

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 31.03.2020

Version number 6

Revision: 31.03.2020

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

- **1.1 Product identifier**
- **Product name:** Vario Phosphate RGT F10 ml
- **Catalog number:** 251987, 251988, 251989
- **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:**
Xylem Analytics Germany GmbH
WTW
Dr.-Karl-Slevogt-Straße 1
D 82362 Weilheim
Germany
Tel. +49 881 183-0
- **Informing department:** E-Mail: Info.WTW@Xyleminc.com
- **1.4 Emergency telephone number:** Chemtrec (USA & Canada) 800-424-9300 (INTERNATIONAL) 001 703-527-3887

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS06 skull and crossbones

Acute Tox. 3 H331 Toxic if inhaled.



GHS05 corrosion

Skin Corr. 1A H314 Causes severe skin burns and eye damage.

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



GHS06

- **Signal word** Danger
- **Hazard-determining components of labelling:**
dipotassium disulfate
- **Hazard statements**
H331 Toxic if inhaled.
H314 Causes severe skin burns and eye damage.
- **Precautionary statements**
P261 Avoid breathing dust.
P280 Wear protective gloves/protective clothing/eye protection.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

(Contd. on page 2)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 31.03.2020

Version number 6

Revision: 31.03.2020

Product name: Vario Phosphate RGT F10 ml

(Contd. of page 1)

P308+P313 IF exposed or concerned: Get medical advice/attention.
P405 Store locked up.

• **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: 7790-62-7 EINECS: 232-216-8	dipotassium disulfate ⚠ Acute Tox. 3, H331; ⚠ Skin Corr. 1A, H314; Eye Dam. 1, H318	70-80%
CAS: 28300-74-5 EINECS: 234-293-3 Index No: 051-003-00-9	potassium antimony(III) oxide tartrate trihydrate ⚠ Aquatic Chronic 2, H411; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H332	≤ 0.1%

• **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 or oxygen; call for doctor.

• **After skin contact**

Instantly rinse with water.

Immediate medical treatment necessary. Failure to treat burns can prevent wounds from healing.

• **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.

Do not induce vomiting; instantly call for medical help.

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

burns

after inhalation:

coughing

breathing difficulty

absorption

after absorption of large amounts:

sickness

vomiting

gastric or intestinal trouble

drowsiness

dizziness

• **Danger**

Danger of gastric perforation.

Danger of pulmonary oedema.

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

If swallowed or in case of vomiting, danger of entering the lungs

Subsequent observation for pneumonia and pulmonary oedema

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.

Sulphur oxides (SOx)

(Contd. on page 3)

— GB —

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 31.03.2020

Version number 6

Revision: 31.03.2020

Product name: Vario Phosphate RGT F10 ml

(Contd. of page 2)

Dipotassium oxide

Carbon monoxide (CO) and carbon dioxide (CO₂)
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.

Avoid substance contact.

Ensure adequate ventilation

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

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.

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:

Open and handle container with care.

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of dust.

Hygiene measures:

Do not inhale dust / smoke / mist.

Do not get in eyes, on skin, or on clothing.

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: Not required.

Further information about storage conditions:

Store in a locked cabinet or with access restricted to technical experts or their assistants.

Protect from heat and direct sunlight.

Protect from the effects of light.

Store under dry conditions.

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.

 GB —
 (Contd. on page 4)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 31.03.2020

Version number 6

Revision: 31.03.2020

Product name: Vario Phosphate RGT F10 ml

(Contd. of page 3)

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components with limit values that require monitoring at the workplace:

CAS: 28300-74-5 potassium antimony(III) oxide tartrate trihydrate ($\leq 0.1\%$)WEL (Great Britain) Long-term value: 0.5 mg/m³

as Sb

OEL (Sweden) Long-term value: 0.25 mg/m³

som Sb; inhalerbar damm

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.

Personal protective equipment

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

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

Recommended filter device for short term use: Filter P3

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 (< 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: Acid resistant protective 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:

Form / Physical state: Powder

Colour: White

Odour: Odourless

Odour threshold: Not applicable

pH-value (31.3 g/l) at 20°C: 1.2

Melting point/Freezing point: Not determined

Initial boiling point and boiling range: Not determined

Flash point: Not applicable

Flammability (solid, gas): The product is not combustible.

Decomposition temperature: Not determined.

Auto-ignition temperature: Product is not self-igniting.

Explosive properties: Product is not explosive.

Flammability or explosive limits:

Lower: Not applicable

(Contd. on page 5)

— GB —

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 31.03.2020

Version number 6

Revision: 31.03.2020

Product name: Vario Phosphate RGT F10 ml

(Contd. of page 4)

Upper:	Not applicable
· Oxidising properties:	none
· Vapour pressure:	Not applicable.
· Density at 20°C:	2.38 g/cm ³
· Relative density:	Not determined.
· Vapour density:	Not applicable.
· Evaporation rate:	Not applicable.
· Solubility(ies):	
Water:	Soluble
· Partition coefficient: n-octanol/water:	Not applicable.
· Viscosity:	Not applicable.
· dynamic:	Not applicable.
· kinematic:	Not applicable.
· Solvent content:	
Organic solvents:	0.0 %
Solids content:	100.0 %
· 9.2 Other information	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).
sensitive to moisture
sensitivity to light
sensitive to air
- **10.3 Possibility of hazardous reactions** Aqueous solution reacts acidic.
- **10.4 Conditions to avoid** Strong heating (decomposition)
- **10.5 Incompatible materials:** metals
- **10.6 Hazardous decomposition products:** see section 5

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**
Classification according to calculation procedure:
Toxic if inhaled.

