

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

Printing date 14.10.2016

Version number 48

Revision: 14.10.2016

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

· **1.1 Product identifier**

· **Product name:** Vario Ammonia Cyanurate F5 ml

· **Catalog number:** 00531159, 531150, 4531150

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

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

· **1.3 Details of the supplier of the safety data sheet**

· **Supplier:**

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

phone: +49 (0) 231 945100  
E-Mail: sales@tintometer.de

· **Informing department:**

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

· **Contact for technical details:**

Technical Department  
e-mail: technik@tintometer.de

· **1.4 Emergency telephone number:**

Poison Center Berlin, Germany  
phone: 0049-30 30686 790  
Languages: English and German

#### SECTION 2: Hazards identification

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

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



GHS05 corrosion

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

Eye Dam. 1 H318 Causes serious eye damage.

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

· **2.2 Label elements**

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

· **Hazard pictograms**



GHS05

· **Signal word** Danger

· **Hazard-determining components of labelling:**

lithium hydroxide monohydrate

· **Hazard statements**

H314 Causes severe skin burns and eye damage.

H412 Harmful to aquatic life with long lasting effects.

· **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): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

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- P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position 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.  
 P310 Immediately 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 organic and inorganic compounds

• **Dangerous components:**

CAS: 1310-66-3 EINECS: 215-183-4	lithium hydroxide monohydrate ⚠ Skin Corr. 1A, H314; ⚠ Acute Tox. 4, H302	10-20%
CAS: 51580-86-0 EINECS: 220-767-7 Index No: 613-030-01-7	sodium dichloroisocyanurate, dihydrate ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H302; Eye Irrit. 2, H319; STOT SE 3, H335	0.25-<2.5%

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

### SECTION 4: First aid measures

• **4.1 Description of first aid measures**

• **General information** Instantly remove any clothing soiled by the product.

• **After inhalation** Supply fresh air and call for doctor for safety reasons.

• **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

after swallowing:

strong caustic effect.

absorption

after absorption of large amounts:

vomiting

CNS disorders

ataxia (impaired locomotor coordination)

disorder of electrolyte balance

cramps

• **Danger**

Danger of system failure.

Danger of gastric perforation.

• **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.

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- **5.2 Special hazards arising from the substance or mixture**  
mixture with combustible ingredients  
Formation of toxic gases is possible during heating or in case of fire.  
Can be released in case of fire:  
carbon monoxide (CO) and carbon dioxide (CO<sub>2</sub>)  
LiOx  
Hydrogen chloride (HCl)  
nitrous gases
  - **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.  
Inform respective authorities in case product reaches water or sewage system.
  - **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:**  
Thorough dedusting.  
Prevent formation of dust.
- **Hygiene measures:**  
Do not inhale dust / smoke / mist.  
Do not get in eyes, on skin, or on clothing.  
Remove/Take off immediately all contaminated clothing.  
Wash hands during breaks and at the end of the work.  
Do not eat, drink or smoke when using this product.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and containers:** Store in cool location.
- **Information about storage in one common storage facility:**  
Do not store together with acids.  
Store away from oxidising agents.
- **Further information about storage conditions:**  
Store in cool, dry conditions in well sealed containers.  
Protect from heat and direct sunlight.  
This product is hygroscopic.
- **Recommended storage temperature:** 20 °C +/- 5 °C

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· **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: 51580-86-0 sodium dichloroisocyanurate, dihydrate**

WEL (Great Britain)	Short-term value: 0.07 mg/m <sup>3</sup> Long-term value: 0.02 mg/m <sup>3</sup> Sen; as -NCO
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· **Regulatory information** WEL (Great Britain): EH40/2011

##### · Recommended monitoring procedures:

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

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

#### · 8.2 Exposure controls

##### · Engineering measures:

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

##### · 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

Check protective gloves prior to each use for their proper condition.

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

##### · Material of gloves

nitrile rubber, NBR

Recommended thickness of the material:  $\geq 0.11$  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:** Alkaline 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:** Pungent

· **Odour threshold:** Not determined.

· **pH-value at 20 °C:** 12.3  
Strongly alkaline

· **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.

· **Ignition temperature:** Not determined.

· **Decomposition temperature:** Not determined.

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

· **Explosive properties:** Product is not explosive.

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· <b>Flammability or explosive limits:</b>	
<b>Lower:</b>	Not applicable
<b>Upper:</b>	Not applicable
· <b>Oxidising properties:</b> none	
· <b>Vapour pressure:</b> Not applicable.	
· <b>Density:</b> Not determined	
· <b>Relative density:</b> Not determined.	
· <b>Vapour density:</b> Not applicable.	
· <b>Evaporation rate:</b> Not applicable.	
· <b>Solubility(ies):</b>	
<b>Water:</b>	Soluble
· <b>Partition coefficient (n-octanol/water):</b> Not applicable.	
· <b>Viscosity:</b> Not applicable.	
· <b>Solvent content:</b>	
<b>Organic solvents:</b>	0.0 %
<b>Solids content:</b>	100.0 %
· <b>9.2 Other information</b> No further relevant information available.	

### SECTION 10: Stability and reactivity

- **10.1 Reactivity** see section 10.3
- **10.2 Chemical stability** Stable at ambient temperature (room temperature).
- **10.3 Possibility of hazardous reactions**
  - Aqueous solution reacts alkaline.
  - Aqueous solution reacts with metals.
  - Reacts with light alloys in the presence of moisture to form hydrogen
  - Corrodes aluminium
  - Reacts with acids
- **10.4 Conditions to avoid** Exposure to moisture.
- **10.5 Incompatible materials:**
  - organic substances
  - aluminium
  - zinc
- **10.6 Hazardous decomposition products:**
  - Chlorine compounds
  - In case of fire: see section 5.

