form:	Solution
· Colour:	Dark orange
· Odour:	Odourless
· Odour threshold:	Not applicable.
· Melting point/Freezing point:	0°C
· Boiling point or initial boiling point and boiling range	100°C
· Flammability	Not applicable.
· Explosive properties:	Product is not explosive.
· Lower and upper explosion limit	
· Lower:	Not applicable.
· Upper:	Not applicable.
· Flash point:	Not applicable.
· Ignition temperature:	Not applicable.
· Decomposition temperature:	Not determined.
· pH at 20°C	3
· Kinematic viscosity	Not determined.
· Solubility	
· Water:	Fully miscible
· Partition coefficient n-octanol/water (log value)	Not applicable (mixture).
· Vapour pressure at 20°C:	23 hPa
· Density and/or relative density	
· Density at 20°C:	1 g/cm ³
· Relative density:	Not determined.
· Relative gas density	Not determined.
· Particle characteristics	Not applicable (liquid).

9.2 Other information

· Information with regard to physical hazard classes	
· Corrosive to metals	Void
· Other safety characteristics	
· Oxidising properties:	none
· Additional information	
· Solids content:	< 1 %
· Solvent content:	
· Water:	> 99 %

SECTION 10: Stability and reactivity

- **10.1 Reactivity** see section 10.3
- **10.2 Chemical stability** Stable at ambient temperature (room temperature).
- **10.3 Possibility of hazardous reactions** The generally known reaction partners of water.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** see section 5

SECTION 11: Toxicological information

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

- **Acute toxicity** Based on available data, the classification criteria are not met.

LD/LC50 values that are relevant for classification:

CAS: 5144-89-8 1,10-phenanthroline hydrate

Oral	LD50	132 mg/kg (rat) (Merck)
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- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.

(Contd. on page 5)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 26.08.2021

Version number 4 (replaces version 3)

Revision: 03.07.2021

Product name: Reagent N1 Nitrite Indicator

(Contd. of page 4)

- **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 (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.
- **STOT (specific target organ toxicity) -repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

11.2 Information on other hazards

Endocrine disrupting properties

None of the ingredients is listed.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **Other information:**
Quantitative data on the ecological effect of this product are not available.
The following statements refer to the individual components.
- **12.3 Bioaccumulative potential**
Pow = n-octanol/wasser partition coefficient
log Pow 1-3 = Not worth-mentioning accumulating in organisms.

CAS: 5144-89-8 1,10-phenanthroline hydrate

log Pow	1.78 (.) (experimental) (Merck)
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- **12.4 Mobility in soil** No further relevant information available.
- **12.5 Results of PBT and vPvB assessment**
This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.
- **12.6 Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects** Avoid transfer into the environment.
- **Water hazard:**
Do not allow product to reach ground water, water bodies or sewage system.
Danger to drinking water if even small quantities leak into soil.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Hand over to disposers of hazardous waste.

European waste catalogue

16 05 06*	laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals
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- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleaning agent:** Water, if necessary with cleaning agent.

SECTION 14: Transport information

- **14.1 UN number or ID number**
- **ADR, IMDG, IATA**

Void

(Contd. on page 6)

— GB —

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 26.08.2021

Version number 4 (replaces version 3)

Revision: 03.07.2021

Product name: Reagent N1 Nitrite Indicator

(Contd. of page 5)

· 14.2 UN proper shipping name · ADR, IMDG, IATA	Void
· 14.3 Transport hazard class(es) · ADR, IMDG, IATA · Class	Void
· 14.4 Packing group · ADR, IMDG, IATA	Void
· 14.5 Environmental hazards: · Marine pollutant:	No
· 14.6 Special precautions for user	Not applicable.
· 14.7 Maritime transport in bulk according to IMO instruments	Not applicable.
· Transport/Additional information:	Not dangerous according to the above specifications.

SECTION 15: Regulatory information

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

· Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals (PIC)

None of the ingredients is listed.

· Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:

None of the ingredients is listed.

· REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)

None of the ingredients is listed.

· Directive 2012/18/EU (SEVESO III):

· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

· LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)

None of the ingredients is listed.

· Substances of very high concern (SVHC) according to REACH, Article 57

This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).

· REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3

· **Information about limitation of use:** Not required.

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

SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Training hints** Provide adequate information, instruction and training for operators.

· Relevant phrases

H301 Toxic if swallowed.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

· Abbreviations and acronyms:

STOT: specific target organ toxicity

SE: single exposure

RE: repeated exposure

EC50: half maximal effective concentration

IC50: half maximal inhibitory concentration

NOEL or NOEC: No Observed Effect Level or Concentration

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

(Contd. on page 7)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 26.08.2021

Version number 4 (replaces version 3)

Revision: 03.07.2021

Product name: Reagent N1 Nitrite Indicator

(Contd. of page 6)

IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
Acute Tox. 3: Acute toxicity – Category 3
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

· **Sources** Data arise from safety data sheets, reference works and literature.

· * **Data compared to the previous version altered.**

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Safety data sheet according to 1907/2006/EC, Article 31

Printing date 26.08.2021

Version number 6 (replaces version 5)

Revision: 17.02.2021

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

· 1.1 Product identifier

· Product name: **Reagent N2M Nitrite Titrant**

· Catalog number: 100342E

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

· Application of the substance / the preparation: Reagent for water analysis

· 1.3 Details of the supplier of the safety data sheet

· Supplier:

Vecom Marine B.V.
Mozartlaan 3
3144 NA Maassluis
The Netherlands

phone: + 31 (0)10 5930 210
Email: sales@vecom-marine.com

· 1.4 Emergency telephone number:

Dutch Poisons Information Center (NVIC): +31 (0)88 755 8000 (24 hour service)
Only for the purpose of informing medical personnel in case of acute intoxications.
See section 4 on first aid measures.

SECTION 2: Hazards identification

· 2.1 Classification of the substance or mixture

· Classification according to Regulation (EC) No 1272/2008



GHS05 corrosion

Met. Corr.1 H290 May be corrosive to metals.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

· 2.2 Label elements

· Labelling according to Regulation (EC) No 1272/2008 The product is classified and labelled according to the CLP regulation.

· Hazard pictograms



GHS05

· Signal word Warning

· Hazard statements

H290 May be corrosive to metals.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

(Contd. on page 2)

— GB —

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 26.08.2021

Version number 6 (replaces version 5)

Revision: 17.02.2021

Product name: Reagent N2M Nitrite Titrant

(Contd. of page 1)

· Precautionary statements

- P280 Wear protective gloves/protective clothing/eye protection.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P302+P352 IF ON SKIN: Wash with plenty of water.
 P332+P313 If skin irritation occurs: Get medical advice/attention.
 P337+P313 If eye irritation persists: Get medical advice/attention.
 P390 Absorb spillage to prevent material damage.

· 2.3 Other hazards No further relevant information available.

· Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

· Determination of endocrine-disrupting properties

The product does not contain substances with endocrine disrupting properties.

SECTION 3: Composition/information on ingredients

· 3.2 Mixtures

· Description: sulfuric acid solution

· Dangerous components:

CAS: 7664-93-9 EINECS: 231-639-5 Index No: 016-020-00-8 Reg.nr.: 01-2119458838-20-XXXX	sulphuric acid ⚠ Met. Corr. 1, H290; Skin Corr. 1A, H314 Specific concentration limits: Skin Corr. 1A; H314: C ≥ 15 % Skin Irrit. 2; H315: 5 % ≤ C < 15 % Eye Dam. 1; H318: C ≥ 15 % Eye Irrit. 2; H319: 5 % ≤ C < 15 %	10–<15%
CAS: 13590-82-4 EINECS: 237-029-5	Cerium(4+) disulphate ⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319	2.5–5%

· Additional information For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

· 4.1 Description of first aid measures

- **General information** Instantly remove any clothing soiled by the product.
- **After inhalation** Supply fresh air; consult doctor in case of symptoms.
- **After skin contact**
Instantly rinse with water.
If skin irritation continues, consult a doctor.
- **After eye contact** Rinse opened eye for several minutes (at least 15 min) under running water. Then consult doctor.
- **After swallowing**
Rinse out mouth and then drink 1-2 glasses of water.
In case of persistent symptoms consult doctor.

