

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

Printing date 18.07.2018

Version number 16

Revision: 17.07.2018

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

##### · 1.1 Product identifier

- Product name: **Vario Total Nitrogen Reagent B**
- Catalog number: 00530399, 530390, 4530390, 53556---0

##### · 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:

Tintometer GmbH  
Schleefstraße 8-12  
44287 Dortmund  
Made in Germany  
www.lovibond.com

phone: +49 231 94510-0  
e-mail: sales@tintometer.de

Tintometer GmbH  
Division AQUALYTIC®  
Schleefstr. 12  
44287 Dortmund  
Made in Germany  
www.aqualytic.de

phone: +49 231 94510-755  
e-mail: sales@aqualytic.de

The Tintometer Limited  
Lovibond® House  
Sun Rise Way  
Amesbury  
Wiltshire SP4 7GR  
United Kingdom

phone : +44 1980 664800  
e-mail: SDS@tintometer.com

##### · Informing department:

e-mail: sds@tintometer.de  
Product Safety Department

##### · 1.4 Emergency telephone number:

+44 1235 239670  
Languages: English

#### SECTION 2: Hazards identification

##### · 2.1 Classification of the substance or mixture

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



GHS05 corrosion

Eye Dam. 1 H318 Causes serious eye damage.

##### · 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 Danger

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**Product name: Vario Total Nitrogen Reagent B**

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**Hazard-determining components of labelling:**

disodium disulphite

**Hazard statements**

H318 Causes serious eye damage.

**Precautionary statements**

P280 Wear eye protection / face 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.

P310 Immediately call a POISON CENTER/doctor.

**Additional information:**

EUH031 Contact with acids liberates toxic gas.

**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.

### SECTION 3: Composition/information on ingredients

**3.2 Mixtures**
**Description:** Mixture of organic and inorganic compounds

**Dangerous components:**

|   |  |        |
|---|--|--------|
| CAS: 7681-57-4<br>EINECS: 231-673-0<br>Index No: 016-063-00-2<br>Reg.nr.: 01-2119531326-45-XXXX | disodium disulphite<br>⚠ Eye Dam. 1, H318; ⚠ Acute Tox. 4, H302  | 5-10%  |
| CAS: 5808-22-0<br>EINECS: 204-972-9   | Disodium 4,5-dihydroxynaphthalene-2,7-disulphonate<br>⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335 | 5-10%  |
| CAS: 14808-60-7<br>EINECS: 238-878-4  | Quartz (SiO <sub>2</sub> )<br>substance with a Community workplace exposure limit                                | 30-40% |

**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.

Call a doctor immediately.

**After swallowing**

Rinse out mouth and then drink 1-2 glasses of water.

Seek immediate medical advice.

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

Irritation and corrosion

allergic reactions

after inhalation:

mucous membrane irritation

coughing

breathing difficulty

after swallowing of large amounts:

sickness

vomiting

diarrhoea

absorption

**Information for doctor** Sulphites are strong sensitizers.

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- **4.3 Indication of any immediate medical attention and special treatment needed:** No further relevant information available.
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### 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:  
Sulphur oxides (SO<sub>x</sub>)  
Nitrogen oxides (NO<sub>x</sub>)  
Sodium oxide
  - **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:**  
Avoid substance contact.  
Ensure adequate ventilation
  - **Advice for emergency responders:**  
Put on breathing apparatus.  
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.  
Collect mechanically.  
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:**  
Prevent formation of dust.  
Thorough dedusting.
- **Hygiene measures:**  
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**
- **Storage**
- **Requirements to be met by storerooms and containers:** Store in cool location.
- **Information about storage in one common storage facility:**  
Do not store together with acids.  
Store away from oxidising agents.
- **Further information about storage conditions:**  
Protect from heat and direct sunlight.  
Protect from the effects of light.  
Store under dry conditions.