· **Acute toxicity estimate (ATE_(MIX)) - Calculation method:**

Inhalative	CLP ATE _(MIX)	0.7 mg/l/4h (dust)
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· **LD/LC50 values that are relevant for classification:**

CAS: 7790-62-7 dipotassium disulfate

Oral	LD50	2500 mg/kg (ATE) (Read across 7664-93-9: LD ₅₀ (rat) = 2140 mg/kg, ECHA)
Inhalative	LC50	0.5 mg/l/4h (ATE) (Aerosol) (Read across 7664-93-9: LD ₅₀ (rat, 4h) = ~ 850 mg/m ³ , ECHA)
	LC50.	0.375 mg/l/4h (rat) ECHA brief profile (read across)

- **Primary irritant effect:**
- **Skin corrosion/irritation**
Causes severe skin burns and eye damage.
- **Serious eye damage/irritation**
Causes serious eye damage.
Risk of blindness!
- **Respiratory or skin sensitisation** 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 31.03.2020

Version number 6

Revision: 31.03.2020

Product name: Vario Phosphate RGT F10 ml

(Contd. of page 5)

- **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.
- **Additional toxicological information:**
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Bacterial toxicity:** sulphates toxic > 2.5 g/l
- **Other information:**
Toxic for fish:
sulphates > 7 g/l
molybdenum compounds in general: > 25 mg/l
- **12.2 Persistence and degradability** No further relevant information available.
- **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 Other adverse effects**
Harmful effect due to pH shift.
Avoid transfer into the environment.
- **Water hazard:**
Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.
Must not reach sewage water or drainage ditch undiluted or unneutralised.

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 dangerous 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 | |
| · ADR, IMDG, IATA | UN2923 |
| · 14.2 UN proper shipping name | |
| · ADR | 2923 CORROSIVE SOLID, TOXIC, N.O.S. (dipotassium disulfate) |
| · IMDG, IATA | CORROSIVE SOLID, TOXIC, N.O.S. (dipotassium disulfate) |

(Contd. on page 7)

GB

Safety data sheet

according to 1907/2006/EC, Article 31







Printing date 31.03.2020

Version number 6

Revision: 31.03.2020

Product name: Vario Phosphate RGT F10 ml

(Contd. of page 6)

· 14.3 Transport hazard class(es)	
· ADR	
 	
· Class	8 (CT2) Corrosive substances.
· Label	8+6.1
· IMDG	
 	
· Class	8 Corrosive substances.
· Label	8/6.1
· IATA	
 	
· Class	8 Corrosive substances.
· Label	8 (6.1)
· 14.4 Packing group	
· ADR, IMDG, IATA	II
· 14.5 Environmental hazards:	
· Marine pollutant:	No
· 14.6 Special precautions for user	Warning: Corrosive substances.
· Kemler Number:	86
· EMS Number:	F-A,S-B
· Segregation groups	Acids
· Stowage Category	B
· Stowage Code	SW2 Clear of living quarters.
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	1 kg
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g
· Transport category	2
· Tunnel restriction code	E
· IMDG	
· Limited quantities (LQ)	1 kg
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g

SECTION 15: Regulatory information

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

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

None of the ingredients is listed.

(Contd. on page 8)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 31.03.2020

Version number 6

Revision: 31.03.2020

Product name: Vario Phosphate RGT F10 ml

(Contd. of page 7)

- **Directive 2012/18/EU (SEVESO III):**
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 50 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t

· Regulation (EU) No 649/2012

None of the ingredients is listed.

- **National regulations**
- **Information about limitation of use:** Employment restrictions concerning young persons must be observed (94/33/EC).
- **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.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H331 Toxic if inhaled.
H332 Harmful if inhaled.
H411 Toxic to aquatic life with long lasting effects.

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

- **Abbreviations and acronyms:**

EC50: effective concentration, 50 percent (in vivo)
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)
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 - oral – Category 4
Acute Tox. 3: Acute toxicity - inhalation – Category 3
Skin Corr. 1A: Skin corrosion/irritation – Category 1A
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

- **Sources**

Data arise from safety data sheets, reference works and literature.
ECHA: European CHemicals Agency <http://echa.europa.eu>

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

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

Printing date 06.04.2020

Version number 25

Revision: 01.04.2020

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

- **1.1 Product identifier**
- **Product name:** Hydrol./Total Phosphate Acid Reagent
- **Catalog number:** 251987, 251988
- **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:**
Xylem Analytics Germany GmbH
WTW
Dr.-Karl-Slevogt-Straße 1
D 82362 Weilheim
Germany
Tel. +49 881 183-0
- **Informing department:** E-Mail: Info.WTW@Xyleminc.com
- **1.4 Emergency telephone number:** Chemtrec (USA & Canada) 800-424-9300 (INTERNATIONAL) 001 703-527-3887

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.
- **Precautionary statements**
P234 Keep only in original packaging.
P280 Wear protective gloves / eye protection.
P302+P352 IF ON SKIN: Wash with plenty of water.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 IF exposed or concerned: Get medical advice/attention.

(Contd. on page 2)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 06.04.2020

Version number 25

Revision: 01.04.2020

Product name: Hydrol./Total Phosphate Acid Reagent

(Contd. of page 1)

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.

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	5-10%
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 • **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 wash with water and soap and rinse thoroughly.

 • **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.

Seek medical treatment.

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

irritations

after inhalation:

mucosal irritations, Cough, Shortness of breath

after swallowing:

damage to the affected mucous membranes possible

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:

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.