· 4.2 Most important symptoms and effects, both acute and delayed:

irritations
 after swallowing:
 sickness
 vomiting
 diarrhoea

· 4.3 Indication of any immediate medical attention and special treatment needed:

No further relevant information available.

SECTION 5: Firefighting measures

· 5.1 Extinguishing media

- **Suitable extinguishing agents** Use fire fighting measures that suit the environment.

· 5.2 Special hazards arising from the substance or mixture

The product is not combustible.
 Formation of toxic gases is possible during heating or in case of fire.
 Can be released in case of fire:

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 26.08.2021

Version number 6 (replaces version 5)

Revision: 17.02.2021

Product name: Reagent N2M Nitrite Titrant

(Contd. of page 2)

Sulphur oxides (SOx)

- **5.3 Advice for firefighters**

- **Protective equipment:**

Wear self-contained breathing apparatus.

Wear full protective suit.

- **Additional information**

Collect contaminated fire fighting water separately. It must not enter drains.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

Ambient fire may liberate hazardous vapours.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**

- **Advice for non-emergency personnel:**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

- **Advice for emergency responders:** Protective equipment: see section 8

- **6.2 Environmental precautions:** Do not allow product to reach sewage system or water bodies.

- **6.3 Methods and material for containment and cleaning up:**

Ensure adequate ventilation.

Absorb with liquid-binding material (sand, diatomite, universal binders).

Dispose of contaminated material as waste according to item 13.

- **6.4 Reference to other sections**

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**

- **Advice on safe handling:** Ensure good ventilation/exhaustion at the workplace.

- **Hygiene measures:**

Avoid contact with the skin.

Avoid contact with the eyes.

Take off immediately all contaminated clothing.

Wash hands during breaks and at the end of the work.

Do not eat, drink or smoke when using this product.

- **7.2 Conditions for safe storage, including any incompatibilities**

- **Requirements to be met by storerooms and containers:** Store in cool location.

- **Information about storage in one common storage facility:**

Store away from metals.

Do not store together with alkalis (caustic solutions).

Store away from flammable substances.

- **Further information about storage conditions:**

Protect from heat and direct sunlight.

Protect from the effects of light.

Protect from humidity and keep away from water.

- **Recommended storage temperature:** 20°C +/- 5°C

- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**

- **Components with limit values that require monitoring at the workplace:**

CAS: 7664-93-9 sulphuric acid

WEL (Great Britain)

Long-term value: 0.05* mg/m³

*mist: defined as thoracic fraction

IOELV (European Union)

Long-term value: 0.05 mg/m³

(Contd. on page 4)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 26.08.2021

Version number 6 (replaces version 5)

Revision: 17.02.2021

Product name: Reagent N2M Nitrite Titrant

(Contd. of page 3)

Regulatory information

WEL (Great Britain): EH40/2018

IOELV (European Union): (EU) 2017/164

Additional information: IOELV = Indicative Occupational Exposure Limit

DNELs

Derived No Effect Level (DNEL)

CAS: 7664-93-9 sulphuric acid		
Inhalative	DNEL	0.1 mg/m ³ (Worker / acute / local effects)
		0.05 mg/m ³ (Worker / acute / systemic effects)

Recommended monitoring procedures:

Methods for measurement of the workplace atmosphere have to correspond to the requirements of norms DIN EN 482 and DIN EN 689.

PNECs

Predicted No Effect Concentration (PNEC)

CAS: 7664-93-9 sulphuric acid	
PNEC	8.8 mg/l (Sewage treatment plant)
	0.00025 mg/l (Marine water)
	0.0025 mg/l (Fresh water)
PNEC	0.002 mg/kg (Marine sediment)
	0.002 mg/kg (Fresh water sediment)

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

8.2 Exposure controls

Engineering measures:

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. See item 7.

Individual protection measures, such as personal protective equipment

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.

Eye/face protection Safety glasses

Hand protection

Protective gloves.

Preventive skin protection by use of skin-protecting agents is recommended.

After use of gloves apply skin-cleaning agents and skin cosmetics.