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- 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: 14808-60-7 Quartz (SiO<sub>2</sub>) (30-40%)**

|              |   |
|--------------|---|
| OEL (Sweden) | Long-term value: 0.1 mg/m <sup>3</sup><br>C, M, respirabelt |
|--------------|---|

**CAS: 7681-57-4 disodium disulphite (5-10%)**

|                     |                                      |
|---------------------|--------------------------------------|
| WEL (Great Britain) | Long-term value: 5 mg/m <sup>3</sup> |
|---------------------|--------------------------------------|

#### • DNELs

Derived No Effect Level (DNEL)

**CAS: 7681-57-4 disodium disulphite**

|            |      |  |
|------------|------|--|
| Inhalative | DNEL | 10 mg/m <sup>3</sup> (Worker / long-term /systemic effects)<br>(MERCK) |
|------------|------|--|

#### • 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: 7681-57-4 disodium disulphite**

|      |   |
|------|---|
| PNEC | 75.4 mg/l (Sewage treatment plant)<br>0.1 mg/l (Marine water)<br>1 mg/l (Fresh water) |
|------|---|

- **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.

##### • Personal protective equipment

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

- **Recommended filter device for short term use:** Filter P2

##### • Protection of hands:

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 (&lt; 10 min)

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

- **Eye protection:** Tightly sealed safety glasses.

- **Body protection:** Protective work clothing.

- **Limitation and supervision of exposure into the environment:** 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

##### • Appearance:

|                               |                    |
|-------------------------------|--------------------|
| <b>Form / Physical state:</b> | Crystalline powder |
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|   |  |
|---|--|
| <b>Colour:</b>                                    | yellowish - brown                          |
| <b>· Odour:</b>                                   | Odourless                                  |
| <b>· Odour threshold:</b>                         | Not applicable                             |
| <b>· pH-value:</b>                                | Not determined.                            |
| <b>· Melting point/Freezing point:</b>            | Not determined                             |
| <b>· Initial boiling point and boiling range:</b> | Not determined                             |
| <b>· Flash point:</b>                             | Not applicable                             |
| <b>· Flammability (solid, gas):</b>               | The product is not combustible.            |
| <b>· Decomposition temperature:</b>               | Not determined.                            |
| <b>· Auto-ignition temperature:</b>               | Product is not self-igniting.              |
| <b>· Explosive properties:</b>                    | Product is not explosive.                  |
| <b>· Flammability or explosive limits:</b>        |  |
| <b>Lower:</b>                                     | Not applicable                             |
| <b>Upper:</b>                                     | Not applicable                             |
| <b>· Oxidising properties:</b>                    | none                                       |
| <b>· Vapour pressure:</b>                         | Not applicable.                            |
| <b>· Density:</b>                                 | Not determined                             |
| <b>· Relative density:</b>                        | Not determined.                            |
| <b>· Vapour density:</b>                          | Not applicable.                            |
| <b>· Evaporation rate:</b>                        | Not applicable.                            |
| <b>· Solubility(ies):</b>                         |  |
| <b>Water:</b>                                     | Partially insoluble.                       |
| <b>· Partition coefficient: n-octanol/water:</b>  | Not applicable.                            |
| <b>· Viscosity:</b>                               | Not applicable.                            |
| <b>· Solvent content:</b>                         |  |
| <b>Organic solvents:</b>                          | 0 %  |
| <b>Solids content:</b>                            | 100 %                                      |
| <b>· 9.2 Other information</b>                    | No further relevant information available. |

### 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**
  - Contact with acids releases toxic gases
  - Reacts with acids releasing sulphur dioxide
  - Reacts with oxidizing agents
- **10.4 Conditions to avoid** strong heating
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:**
  - Sulphur dioxide
  - Ammonia (NH<sub>3</sub>)
  - In case of fire: see section 5.

### SECTION 11: Toxicological information

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

#### · LD/LC50 values that are relevant for classification:

**CAS: 7681-57-4 disodium disulphite**

|      |      |  |
|------|------|--|
| Oral | LD50 | 1540 mg/kg (rat) (OECD 401)<br>(MERCK) |
|------|------|--|

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|        |       |                              |
|--------|-------|------------------------------|
| Dermal | LD50. | >2000 mg/kg (rat)<br>(RTECS) |
|--------|-------|------------------------------|

- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation**  
Causes serious eye damage.  
Risk of corneal clouding.

|   |          |                              |
|---|----------|------------------------------|
| · <b>Information on components:</b>       |          |                              |
| <b>CAS: 7681-57-4 disodium disulphite</b> |          |                              |
| Irritation of skin                        | OECD 404 | (rabbit: no irritation)      |
| Irritation of eyes                        | OECD 405 | (rabbit: severe irritations) |