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 06.04.2020

Version number 25

Revision: 01.04.2020

Product name: Hydrol./Total Phosphate Acid Reagent

(Contd. of page 2)

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.
Use neutralising agent.
Neutralize with diluted sodium hydroxide solution.
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**
- **Storage**
- **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).
- **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/m ³ *mist: defined as thoracic fraction
IOELV (European Union)	Long-term value: 0.05 mg/m 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)
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(Contd. on page 4)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 06.04.2020

Version number 25

Revision: 01.04.2020

Product name: Hydrol./Total Phosphate Acid Reagent

(Contd. of page 3)

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.

Personal protective equipment

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

• **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 (< 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:** 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:

Form / Physical state:	Fluid
Colour:	Colourless

• Odour:	Odourless
• Odour threshold:	Not applicable

• pH-value at 20°C:	< 1
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• Melting point/Freezing point:	Not determined
• Initial boiling point and boiling range:	Not determined

• Flash point:	Not applicable
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• Flammability (solid, gas):	Not applicable.
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• Decomposition temperature:	Not determined.
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• Auto-ignition temperature:	Product is not self-igniting.
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• Explosive properties:	Product is not explosive.
--------------------------------	---------------------------

• Flammability or explosive limits:	
Lower:	Not applicable

(Contd. on page 5)

— GB —

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 06.04.2020

Version number 25

Revision: 01.04.2020

Product name: Hydrol./Total Phosphate Acid Reagent

(Contd. of page 4)

Upper:	Not applicable
· Oxidising properties:	none
· Vapour pressure:	Not determined.
· Density at 20°C:	1.059 g/cm ³
· Relative density:	Not determined.
· Vapour density:	Not determined.
· Evaporation rate:	Not determined.
· Solubility(ies):	
Water:	Fully miscible
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity:	Not determined.
· Solvent content:	
Organic solvents:	0.0 %
Water:	> 90 %
· 9.2 Other information	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**
 - Corrosive action on metals
 - Reacts with metals forming hydrogen (--> Explosive!)
 - 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** No further relevant information available.
- **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 toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.

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

CAS: 7664-93-9 sulphuric acid

Oral	LD50	2140 mg/kg (rat) (IUCLID)
	LC 50	510 mg/m ³ /2h (rat) IUCLID

- **Primary irritant effect:**
- **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 7664-93-3: chronic: dermatitis
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **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.

(Contd. on page 6)

— GB —

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 06.04.2020

Version number 25

Revision: 01.04.2020

Product name: Hydrol./Total Phosphate Acid Reagent

(Contd. of page 5)

- **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

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 Other adverse effects**
Harmful effect due to pH shift.
Forms corrosive mixtures with water even if diluted.
Neutralisation possible in waste water treatment plants.
Avoid transfer into the environment.
- **Water hazard:**
Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.
Must not reach sewage water or drainage ditch undiluted or unneutralised.

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 dangerous 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**
- **ADR, IMDG, IATA**

UN2796

(Contd. on page 7)

GB

Safety data sheet

according to 1907/2006/EC, Article 31



Printing date 06.04.2020

Version number 25

Revision: 01.04.2020

Product name: Hydrol./Total Phosphate Acid Reagent

(Contd. of page 6)

· 14.2 UN proper shipping name · ADR · IMDG, IATA		2796 SULPHURIC ACID SULPHURIC ACID
· 14.3 Transport hazard class(es) · ADR 		8 (C1) Corrosive substances. 8
· IMDG, IATA 		8 Corrosive substances. 8
· 14.4 Packing group · ADR, IMDG, IATA		II
· 14.5 Environmental hazards: · Marine pollutant:		No
· 14.6 Special precautions for user · Kemler Number: · EMS Number: · Segregation groups · Stowage Category		Warning: Corrosive substances. 80 F-A,S-B Acids B
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code		Not applicable.
· Transport/Additional information:		
· ADR · Excepted quantities (EQ): · Limited quantities (LQ) · Excepted quantities (EQ)		E1 1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· Transport category · Tunnel restriction code		2 E
· IMDG · Limited quantities (LQ) · Excepted quantities (EQ)		1L 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 (EC) No 1005/2009 on substances that deplete the ozone layer:

None of the ingredients is listed.

· Directive 2012/18/EU (SEVESO III):

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

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

(Contd. on page 8)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 06.04.2020

Version number 25

Revision: 01.04.2020

Product name: Hydrol./Total Phosphate Acid Reagent

(Contd. of page 7)

· Regulation (EU) No 649/2012

None of the ingredients is listed.

· National regulations
· 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.

· Relevant phrases

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

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

· Abbreviations and acronyms:

ICAO: International Civil Aviation Organisation

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

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.

GESTIS- Stoffdatenbank (Substance Database, Germany)

IUCLID (International Uniform Chemical Information Database)

International Chemical Safety Cards (ICSCs)

· * Data compared to the previous version altered.

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 06.04.2020

Version number 15

Revision: 01.04.2020

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

- **1.1 Product identifier**
- **Product name:** Vario Potassium Persulfate F10 ml
- **Catalog number:** 251987, 251988
- **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:**
Xylem Analytics Germany GmbH
WTW
Dr.-Karl-Slevogt-Straße 1
D 82362 Weilheim
Germany
Tel. +49 881 183-0
- **Informing department:** E-Mail: Info.WTW@Xylem-inc.com
- **1.4 Emergency telephone number:** Chemtrec (USA & Canada) 800-424-9300 (INTERNATIONAL) 001 703-527-3887

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS03 flame over circle

Ox. Sol. 3 H272 May intensify fire; oxidiser.