Material of gloves

nitrile rubber, NBR

Recommended thickness of the material: ≥ 0.11 mm

Penetration time of glove material

Value for the permeation: Level = 1 (< 10 min)

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

Other skin protection (body protection): Protective work clothing.

Breathing equipment: Use breathing protection against the effects of fumes/dust/aerosol.

Recommended filter device for short term use: Filter P2

Environmental exposure controls Do not allow product to reach sewage system or water bodies.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	Fluid
Form:	Solution
Colour:	Yellowish
Odour:	Odourless
Odour threshold:	Not applicable.
Melting point/Freezing point:	Not determined.
Boiling point or initial boiling point and boiling range	Not determined.
Flammability	Not applicable.
Explosive properties:	Product is not explosive.

(Contd. on page 5)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 26.08.2021

Version number 6 (replaces version 5)

Revision: 17.02.2021

Product name: Reagent N2M Nitrite Titrant

(Contd. of page 4)

<ul style="list-style-type: none"> · Lower and upper explosion limit · Lower: Not applicable. · Upper: Not applicable. · Flash point: Not applicable. · Ignition temperature: Not applicable. · Decomposition temperature: > 340°C (CAS 7664-93-9) · pH at 20°C < 1 Strongly acidic · Kinematic viscosity Not determined. · Solubility · Water: Fully miscible · Partition coefficient n-octanol/water (log value) Not applicable (mixture). · Vapour pressure: Not determined. · Density and/or relative density · Density at 20°C: 1.24 g/cm³ · Relative density: Not determined. · Relative gas density Not determined. · Particle characteristics Not applicable (liquid). 	
· 9.2 Other information	
<ul style="list-style-type: none"> · Information with regard to physical hazard classes · Corrosive to metals May be corrosive to metals. · Metals that are corroded by the substance or mixture Information on incompatible materials can be found in Sections 7 and 10. · Other safety characteristics · Oxidising properties: Oxidising potential · Additional information · Solids content: < 5 % · Solvent content: · Organic solvents: 0.0 % · Water: > 85 % 	

SECTION 10: Stability and reactivity

- **10.1 Reactivity** see section 10.3
- **10.2 Chemical stability** Stable at ambient temperature (room temperature).
- **10.3 Possibility of hazardous reactions**
Reacts with metals forming hydrogen (--> Explosive!)
Corrosive action on metals
Heating occurs when water is added
Reacts with reducing agents
Reacts with acids and alkali (lyes).
Reacts with ammonia (NH₃).
- **10.4 Conditions to avoid** Strong heating (decomposition)
- **10.5 Incompatible materials:**
metals
combustible substances
organic solvents
- **10.6 Hazardous decomposition products:** see section 5

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Based on available data, the classification criteria are not met.

(Contd. on page 6)

—GB—

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 26.08.2021

Version number 6 (replaces version 5)

Revision: 17.02.2021

Product name: Reagent N2M Nitrite Titrant

(Contd. of page 5)

· LD/LC50 values that are relevant for classification:		
CAS: 7664-93-9 sulphuric acid		
Oral	LD50	2140 mg/kg (rat) (IUCLID)
Inhalative	LC 50	510 mg/m ³ /2h (rat) IUCLID

- **Skin corrosion/irritation** Causes skin irritation.
- **Serious eye damage/irritation** Causes serious eye irritation.
- **Information on components:**
Skin irritation testing performed on 10% sulfuric acid showed slight to no irritation effects (GESTIS).
CAS 7664-93-9: chronic: dermatitis
- **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 (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.
- **STOT (specific target organ toxicity) -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:**
Vapours and aerosols may be irritant to the mucous membranes and upper respiratory tract.
Sulfuric acid: erosion of the teeth, cancer

· 11.2 Information on other hazards

· Endocrine disrupting properties
None of the ingredients is listed.

* SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxicity:	
CAS: 7664-93-9 sulphuric acid	
EC50	>100 mg/l/48h (Daphnia magna) (OECD 202) (ECHA)
LC50	16–29 mg/l/96h (bluegill) (Merck)

- **Bacterial toxicity:** sulphates toxic > 2.5 g/l
- **Other information:**
Toxic for fish:
sulphates > 7 g/l
- **12.2 Persistence and degradability .**
- **Other information:**
Mixture of inorganic compounds.
Methods for the determination of biodegradability are not applicable to inorganic substances.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **12.5 Results of PBT and vPvB assessment**
This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.
- **12.6 Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects**
Harmful effect due to pH shift.
Forms corrosive mixtures with water even if diluted.
Avoid transfer into the environment.
- **Water hazard:**
Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.