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

|   |          |                        |
|---|----------|------------------------|
| · <b>Information on components:</b>       |          |                        |
| <b>CAS: 7681-57-4 disodium disulphite</b> |          |                        |
| Sensitisation                             | OECD 406 | (guinea pig: negative) |

- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)** The following statements refer to the mixture:
- **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.
- **Information on components:**  
CAS 7681-75-4: Did not show carcinogenic effects in animal experiments (IUCLID).  
CAS 7681-75-4: No impairment of reproductive performance in animal experiments (IUCLID).  
CAS 7681-75-4: Did not show teratogenic effects in animal experiments.

|   |  |  |
|---|--|--|
| <b>CAS: 7681-57-4 disodium disulphite</b> |  |  |
| OECD 471                                  | (negative) (Bacterial Reverse Mutation Test - Ames test) |  |

- **Additional toxicological information:**
- **Experience with humans:** CAS 14808-60-7: May cause lung damages.

## SECTION 12: Ecological information

### · 12.1 Toxicity

|   |   |  |
|---|---|--|
| · <b>Aquatic toxicity:</b>                |   |  |
| <b>CAS: 7681-57-4 disodium disulphite</b> |   |  |
| EC50                                      | 89 mg/l/48h (Daphnia magna) (OECD 202)<br>(MERCK)               |  |
| IC50                                      | 48 mg/l/72h (Desmodesmus subspicatus) (OECD 201)<br>(MERCK)     |  |
| LC50                                      | 150–220 mg/l/96h (rainbow trout) (DIN 38412 Teil 15)<br>(Merck) |  |

|   |  |  |
|---|--|--|
| · <b>Bacterial toxicity:</b>              |  |  |
| <b>CAS: 7681-57-4 disodium disulphite</b> |  |  |
| EC50                                      | 56 mg/l (Pseudomonas putida) (17h)<br>(IUCLID) |  |

- **12.2 Persistence and degradability** No further relevant information available.

|  |   |  |
|--|---|--|
| · <b>12.3 Bioaccumulative potential</b>                                  |   |  |
| <b>CAS: 5808-22-0 Disodium 4,5-dihydroxynaphthalene-2,7-disulphonate</b> |   |  |
| log Pow  | -4.48 (.) (calculated)<br>(anhydrous substance) |  |

- **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.

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- **12.6 Other adverse effects** Avoid transfer into the environment.
- **Water hazard:**  
Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.  
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.

|                                   |  |
|-----------------------------------|--|
| <b>· European waste catalogue</b> |  |
| 16 05 06                          | laboratory chemicals, consisting of or containing dangerous substances, including mixtures of laboratory chemicals |

- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

### SECTION 14: Transport information

- |  |  |
|--|--|
| · <b>14.1 UN-Number</b><br>· <b>ADR, IMDG, IATA</b>                                    | Void   |
| · <b>14.2 UN proper shipping name</b><br>· <b>ADR, IMDG, IATA</b>                      | Void   |
| · <b>14.3 Transport hazard class(es)</b><br>· <b>ADR, IMDG, IATA</b><br>· <b>Class</b> | Void   |
| · <b>14.4 Packing group</b><br>· <b>ADR, IMDG, IATA</b>                                | Void   |
| · <b>14.5 Environmental hazards:</b><br>· <b>Marine pollutant:</b>                     | No   |
| · <b>14.6 Special precautions for user</b>   | Not applicable.                                      |
| · <b>14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</b>       | Not applicable.                                      |
| · <b>Transport/Additional information:</b>   | 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**

|   |  |
|---|--|
| <b>· Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:</b> |  |
| None of the ingredients is listed.  |  |

|                                      |  |
|--------------------------------------|--|
| <b>· Regulation (EU) No 649/2012</b> |  |
| None of the ingredients is listed.   |  |

- **Information about limitation of use:** Employment restrictions concerning young persons must be observed.

- **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.

- **Relevant phrases**

H302 Harmful if swallowed.

H315 Causes skin irritation.

H318 Causes serious eye damage.

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H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.

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

• **Abbreviations and acronyms:**

EC50: effective concentration, 50 percent (in vivo)

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 européen sur le transport 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

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

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Acute toxicity – Category 4

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

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

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

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

• **Sources**

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

RTECS (Registry of Toxic Effects of Chemical Substances )

IUCLID (International Uniform Chemical Information Database)