GHS08 health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.
Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2 H319 Causes serious eye irritation.
Skin Sens. 1 H317 May cause an allergic skin reaction.
STOT SE 3 H335 May cause respiratory 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**



GHS03



GHS07



GHS08

- **Signal word** Danger
- **Hazard-determining components of labelling:**
disodium peroxodisulphate

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 06.04.2020

Version number 15

Revision: 01.04.2020

Product name: Vario Potassium Persulfate F10 ml

(Contd. of page 1)

potassium persulphate

Hazard statements

H272 May intensify fire; oxidiser.

H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317 May cause an allergic skin reaction.

H335 May cause respiratory irritation.

Precautionary statements

P261 Avoid breathing dust.

P280 Wear protective gloves/protective clothing/eye protection.

P302+P352 IF ON SKIN: Wash with plenty of water.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

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 inorganic compounds.**Dangerous components:**

CAS: 7775-27-1 EINECS: 231-892-1	disodium peroxodisulphate ⚠ Ox. Sol. 3, H272; ⚠ Resp. Sens. 1, H334; ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	90-100%
CAS: 7727-21-1 EINECS: 231-781-8 Index No: 016-061-00-1	potassium persulphate ⚠ Ox. Sol. 3, H272; ⚠ Resp. Sens. 1, H334; ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	5-<10%

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 or oxygen; call for doctor.**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.

Seek medical treatment.

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

allergic reactions

irritations

after inhalation:

coughing

breathing difficulty

after swallowing:

sickness

vomiting

gastric or intestinal trouble

mucous membrane irritation

headache

Danger

Danger of pulmonary oedema.

risk of airways sensitization

(Contd. on page 3)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 06.04.2020

Version number 15

Revision: 01.04.2020

Product name: Vario Potassium Persulfate F10 ml

(Contd. of page 2)

risk of skin sensitization

· **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.

Has a fire-promoting effect due to release of oxygen.

Risk of dust explosion

Formation of toxic gases is possible during heating or in case of fire.

Can be released in case of fire:

Sulphur oxides (SO_x)

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:**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Avoid causing dust.

· **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.

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:**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of dust.

Thorough dedusting.

· **Hygiene measures:**

Do not inhale dust / smoke / mist.

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**

· **Storage**

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

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

Store away from flammable substances.

Store away from reducing agents.

(Contd. on page 4)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 06.04.2020

Version number 15

Revision: 01.04.2020

Product name: Vario Potassium Persulfate F10 ml

(Contd. of page 3)

- **Further information about storage conditions:**
Store in cool, dry conditions in well sealed containers.
Protect from heat and direct sunlight.
Protect from the effects of light.
Store under dry conditions.
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:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **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.
- **Personal protective equipment**
Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.
- **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 (< 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:** 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:**

Form / Physical state:	Powder
Colour:	White
- **Odour:** Odourless
- **Odour threshold:** Not applicable
- **pH-value (9 g/l) at 20°C:** 4.2
- **Melting point/Freezing point:** Not determined
- **Initial boiling point and boiling range:** Not determined
- **Flash point:** Not applicable
- **Flammability (solid, gas):** Contact with combustible material may cause fire.
- **Ignition temperature:** Not applicable

(Contd. on page 5)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 06.04.2020

Version number 15

Revision: 01.04.2020

Product name: Vario Potassium Persulfate F10 ml

(Contd. of page 4)

· Decomposition temperature:	> 100°C (CAS 7727-21-1)
· Auto-ignition temperature:	Product is not self-igniting.
· Explosive properties:	Product is not explosive. Risk of dust explosion if enriched with fine dust in presence of air
· Flammability or explosive limits:	
Lower:	Not determined.
Upper:	Not determined.
· Oxidising properties:	May intensify fire; oxidiser.
· Vapour pressure:	Not applicable.
· Density at 20°C:	2.41 g/cm ³
· Relative density:	Not determined.
· Vapour density:	Not applicable.
· Evaporation rate:	Not applicable.
· Solubility(ies):	
Water:	Soluble
· Partition coefficient: n-octanol/water:	Not applicable.
· Viscosity:	Not applicable.
· Solvent content:	
Organic solvents:	0.0 %
Solids content:	100.0 %
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** Risk of dust explosion
- **10.2 Chemical stability** Stable at ambient temperature (room temperature).
- **10.3 Possibility of hazardous reactions**
 Reacts with alcohols
 Reacts with reducing agents
 Reacts with heavy metals
 Reacts with strong acids and alkali
- **10.4 Conditions to avoid**
 Exposure to moisture.
 Strong heating (decomposition)
- **10.5 Incompatible materials:** combustible substances
- **10.6 Hazardous decomposition products:**
 oxygen
 see section 5

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**
 Classification according to calculation procedure:
 Harmful if swallowed.

· **Acute toxicity estimate (ATE_(MX)) - Calculation method:**

Oral CLP ATE_(MX) 908 mg/kg (.)