### SECTION 11: Toxicological information

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

**LD/LC50 values that are relevant for classification:**
**CAS: 1310-66-3 lithium hydroxide monohydrate**

Oral	LD50	368 mg/kg (rat) (Registrant, ECHA)
Inhalative	LC50.	> 6.15 mg/l/4h (rat) (Registrant, ECHA)

**CAS: 51580-86-0 sodium dichloroisocyanurate, dihydrate**

Oral	LD50	1671 mg/kg (rat) (EPA OPP 81-1) (ECHA)
Dermal	LD50	> 5000 mg/kg (rat) (EPA OPP 81-2) (ECHA)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Causes severe skin burns and eye damage.

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- **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.
- **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:**  
The following applies to lithium compounds in general:  
after absorption: CNS disorders, ataxia (impaired locomotor coordination) due to disturbed electrolyte balance  
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: 51580-86-0 sodium dichloroisocyanurate, dihydrate**

EC50	0.28 mg/l/48h (Daphnia magna) (ECOTOX)
NOEC	2600 mg/l (Daphnia magna) (OECD 2011, 21d) (Registrant, ECHA) 1000 mg/l (rainbow trout) (OECD 2015, 28d) (Registrant, ECHA)
LC50	0.25 mg/l/96h (rainbow trout) (ECOTOX)

#### • Other information:

the following applies for lithium compounds in general:

fish toxic from 100 mg/l, Daphnia toxic from 16 mg/l, plants toxic from 0,2 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:**  
Mixture (Self-assessment acc. VwVwS Annex 4, German regulation):  
Water hazard class 2: hazardous for water.  
Do not allow product to reach ground water, water bodies or sewage system.  
Danger to drinking water if even small quantities leak into soil.  
Rinse off of bigger amounts into drains or the aquatic environment may lead to increased pH-values. A high pH-value harms aquatic organisms.

## SECTION 13: Disposal considerations

### • 13.1 Waste treatment methods

#### • Recommendation

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Hand over to disposers of hazardous waste.

#### • European waste catalogue

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

### SECTION 14: Transport information

<ul style="list-style-type: none"> <li>· <b>14.1 UN-Number</b></li> <li>· <b>ADR,RID, IMDG, IATA</b></li> </ul>	UN2680
<ul style="list-style-type: none"> <li>· <b>14.2 UN proper shipping name</b></li> <li>· <b>ADR/RID</b></li> <li>· <b>IMDG</b></li> <li>· <b>IATA</b></li> </ul>	2680 LITHIUM HYDROXIDE mixture LITHIUM HYDROXIDE Lithium hydroxide
<ul style="list-style-type: none"> <li>· <b>14.3 Transport hazard class(es)</b></li> <li>· <b>ADR/RID</b></li> </ul>	8 (C6) Corrosive substances.
<div style="text-align: center;"> </div> <ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>	8 8
<ul style="list-style-type: none"> <li>· <b>IMDG, IATA</b></li> </ul>	
<div style="text-align: center;"> </div> <ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>	8 Corrosive substances. 8
<ul style="list-style-type: none"> <li>· <b>14.4 Packing group</b></li> <li>· <b>ADR,RID, IMDG, IATA</b></li> </ul>	II
<ul style="list-style-type: none"> <li>· <b>14.5 Environmental hazards:</b></li> </ul>	Not applicable.
<ul style="list-style-type: none"> <li>· <b>14.6 Special precautions for user</b></li> <li>· <b>Kemler Number:</b></li> <li>· <b>EMS Number:</b></li> <li>· <b>Segregation groups</b></li> <li>· <b>Stowage Category</b></li> <li>· <b>Segregation Code</b></li> </ul>	Warning: Corrosive substances. 80 F-A,S-B Alkalis A SG35 Stow "separated from" acids.
<ul style="list-style-type: none"> <li>· <b>14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</b></li> </ul>	Not applicable.
<ul style="list-style-type: none"> <li>· <b>Transport/Additional information:</b></li> </ul>	
<ul style="list-style-type: none"> <li>· <b>ADR/RID</b></li> <li>· <b>Limited quantities (LQ)</b></li> <li>· <b>Excepted quantities (EQ)</b></li> </ul>	1 kg Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g
<ul style="list-style-type: none"> <li>· <b>Transport category</b></li> <li>· <b>Tunnel restriction code</b></li> </ul>	2 E
<ul style="list-style-type: none"> <li>· <b>IMDG</b></li> <li>· <b>Limited quantities (LQ)</b></li> <li>· <b>Excepted quantities (EQ)</b></li> </ul>	1 kg Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g

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### SECTION 15: Regulatory information

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

· **Regulation (EC) No 689/2008 concerning the export and import of dangerous chemicals:**

None of the ingredients is listed.

· **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** sodium dichloroisocyanurate, dihydrate

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

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

### SECTION 16: Other information

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

· **Relevant phrases**

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

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

· **Abbreviations and acronyms:**

STOT: specific target organ toxicity

SE: single exposure

RE: repeated exposure

EC50: half maximal effective concentration

IC50: half maximal inhibitory concentration

NOEL or NOEC: No Observed Effect Level or Concentration

ADR: Accord 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 – Category 4

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

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

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

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

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

· **Sources**

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

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

RTECS (Registry of Toxic Effects of Chemical Substances )