(Contd. on page 7)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 26.08.2021

Version number 6 (replaces version 5)

Revision: 17.02.2021

Product name: Reagent N2M Nitrite Titrant

(Contd. of page 6)

Danger to drinking water if even extremely small quantities leak into soil.

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods

· Recommendation

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Hand over to disposers of hazardous waste.

· European waste catalogue

16 05 07*	discarded inorganic chemicals consisting of or containing hazardous substances
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· Uncleaned packagings:

· Recommendation:

 Disposal must be made according to official regulations.

· Recommended cleaning agent:

 Water, if necessary with cleaning agent.

SECTION 14: Transport information

· 14.1 UN number or ID number

· ADR, IMDG, IATA

 UN2796

· 14.2 UN proper shipping name

· ADR

 2796 SULPHURIC ACID mixture

· IMDG, IATA

 SULPHURIC ACID mixture

· 14.3 Transport hazard class(es)

· ADR



· Class

 8 (C1) Corrosive substances.

· Label

 8

· IMDG, IATA



· Class

 8 Corrosive substances.

· Label

 8

· 14.4 Packing group

· ADR, IMDG, IATA

 II

· 14.5 Environmental hazards:

Not applicable.

· 14.6 Special precautions for user

· Warning:

 Corrosive substances.

· Kehler Number:

 80

· EMS Number:

 F-A,S-B

· Segregation groups

 Acids

· Stowage Category

 B

· 14.7 Maritime transport in bulk according to IMO instruments

Not applicable.

· Transport/Additional information:

· ADR

· Limited quantities (LQ)

 1L

· Excepted quantities (EQ)

 Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

(Contd. on page 8)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 26.08.2021

Version number 6 (replaces version 5)

Revision: 17.02.2021

Product name: Reagent N2M Nitrite Titrant

(Contd. of page 7)

· Transport category	2
· Tunnel restriction code	E

· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml

* SECTION 15: Regulatory information

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

· Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals (PIC)

None of the ingredients is listed.

· Regulation (EU) 2019/1148 on the marketing and use of explosives precursors

This product is regulated by Regulation (EU) 2019/1148:

All suspicious transactions, and significant disappearances and thefts should be reported to the relevant national contact point.

Please see <https://ec.europa.eu>

· explosives precursors - ANNEX I

CAS 7664-93-9: c < 15%

CAS: 7664-93-9 | sulphuric acid

· Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:

None of the ingredients is listed.

· REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)

None of the ingredients is listed.

· Directive 2012/18/EU (SEVESO III):

· Named dangerous substances - ANNEX I None of the ingredients is listed.

· LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)

None of the ingredients is listed.

· Substances of very high concern (SVHC) according to REACH, Article 57

This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).

· REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3

· Information about limitation of use: Not required.

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

SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Training hints Provide adequate information, instruction and training for operators.

· Relevant phrases

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

· Abbreviations and acronyms:

OECD: Organisation for Economic Co-operation and Development

STOT: specific target organ toxicity

SE: single exposure

RE: repeated exposure

EC50: half maximal effective concentration

IC50: half maximal inhibitory concentration

NOEL or NOEC: No Observed Effect Level or Concentration

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

(Contd. on page 9)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 26.08.2021

Version number 6 (replaces version 5)

Revision: 17.02.2021

Product name: Reagent N2M Nitrite Titrant

(Contd. of page 8)

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Met. Corr. 1: Corrosive to metals – Category 1

Skin Corr. 1A: Skin corrosion/irritation – Category 1A

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

• Sources

Data arise from safety data sheets, reference works and literature.

ECHA: European CHemicals Agency <http://echa.europa.eu>

IUCLID (International Uniform Chemical Information Database)

GESTIS- Stoffdatenbank (Substance Database, Germany)

• * Data compared to the previous version altered.