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

CAS: 7775-27-1 disodium peroxodisulphate

Oral	LD50	920 mg/kg (rat) (IUCLID)
Dermal	LD50	>10000 mg/kg (rabbit)
Inhalative	LC50.	>5.1 mg/l/4h (rat) (ECHA: no deaths at this concentration LC ₀ = >5.1)

(Contd. on page 6)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 06.04.2020

Version number 15

Revision: 01.04.2020

Product name: Vario Potassium Persulfate F10 ml

(Contd. of page 5)

	LD50 IPR	226 mg/kg (mouse)
CAS: 7727-21-1 potassium persulfate		
Oral	LD50	802 mg/kg (rat) (RTECS)
Dermal	LD50	>10000 mg/kg (rabbit)

- **Primary irritant effect:**
- **Skin corrosion/irritation**
Causes skin irritation.
- **Serious eye damage/irritation** Causes serious eye irritation.
- **Information on components:**
CAS 7775-27-1: chronic: dermatitis

CAS: 7775-27-1 disodium peroxodisulphate		
Irritation of skin	OECD 404	(rabbit: slight irritation) (ECHA: read-across CAS 7727-54-0 Diammonium persulfate)
Irritation of eyes	OECD 405	(rabbit: slight irritation) (ECHA: read-across CAS 7727-54-0 Diammonium persulfate)
CAS: 7727-21-1 potassium persulfate		
Irritation of skin	OECD 404	(rabbit: slight irritation) (ECHA: read-across CAS 7727-54-0 Diammonium persulfate)
Irritation of eyes	OECD 405	(rabbit: slight irritation) (ECHA: read-across CAS 7727-54-0 Diammonium persulfate)

- **Respiratory or skin sensitisation**
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.

Information on components:		
CAS: 7775-27-1 disodium peroxodisulphate		
Sensitisation	OECD 406	(guinea pig: positive)

- **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**
May cause respiratory irritation.
- **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: 7775-27-1 disodium peroxodisulphate		
OECD 471	(negative) (Bacterial Reverse Mutation Test - Ames test) (IUCLID)	

- **Additional toxicological information:** Other dangerous properties can not be excluded.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity:		
CAS: 7775-27-1 disodium peroxodisulphate		
EC50	133 mg/l/48h (Daphnia magna)	
NOEC	91.7 mg/l/96h (rainbow trout) (ECHA)	
NOEC	67.6 mg/l/48 h (Daphnia magna) (ECHA)	
LC50	771 mg/l/96h (bluegill) 163 mg/l/96h (rainbow trout) (ECHA)	

(Contd. on page 7)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 06.04.2020

Version number 15

Revision: 01.04.2020

Product name: Vario Potassium Persulfate F10 ml

(Contd. of page 6)

CAS: 7727-21-1 potassium persulphate

EC50	120 mg/l/48h (Daphnia magna)
LC50	100 mg/l/96h (guppy) (Hommel)

· Bacterial toxicity:**CAS: 7727-21-1 potassium persulphate**

EC50	36 mg/l (Pseudomonas putida) (Hommel)
------	--

· 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 Other adverse effects

Reacts with water to form toxic decomposition products.

Avoid transfer into the environment.

· Water hazard:

Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.

Must not reach sewage water or drainage ditch undiluted or unneutralised.

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

· 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**· ADR, IMDG, IATA**

UN3215

· 14.2 UN proper shipping name**· ADR**

3215 PERSULPHATES, INORGANIC, N.O.S.

· IMDG, IATA

PERSULPHATES, INORGANIC, N.O.S.

· 14.3 Transport hazard class(es)**· ADR****· Class**

5.1 (O2) Oxidising substances.

(Contd. on page 8)

Safety data sheet

according to 1907/2006/EC, Article 31


Printing date 06.04.2020

Version number 15

Revision: 01.04.2020

Product name: Vario Potassium Persulfate F10 ml

(Contd. of page 7)

· Label	5.1
· IMDG, IATA	
	
· Class	5.1 Oxidising substances.
· Label	5.1
· 14.4 Packing group	
· ADR, IMDG, IATA	III
· 14.5 Environmental hazards:	Not applicable.
· 14.6 Special precautions for user	Warning: Oxidising substances.
· Kemler Number:	50
· EMS Number:	F-A,S-Q
· Stowage Category	A
· Segregation Code	SG40 Stow "separated from" SGG2-ammonium compounds other than mixtures of ammonium persulphates and/or potassium persulphates and/or sodium persulphates. SG49 Stow "separated from" SGG6-cyanides
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	5 kg
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g
· Transport category	3
· Tunnel restriction code	E
· IMDG	
· Limited quantities (LQ)	5 kg
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g

SECTION 15: Regulatory information

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

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

None of the ingredients is listed.

· **Directive 2012/18/EU (SEVESO III):**

- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category** P8 OXIDISING LIQUIDS AND SOLIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 50 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t

· **Regulation (EU) No 649/2012**

None of the ingredients is listed.

· **National regulations**

- **Information about limitation of use:** Employment restrictions concerning young persons must be observed (94/33/EC).

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

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 06.04.2020

Version number 15

Revision: 01.04.2020

Product name: Vario Potassium Persulfate F10 ml

(Contd. of page 8)

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**

H272 May intensify fire; oxidiser.
 H302 Harmful if swallowed.
 H315 Causes skin irritation.
 H317 May cause an allergic skin reaction.
 H319 Causes serious eye irritation.
 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 H335 May cause respiratory irritation.

