Material Safety Data Sheet
According to 91/155 EEC

Printing date 16.06.2005 Reviewed on 10.06.2005

* 1 Identification of substance:

· **Product details:** Reagent for water analysis

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

· **Catalog number:** 00531159, 531150, 531158

· **Supplier:**
Tintometer GmbH
Schleefstraße 8a-12
D - 44287 Dortmund phone: +49(0)231 94510-0
Made in Germany

· **Informing department:** Department Laboratory

· **Emergency information:**
Poison Center Berlin, Germany
phone: +49(0)30 19240

* 2 Composition/Data on components:

· **Description:** Mixture of the substances listed below with harmless additions.

· **Dangerous components:**			
CAS: 1310-65-2 EINECS: 215-183-4	lithium hydroxide	C; R 22-35	5-10%
CAS: 51580-86-0 EINECS: 220-767-7 EC Number: 613-030-01-7	sodium dichloroisocyanurate, dihydrate	Xn, N; R 22-31-36/37-50/53	≤ 2.5%

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

* 3 Hazards identification

· **Hazard designation:**

C Corrosive

· **Information pertaining to particular dangers for man and environment**
The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
R 34 Causes burns.
R 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

· **Classification system**
The classification is in line with current EC lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.

* 4 First aid measures

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

· **After inhalation**
Supply fresh air or oxygen; call for doctor.

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In case of unconsciousness bring patient into stable side position for transport.

· **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 under running water.
Call a doctor immediately.

· **After swallowing**
Drink copious amounts of water and provide fresh air. Instantly call for doctor.
Seek medical treatment.

· **The following symptoms may occur:**
after inhalation:
coughing
breathing difficulty
after swallowing:
Strong caustic effect.
headache
cramps
vomiting
pain
damage to the affected mucous membranes

· **Danger**
Danger of gastric perforation.
Danger of impaired breathing.

· **Treatment**
If swallowed or in case of vomiting, danger of entering the lungs
Subsequent observation for pneumonia and pulmonary oedema

* 5 Fire fighting measures

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

· **Special hazards caused by the material, its products of combustion or resulting gases:**
Development of hazardous combustion gases or vapours possible in the event of fire.
Nitrogen oxides (NOx)
Hydrogen chloride (HCl)

· **Protective equipment:**
Wear self-contained breathing apparatus.
Wear full protective suit.

· **Additional information**
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
Collect contaminated fire fighting water separately. It must not enter drains.
Ambient fire may liberate hazardous vapours.

* 6 Accidental release measures

· **Person-related safety precautions:**
Wear protective equipment. Keep unprotected persons away.
Avoid causing dust.

· **Measures for environmental protection:**
Do not allow product to reach sewage system or water bodies.
Inform respective authorities in case product reaches water or sewage system.

· **Measures for cleaning/collecting:**
Ensure adequate ventilation.
Absorb with liquid-binding material (sand, diatomite, universal binders).

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neutralize with diluted sulphuric acid

* 7 Handling and storage

· **Handling**
· **Information for safe handling:**
Keep away from heat and direct sunlight.
Thorough dedusting.
Open and handle container with care.
· **Information about protection against explosions and fires:** No special measures required.

· **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 oxidizing agents.
· **Further information about storage conditions:**
Keep container tightly sealed.
Protect from heat and direct sunlight.
Store under dry conditions.
Protect from humidity and keep away from water.
This product is hygroscopic.
Protect from the effects of light.
· **Storage class** Not required.

* 8 Exposure controls and personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

· **Components with limit values that require monitoring at the workplace:**	
1310-65-2 lithium hydroxide	
OES (Great Britain)	Short-term value: 1 mg/m³ ILV
51580-86-0 sodium dichloroisocyanurate, dihydrate	
MEL (Great Britain)	Short-term value: 0.07 mg/m³ Long-term value: 0.02 mg/m³ Sen; as -NCO

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

· **Personal protective equipment**
· **General protective and hygienic measures**
Keep away from foodstuffs, beverages and food.
Take off immediately all contaminated clothing
Wash hands during breaks and at the end of the work.
Avoid contact with the eyes and skin.
· **Breathing equipment:**
In case of brief exposure or low pollution use breathing filter apparatus. In case of intensive or longer exposure use breathing apparatus that is independent of circulating air.
· **Recommended filter device for short term use:** Filter P2
· **Protection of hands:**
Alkaline resistant gloves
Only use chemical-protective gloves with CE-labelling of category III.
After use of gloves apply skin-cleaning agents and skin cosmetics.
· **Material of gloves**
nitrile

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Recommended thickness of the material: ≥ 0.11 mm
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
Value for the permeation: Level ≥ 6 (480 min)

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

· **Body protection:** Alkaline resistant protective clothing

* 9 Physical and chemical properties:

· **Form:**	Powder
· **Colour:**	White
· **Odour:**	Pungent
· **Melting point/Melting range:**	150°C
· **Boiling point/Boiling range:**	Not applicable
· **Flash point:**	Not applicable
· **Ignition temperature:**	250.0°C
· **Self-inflammability:**	Product is not selfigniting.
· **Danger of explosion:**	Product is not explosive.
· **Density**	Not determined
· **Solubility in / Miscibility with Water at 25°C:**	425 g/l
· **pH-value (32 g/l) at 20°C:**	12.7
· **Solvent content: Organic solvents:**	0.0 %
· **Solids content:**	100.0 %

* 10 Stability and reactivity

· **Thermal decomposition / conditions to be avoided:** To avoid thermal decomposition do not overheat.

