

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

Printing date 30.05.2016

Version number 2

Revision: 30.05.2016

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

- **1.1 Product identifier**
- **Product name:** KS164 - TH5 - Total Hardness Indicator
- **Catalog number:** 56Z016498, 56L016430, 56L016465, 56U016430, 56U016465
- **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
- **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

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

* SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**
The product is not classified as hazardous according to the CLP regulation.
- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **2.3 Other hazards**
Vapours of the product are heavier than air and may accumulate on the ground, in mines, drains or cellars with higher concentration.
- **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:** Solvent mixture with additives.
- **Dangerous components:** Void

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.

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- **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.
In case of persistent symptoms consult doctor.
 - **4.2 Most important symptoms and effects, both acute and delayed:**
irritations
after inhalation:
coughing
mucous membrane irritation
fatigue
after swallowing:
sickness
vomiting
diarrhoea
pain
 - **4.3 Indication of any immediate medical attention and special treatment needed:** No further relevant information available.
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SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
 - **Suitable extinguishing agents** CO₂, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.
 - **For safety reasons unsuitable extinguishing agents**
For this substance / mixture no limitations of extinguishing agents are given.
 - **5.2 Special hazards arising from the substance or mixture**
combustible
Can form explosive gas-air mixtures.
Formation of toxic gases is possible during heating or in case of fire.
nitrogen oxides (NO_x)
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.
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SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
 - **Advice for non-emergency personnel:** No special measures required.
 - **Advice for emergency responders:** Protective equipment: see section 8
 - **6.2 Environmental precautions:**
Do not allow product to reach sewage system or water bodies.
Dilute with much water.
 - **6.3 Methods and material for containment and cleaning up:**
Ensure adequate ventilation.
Absorb with liquid-binding material (sand, diatomite, universal binders).
Dispose of contaminated material as waste according to item 13.
 - **6.4 Reference to other sections**
See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.
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SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
- **Advice on safe handling:** No special precautions necessary if used correctly.
- **Hygiene measures:**
The usual precautionary measures should be adhered to general rules for handling chemicals.

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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.

Do not use light alloy containers.

Information about storage in one common storage facility: Not required.

Storage class 10

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: 102-71-6 2,2',2"-nitrilotriethanol

OEL (Sweden)	Short-term value: 10 mg/m ³ , 1.6 ppm Long-term value: 5 mg/m ³ , 0.8 ppm H
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Regulatory information OEL (Sweden): AFS2011:18

DNELs

Derived No Effect Level (DNEL)

CAS: 102-71-6 2,2',2"-nitrilotriethanol

Oral	DNEL	13 mg/kg (Consumer / long-term / systemic effects)
Dermal	DNEL	6.3 mg/kg (Worker / long-term / systemic effects)
		3.1 mg/kg (Consumer / long-term / systemic effects)
Inhalative	DNEL	5 mg/m ³ (Worker / long-term / local effects)
		5 mg/m ³ (Worker / long-term / systemic effects)
		1.25 mg/m ³ (Consumer / long-term / local effects)
		1.25 mg/m ³ (Consumer / long-term / systemic effects)

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: Combination filter A-P2

Protection of hands:

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 trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:

Safety glasses

use against the effects of fumes / dust

Body protection: Protective work clothing.

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- **Limitation and supervision of exposure into the environment:** No further relevant information available.

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties	
· Appearance:	
Form / Physical state:	Fluid
Colour:	Blue
· Odour: Odourless	
· Odour threshold: Not applicable	
· pH-value at 20 °C: 10.5	
· Melting point/Freezing point: Not determined	
· Initial boiling point and boiling range: Not determined	
· Flash point: > 100 °C	
· Flammability (solid, gas): Not applicable.	
· Decomposition temperature: Not determined.	
· Auto-ignition temperature: Product is not self-igniting.	
· Explosive properties: Product is not explosive. However, formation of explosive air/steam mixtures is possible.	
· Flammability or explosive limits:	
Lower:	1.1 Vol % (CAS 102-71-6)
Upper:	7.2 Vol % (CAS 102-71-6)
· Oxidising properties: none	
· Vapour pressure: Not determined.	
· Density at 20 °C: 1.04 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:	> 99 %
Solids content:	< 1 %
· 9.2 Other information No further relevant information available.	

SECTION 10: Stability and reactivity

- **10.1 Reactivity** Fumes can combine with air to form an explosive mixture.
- **10.2 Chemical stability**
Stable at ambient temperature (room temperature).
sensitive to air
- **10.3 Possibility of hazardous reactions**
In contact with nitrites, nitrates or nitrous acid possible release of nitrosamines (carcinogenic)!
Reacts with oxidizing agents
Reacts with acid chlorides
Exothermic reaction with acids
- **10.4 Conditions to avoid** Strong heating (decomposition)
- **10.5 Incompatible materials:**
light metals
non-ferrous metal

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 · **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.
 - **Primary irritant effect:**
 - **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
 - **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
 - **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
 - **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:**
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.
 - **Experience with humans:**
CAS CAS 102-71-6: Can cause liver damages.
CAS CAS 102-71-6: Can cause kidney damages.
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SECTION 12: Ecological information

- **12.1 Toxicity**
 - **Aquatic toxicity:** No further relevant information available.
 - **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.
 - **Water hazard:**
Mixture (Self-assessment acc. VwVwS Annex 4, German regulation):
Water hazard class 1: slightly hazardous for water.
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.
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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.
Disposal must be made according to official regulations.

 · **European waste catalogue**

16 05 09	discarded chemicals other than those mentioned in 16 05 06, 16 05 07 or 16 05 08
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- **Uncleaned packagings:**
 - **Recommendation:** Disposal must be made according to official regulations.
 - **Recommended cleaning agent:** Water, if necessary with cleaning agent.
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SECTION 14: Transport information

· 14.1 UN-Number · ADR,RID, ADN, IMDG, IATA	Void
· 14.2 UN proper shipping name · ADR,RID, ADN, IMDG, IATA	Void
· 14.3 Transport hazard class(es) · ADR,RID, ADN, IMDG, IATA · Class	Void
· 14.4 Packing group · ADR,RID, IMDG, IATA	Void
· 14.5 Environmental hazards:	Not applicable.
· 14.6 Special precautions for user	Not applicable.
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	Not dangerous according to the above specifications.

SECTION 15: Regulatory information

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

· **Regulation (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** None of the ingredients is listed.

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

· **VOC-value EC:** 1036.4 g/l

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

SECTION 16: Other information

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

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

· **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)

DNEL: Derived No-Effect Level (REACH)

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

OECD: Organisation for Economic Co-operation and Development

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

SVHC: Substances of Very High Concern

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- **Sources** Data arise from safety data sheets, reference works and literature.
 - * **Data compared to the previous version altered.**
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