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

• **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 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)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 PBT: Persistent, Bioaccumulative and Toxic
 vPvB: very Persistent and very Bioaccumulative
 Ox. Sol. 3: Oxidizing solids – Category 3
 Acute Tox. 4: Acute toxicity - oral – Category 4
 Skin Irrit. 2: Skin corrosion/irritation – Category 2
 Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
 Resp. Sens. 1: Respiratory sensitisation – Category 1
 Skin Sens. 1: Skin sensitisation – Category 1
 STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

• **Sources**

Data arise from safety data sheets, reference works and literature.
 ECHA: European CHemicals Agency <http://echa.europa.eu>
 GESTIS- Stoffdatenbank (Substance Database, Germany)
 IUCLID (International Uniform Chemical Information Database)

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

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

Printing date 05.07.2018


Version number 17

Revision: 05.07.2018

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

- **1.1 Product identifier**
- **Product name:** Vario Sodium hydroxide 1.54 N
- **Catalog number:** 251987, 251988
- **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:**
Xylem Analytics Germany GmbH
WTW
Dr.-Karl-Slevogt-Straße 1
82362 Weilheim
Germany
Tel. +49 881 183-0
- **Informing department:** E-Mail: Info.WTW@Xyleminc.com
- **1.4 Emergency telephone number:** Chemtrec (USA & Canada) 800-424-9300 (INTERNATIONAL) 001 703-527-3887

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.
Skin Corr. 1A H314 Causes severe skin burns and eye damage.
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
- **Hazard-determining components of labelling:**
sodium hydroxide
- **Hazard statements**
H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
- **Precautionary statements**
P280 Wear protective gloves/protective clothing/eye protection.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P390 Absorb spillage to prevent material damage.
- **2.3 Other hazards** No further relevant information available.

(Contd. on page 2)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 05.07.2018

Version number 17

Revision: 05.07.2018

Product name: Vario Sodium hydroxide 1.54 N

(Contd. of page 1)

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: aqueous solution

Dangerous components:

CAS: 1310-73-2 EINECS: 215-185-5 Index No: 011-002-00-6 Reg.nr.: 01-2119457892-27-XXXX	sodium hydroxide	 Met. Corr.1, H290; Skin Corr. 1A, H314	5–10%
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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.

Call a doctor immediately.

After skin contact

Instantly wash with polyethylene glycol 400.

Instantly rinse with water.

Immediate medical treatment necessary. Failure to treat burns can prevent wounds from healing.

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.

Do not induce vomiting; instantly call for medical help.

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

burns

after inhalation:

coughing

breathing difficulty

damage to the affected mucous membranes possible

after swallowing:

strong caustic effect.

pain

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

If swallowed or in case of vomiting, danger of entering the lungs

Subsequent observation for pneumonia and pulmonary oedema

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.

(Contd. on page 3)

— GB —

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 05.07.2018

Version number 17

Revision: 05.07.2018

Product name: Vario Sodium hydroxide 1.54 N

Ambient fire may liberate hazardous vapours.

(Contd. of page 2)

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.
 - Avoid substance contact.
 - Ensure adequate ventilation
 - Use breathing protection against the effects of fumes/dust/aerosol.
- **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.
 - Use neutralising agent.
 - 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:** No special precautions necessary if used correctly.
- **Hygiene measures:**
 - Do not inhale gases / fumes / aerosols.
 - Do not get in eyes, on skin, or on clothing.
 - 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:**
 - Store away from metals.
 - Do not store together with acids.
- **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: 1310-73-2 sodium hydroxide

WEL (Great Britain)	Short-term value: 2 mg/m ³
OEL (Sweden)	Short-term value: 2 mg/m ³
	Long-term value: 1 mg/m ³
	inhalerbart damm

- **Regulatory information**
 - WEL (Great Britain): EH40/2011
 - OEL (Sweden): AFS2015:7
- **DNELs**
 - Derived No Effect Level (DNEL)

(Contd. on page 4)

— GB —

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 05.07.2018

Version number 17

Revision: 05.07.2018

Product name: Vario Sodium hydroxide 1.54 N

(Contd. of page 3)

CAS: 1310-73-2 sodium hydroxide

Inhalative	DNEL	1 mg/m ³ (Worker / long-term / local effects)
		1 mg/m ³ (Consumer / long-term / local 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.

- **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:**

Alkaline resistant 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.

- **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:**

Form / Physical state:	Fluid
Colour:	Colourless

· Odour:	Odourless
· Odour threshold:	Not applicable

· pH-value at 20°C:	~13.5 Strongly alkaline
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· Melting point/Freezing point:	Not determined
· Initial boiling point and boiling range:	~100°C

· Flash point:	Not applicable
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· Flammability (solid, gas):	Not applicable.
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· Decomposition temperature:	Not applicable
-------------------------------------	----------------

· Auto-ignition temperature:	Product is not self-igniting.
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· Explosive properties:	Product is not explosive.
--------------------------------	---------------------------

- **Flammability or explosive limits:**

Lower:	Not applicable
Upper:	Not applicable

· Oxidising properties:	none
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· Vapour pressure:	Not determined.
· Density at 20°C:	1.07 g/cm ³
· Relative density:	Not determined.
· Vapour density:	Not determined.

(Contd. on page 5)

— GB —

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 05.07.2018

Version number 17

Revision: 05.07.2018

Product name: Vario Sodium hydroxide 1.54 N

(Contd. of page 4)

· Evaporation rate:	Not determined.
· Solubility(ies): Water:	Fully miscible
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity:	Not determined.
· Solvent content: Organic solvents: Water: Solids content:	0.0 % > 90 % < 10 %
· 9.2 Other information	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**
Corrosive action on metals
Reacts with metals forming hydrogen (--> Explosive!)
Corrodes aluminium
Exothermic reaction with acids
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:**
metals
light metals
organic substances
aluminium
zinc
- **10.6 Hazardous decomposition products:** 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: 1310-73-2 sodium hydroxide

Oral	LDLo	500 mg/kg (rabbit) (IUCID)
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- **Primary irritant effect:**
- **Skin corrosion/irritation**
Causes severe skin burns and eye damage.
- **Serious eye damage/irritation**
Causes serious eye damage.
Risk of blindness!
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

· **Information on components:**

CAS: 1310-73-2 sodium hydroxide

Sensitisation	Patch test (human)	(negative)
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- **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.