· **Materials to be avoided:**
organic substances
acids
oxidizing agents

· **Dangerous reactions**
Reacts with water
--> forms heat
Corrosive action on metals
Corrodes aluminium
Reacts with light alloys to form hydrogen
---> Explosive

· **Dangerous products of decomposition:**
Chlorine compounds
see chapter 5

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* 11 Toxicological information

· **Acute toxicity:** Quantitative data on the toxicity of the preparation are not available.

· **LD/LC50 values that are relevant for classification:**		
6132-04-3 Sodium citrate tribasic dihydrate		
	LD50 IVN	449 mg/kg (rabbit)
1310-65-2 lithium hydroxide		
Oral	LD50	210 mg/kg (rat)
51580-86-0 sodium dichloroisocyanurate, dihydrate		
Oral	LD50	1400 mg/kg (rat)
Dermal	LD50	> 5000 mg/kg (rabbit)

· **Primary irritant effect:**
· **on the skin:** Caustic effect on skin and mucous membranes.
· **on the eye:** Strong caustic effect.
· **Sensitization:** No sensitizing effect known.
· **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version:
Corrosive
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
The following applies to lithium compounds in general:
after absorption: CNS disorders, ataxia (impaired locomotor coordination) due to disturbed electrolyte balance

* 12 Ecological information:

· **Information about elimination (persistence and degradability):**
· **Other information:** Quantitative data on the ecological effect of this product are not available.
· **Ecotoxical effects:**
· **Remark:**
The following applies to lithium compounds in general:
MERCK - biological effects:
fish toxic from 100 mg/l up
Daphnia toxic from 16 mg/ up
plants toxic from 0.2 mg/l up (value calculated as Li)
Forms corrosive mixtures with water even if diluted.
Harmful to aquatic organisms
Harmful to fish
· **Additional ecological information:**
The following applies to lithium compounds in general:
MERCK - biological effects:
fish toxic from 100 mg/l up
Daphnia toxic from 16 mg/ up
plants toxic from 0.2 mg/l up (value calculated as Li)
· **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water.
Do not allow product to reach ground water, water bodies or sewage system.
Rinse off of bigger amounts into drains or the aquatic environment may lead to increased pH-values. A high pH-value harms aquatic organisms.

* 13 Disposal considerations

· **Product:**
· **Recommendation** Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

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· **European waste catalogue**	
16 05 06	laboratory chemicals, consisting of or containing dangerous substances, including mixtures of laboratory chemicals

· **Uncleaned packagings:**
· **Recommendation:** Disposal must be made according to official regulations.
· **Recommended cleaning agent:** Water, if necessary with cleaning agent.

* 14 Transport information

· **Land transport ADR/RID (cross-border)**

· **ADR/RID-GGVS/E Class:** 8 (C6) Corrosive substances.
· **Kemler Number:** 80
· **UN-Number:** 2680
· **Packaging group:** II
· **Label** 8
· **Designation of goods:** 2680 LITHIUM HYDROXIDE, mixture

· **Maritime transport IMDG:**

· **IMDG Class:** 8
· **UN Number:** 2680
· **Label** 8
· **Packaging group:** II
· **EMS Number:** F-A,S-B
· **Marine pollutant:** No
· **Correct technical name:** LITHIUM HYDROXIDE

· **Air transport ICAO-TI and IATA-DGR:**

· **ICAO/IATA Class:** 8
· **UN/ID Number:** 2680
· **Label** 8
· **Packaging group:** II
· **Correct technical name:** LITHIUM HYDROXIDE, SOLID

* 15 Regulatory information

· **Designation according to EC guidelines:**
The product has been classified and labelled in accordance with EC Directives / Ordinance on Hazardous Materials (GefStoffV)

· **Code letter and hazard designation of product:**
C Corrosive

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

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· **Risk phrases:**
34 Causes burns.
52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

· **Safety phrases:**
20 When using do not eat or drink.
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
60 This material and its container must be disposed of as hazardous waste.
61 Avoid release to the environment. Refer to special instructions/safety data sheets.

* 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 R-phrases**
22 Harmful if swallowed.
31 Contact with acids liberates toxic gas.
35 Causes severe burns.
36/37 Irritating to eyes and respiratory system.
50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

· **Department issuing data specification sheet:** Technical Department
· *** Data compared to the previous version altered.**