(Contd. on page 6)

—GB—

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 05.07.2018

Version number 17

Revision: 05.07.2018

Product name: Vario Sodium hydroxide 1.54 N

(Contd. of page 5)

Additional toxicological information:

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

SECTION 12: Ecological information

12.1 Toxicity
Aquatic toxicity:
CAS: 1310-73-2 sodium hydroxide

 LC50 40.4 mg/l/48h (Ceriodaphnia sp.)
(ECHA)

Bacterial toxicity:
CAS: 1310-73-2 sodium hydroxide

EC50 22 mg/l (Photobacterium phosphoreum) (15 min)

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 Other adverse effects

Harmful effect due to pH shift.

Forms corrosive mixtures with water even if diluted.

Neutralisation possible in waste water treatment plants.

Avoid transfer into the environment.

Water hazard:

Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.

Must not reach sewage water or drainage ditch undiluted or unneutralised.

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

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
ADR, IMDG, IATA

UN1824

14.2 UN proper shipping name
ADR
IMDG, IATA

 1824 SODIUM HYDROXIDE SOLUTION
SODIUM HYDROXIDE SOLUTION

(Contd. on page 7)

GB

Safety data sheet

according to 1907/2006/EC, Article 31



Printing date 05.07.2018

Version number 17

Revision: 05.07.2018

Product name: Vario Sodium hydroxide 1.54 N

(Contd. of page 6)

· 14.3 Transport hazard class(es) · ADR 	
· Class · Label	8 (C5) Corrosive substances. 8
· IMDG, IATA 	
· Class · Label	8 Corrosive substances. 8
· 14.4 Packing group · ADR, IMDG, IATA	II
· 14.5 Environmental hazards:	Not applicable.
· 14.6 Special precautions for user · Kemler Number: · EMS Number: · Segregation groups · Stowage Category · Segregation Code	Warning: Corrosive substances. 80 F-A,S-B Alkalis A SG35 Stow "separated from" acids.
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR · Limited quantities (LQ) · Excepted quantities (EQ) · Transport category · Tunnel restriction code	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml 2 E
· IMDG · Limited quantities (LQ) · Excepted quantities (EQ)	1L 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 (EC) No 1005/2009 on substances that deplete the ozone layer:

None of the ingredients is listed.

· Directive 2012/18/EU (SEVESO III):

· **Named dangerous substances - ANNEX I** None of the ingredients is listed.· **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3

· Regulation (EU) No 649/2012

None of the ingredients is listed.

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

(Contd. on page 8)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 05.07.2018

Version number 17

Revision: 05.07.2018

Product name: Vario Sodium hydroxide 1.54 N

(Contd. of page 7)

- **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**

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

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

- **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 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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

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

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

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

- **Sources**

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

IUCLID (International Uniform Chemical Information Database)

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

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

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

Printing date 23.10.2018


Version number 12

Revision: 23.10.2018

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

- **1.1 Product identifier**
- **Product name:** Vario Sodium hydroxide 1 N
- **Catalog number:** 251987, 251988
- **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:**
Xylem Analytics Germany GmbH
WTW
Dr.-Karl-Slevogt-Straße 1
82362 Weilheim
Germany
Tel. +49 881 183-0
- **Informing department:** E-Mail: Info.WTW@Xyleminc.com
- **1.4 Emergency telephone number:** Chemtrec (USA & Canada) 800-424-9300 (INTERNATIONAL) 001 703-527-3887

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.
Skin Corr. 1B H314 Causes severe skin burns and eye damage.
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
- **Hazard-determining components of labelling:**
sodium hydroxide
- **Hazard statements**
H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
- **Precautionary statements**
P280 Wear protective gloves/protective clothing/eye protection.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P310 Immediately call a POISON CENTER/doctor.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- **2.3 Other hazards** No further relevant information available.

(Contd. on page 2)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 23.10.2018

Version number 12

Revision: 23.10.2018

Product name: Vario Sodium hydroxide 1 N

(Contd. of page 1)

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: aqueous solution

Dangerous components:

CAS: 1310-73-2 EINECS: 215-185-5 Index No: 011-002-00-6 Reg.nr.: 01-2119457892-27-XXXX	sodium hydroxide	 Met. Corr.1, H290; Skin Corr. 1A, H314	2.5-<5%
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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.

Call a doctor immediately.

After skin contact

Instantly wash with polyethylene glycol 400.

Instantly rinse with water.

Immediate medical treatment necessary. Failure to treat burns can prevent wounds from healing.

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.

Do not induce vomiting; instantly call for medical help.

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

burns

after inhalation:

coughing

breathing difficulty

damage to the affected mucous membranes possible

after swallowing:

strong caustic effect.

pain

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

If swallowed or in case of vomiting, danger of entering the lungs

Subsequent observation for pneumonia and pulmonary oedema

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.

(Contd. on page 3)

— GB —

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 23.10.2018

Version number 12

Revision: 23.10.2018

Product name: Vario Sodium hydroxide 1 N

Ambient fire may liberate hazardous vapours.

(Contd. of page 2)

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.
 - Avoid substance contact.
 - Ensure adequate ventilation
 - Use breathing protection against the effects of fumes/dust/aerosol.
- **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.
 - Use neutralising agent.
 - 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:** No special precautions necessary if used correctly.
- **Hygiene measures:**
 - Do not inhale gases / fumes / aerosols.
 - Do not get in eyes, on skin, or on clothing.
 - 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:**
 - Store away from metals.
 - Do not store together with acids.
- **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: 1310-73-2 sodium hydroxide

WEL (Great Britain)	Short-term value: 2 mg/m ³
OEL (Sweden)	Short-term value: 2 mg/m ³
	Long-term value: 1 mg/m ³
	inhalerbart damm

· Regulatory information

WEL (Great Britain): EH40/2011
OEL (Sweden): AFS2015:7

· DNELs

Derived No Effect Level (DNEL)

(Contd. on page 4)

— GB —

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 23.10.2018

Version number 12

Revision: 23.10.2018

Product name: Vario Sodium hydroxide 1 N

(Contd. of page 3)

CAS: 1310-73-2 sodium hydroxide

Inhalative	DNEL	1 mg/m ³ (Worker / long-term / local effects)
		1 mg/m ³ (Consumer / long-term / local 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.

· **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:**

Alkaline resistant 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.

· **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:**

Form / Physical state:	Fluid
Colour:	Colourless

· Odour:	Odourless
· Odour threshold:	Not applicable

· pH-value at 20°C:	~ 13 Strongly acidic
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· Melting point/Freezing point:	Not determined
· Initial boiling point and boiling range:	~100°C

· Flash point:	Not applicable
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· Flammability (solid, gas):	Not applicable.
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· Decomposition temperature:	Not applicable
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· Auto-ignition temperature:	Product is not self-igniting.
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· Explosive properties:	Product is not explosive.
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· **Flammability or explosive limits:**

Lower:	Not applicable
Upper:	Not applicable

· Oxidising properties:	none
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· Vapour pressure:	Not determined.
· Density at 20°C:	1.04 g/cm ³
· Relative density:	Not determined.
· Vapour density:	Not determined.

(Contd. on page 5)

— GB —

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 23.10.2018

Version number 12

Revision: 23.10.2018

Product name: Vario Sodium hydroxide 1 N

(Contd. of page 4)

· Evaporation rate:	Not determined.
· Solubility(ies): Water:	Fully miscible
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity:	Not determined.
· Solvent content: Organic solvents: Water: Solids content:	0.0 % > 95 % < 5 %
· 9.2 Other information	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**
Corrosive action on metals
Reacts with metals forming hydrogen (--> Explosive!)
Corrodes aluminium
Exothermic reaction with acids
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:**
metals
light metals
organic substances
aluminium
zinc
- **10.6 Hazardous decomposition products:** 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: 1310-73-2 sodium hydroxide

Oral	LDLo	500 mg/kg (rabbit) (IUCID)
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- **Primary irritant effect:**
- **Skin corrosion/irritation**
Causes severe skin burns and eye damage.
- **Serious eye damage/irritation**
Causes serious eye damage.
Risk of blindness!
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

· **Information on components:**

CAS: 1310-73-2 sodium hydroxide

Sensitisation	Patch test (human)	(negative)
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- **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.

(Contd. on page 6)

—GB—

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 23.10.2018

Version number 12

Revision: 23.10.2018

Product name: Vario Sodium hydroxide 1 N

(Contd. of page 5)

Additional toxicological information:

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

SECTION 12: Ecological information

12.1 Toxicity
Aquatic toxicity:
CAS: 1310-73-2 sodium hydroxide

 LC50 40.4 mg/l/48h (Ceriodaphnia sp.)
(ECHA)

Bacterial toxicity:
CAS: 1310-73-2 sodium hydroxide

EC50 22 mg/l (Photobacterium phosphoreum) (15 min)

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 Other adverse effects

Harmful effect due to pH shift.

Forms corrosive mixtures with water even if diluted.

Neutralisation possible in waste water treatment plants.

Avoid transfer into the environment.

Water hazard:

Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.

Must not reach sewage water or drainage ditch undiluted or unneutralised.

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

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
ADR, IMDG, IATA

UN1824

14.2 UN proper shipping name
ADR
IMDG, IATA

 1824 SODIUM HYDROXIDE SOLUTION
SODIUM HYDROXIDE SOLUTION

(Contd. on page 7)

— GB —

Safety data sheet

according to 1907/2006/EC, Article 31



Printing date 23.10.2018

Version number 12

Revision: 23.10.2018

Product name: Vario Sodium hydroxide 1 N

(Contd. of page 6)

· 14.3 Transport hazard class(es) · ADR 	
· Class · Label	8 (C5) Corrosive substances. 8
· IMDG, IATA 	
· Class · Label	8 Corrosive substances. 8
· 14.4 Packing group · ADR, IMDG, IATA	II
· 14.5 Environmental hazards:	Not applicable.
· 14.6 Special precautions for user · Kemler Number: · EMS Number: · Segregation groups · Stowage Category · Segregation Code	Warning: Corrosive substances. 80 F-A,S-B Alkalis A SG35 Stow "separated from" acids.
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR · Limited quantities (LQ) · Excepted quantities (EQ) · Transport category · Tunnel restriction code	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml 2 E
· IMDG · Limited quantities (LQ) · Excepted quantities (EQ)	1L 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 (EC) No 1005/2009 on substances that deplete the ozone layer: None of the ingredients is listed.
· Directive 2012/18/EU (SEVESO III): · Named dangerous substances - ANNEX I None of the ingredients is listed. · REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3
· Regulation (EU) No 649/2012 None of the ingredients is listed.
· National regulations · Information about limitation of use: Employment restrictions concerning young persons must be observed.

(Contd. on page 8)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 23.10.2018

Version number 12

Revision: 23.10.2018

Product name: Vario Sodium hydroxide 1 N

(Contd. of page 7)

- **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**

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

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

- **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 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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

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

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

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

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

- **Sources**

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

IUCLID (International Uniform Chemical Information Database)

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

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

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