

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 24.01.2023

Version number 3 (replaces version 2)

Revision: 24.01.2023

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

1.1 Product identifier

Trade name: **Stonestrengtheners K**

Article number: 11304, 11309, 11320

UFI: XKQ3-E0TD-K00F-64TY

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

No further relevant information available.

Application of the substance / the mixture

Binder

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier: AKEMI chemisch technische Spezialfabrik GmbH
Lechstrasse 28
D 90451 Nürnberg

Tel. +49(0)911-642960
Fax. +49(0)911-644456
e-mail info@akemi.de

Further information obtainable from:

Laboratory

1.4 Emergency telephone number:

Product Safety Department AKEMI chemisch technische Spezialfabrik GmbH
Tel. +49(0)911-64296-59
Reachable during the following office hours:
Monday – Thursday from 07:30 a.m. to 16:30 p.m.
Friday from 07:30 a.m. to 13:30 p.m.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Flam. Liq. 3 H226 Flammable liquid and vapour.
Acute Tox. 4 H332 Harmful if inhaled.
Eye Irrit. 2 H319 Causes serious eye irritation.
Repr. 1A H360D May damage the unborn child.
STOT SE 3 H335 May cause respiratory irritation.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms

The product is classified and labelled according to the CLP regulation.



GHS02 GHS07 GHS08

Signal word

Danger

Hazard-determining components of labelling:

tetraethyl silicate
dioctyltin dilaurate

Hazard statements

H226 Flammable liquid and vapour.
H332 Harmful if inhaled.
H319 Causes serious eye irritation.
H360D May damage the unborn child.
H335 May cause respiratory irritation.

Precautionary statements

P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read carefully and follow all instructions.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

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P261	Avoid breathing mist/vapours/spray.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P304+P312	IF INHALED: Call a POISON CENTER/doctor if you feel unwell.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P403+P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

· 2.3 Other hazards

· Results of PBT and vPvB assessment

· PBT: Not applicable.

· vPvB: Not applicable.

SECTION 3: Composition/information on ingredients**· 3.2 Mixtures**

· Description: Mixture of substances listed below with nonhazardous additions.

· Dangerous components:

CAS: 78-10-4 EINECS: 201-083-8 Index number: 014-005-00-0 Reg.nr.: 01-2119496195-28	tetraethyl silicate Flam. Liq. 3, H226 Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE 3, H335	50-100%
CAS: 3648-18-8 EINECS: 222-883-3 Index number: 050-031-00-9 Reg.nr.: 01-2119979527-19-0000	dioctyltin dilaurate Repr. 1A, H360D; STOT RE 1, H372	<1%

· SVHC

3648-18-8 | dioctyltin dilaurate

· 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: Immediately remove any clothing soiled by the product. Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- After inhalation: Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist. In case of unconsciousness place patient stably in side position for transportation.
- After skin contact: Immediately wash with water and soap and rinse thoroughly.
- After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- After swallowing: Rinse out mouth and then drink plenty of water.

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

No further relevant information available.

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· **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:**

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **For safety reasons unsuitable extinguishing agents:**

Water with full jet

· **5.2 Special hazards arising from the substance or mixture**

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

· **5.3 Advice for firefighters**

· **Protective equipment:**

Wear self-contained respiratory protective device.
Mount respiratory protective device.

· **Additional information**

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

· **6.2 Environmental precautions:**

Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.

· **6.3 Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.

· **6.4 Reference to other sections**

See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**

Keep receptacles tightly sealed.
Ensure good ventilation/exhaustion at the workplace.

· **Information about fire - and explosion protection:**

Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.

· **7.2 Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:**

Store in a cool location.

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

Store away from foodstuffs.
VCI-Konzept für die Zusammenlagerung von Chemikalien beachten.

· **Further information about storage conditions:**

Protect from humidity and water.
Keep container tightly sealed.

· **Storage class:**

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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**· Ingredients with limit values that require monitoring at the workplace:**78-10-4 tetraethyl silicate**IOELV Long-term value: 44 mg/m³, 5 ppm· DNELs**78-10-4 tetraethyl silicate**

Dermal	DNEL (Kurzzeit-akut)	12.1 mg/kg bw/day (ARB) 8.4 mg/kg bw/day (BEV)
	DNEL (Langzeit-wiederholt)	12.1 mg/kg bw/day (ARB) 8.4 mg/kg bw/day (BEV)
Inhalative	DNEL (Kurzzeit-akut)	85 mg/m ³ Air (ARB) 25 mg/m ³ Air (BEV)
	DNEL (Langzeit-wiederholt)	85 mg/m ³ Air (ARB) 25 mg/m ³ Air (BEV)

3648-18-8 dioctyltin dilaurate

Oral	DNEL (Langzeit-wiederholt)	0.0005 mg/kg bw/day (BEV)
Inhalative	DNEL (Langzeit-wiederholt)	0.0035 mg/m ³ Air (ARB) 0.0009 mg/m ³ Air (BEV)

· PNECs**78-10-4 tetraethyl silicate**

PNEC (wässrig)	4,000 mg/l (KA)
	0.0192 mg/l (MW)
	0.192 mg/l (SW)
	10 mg/l (WAS)
PNEC (fest)	0.05 mg/kg Trockengew (BO)
	0.018-0.083 mg/kg Trockengew (MWS)
	0.18-0.83 mg/kg Trockengew (SWS)

3648-18-8 dioctyltin dilaurate

PNEC (wässrig)	100 mg/l (KA)
	0.0000018 mg/l (MW)
	0.0000018 mg/l (SW)
PNEC (fest)	0.005593 mg/kg Trockengew (BO)
	0.02798 mg/kg Trockengew (MWS)
	0.02798 mg/kg Trockengew (SWS)

· Additional information: The lists valid during the making were used as basis.

· **8.2 Exposure controls**· Appropriate engineering controls No further data; see item 7.· Individual protection measures, such as personal protective equipment· General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Do not inhale gases / fumes / aerosols.

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· Respiratory protection:

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

Filter AX

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· Hand protection

Preventive skin protection by use of skin-protecting agents is recommended.

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

Skin protection agent recommendation for preventive skin shelter without use of protective gloves:

STOKO EMULSION (<http://www.stoko.com>)

Skin protection agent recommendation for preventive skin shelter in application and combination of protective gloves:

STOKO EMULSION (<http://www.stoko.com>)

Skin protection recommendation for skin cleaning after product handling:

Kresto Classic (<http://debstoko.com>)

Skin protection agent recommendation for skin aftercare:

STOKO VITAN (<http://www.stoko.com>)

The protection gloves to be used have to comply with the specifications of the directive 89/686/EC and the directive derived decree EN374, respectively, e.g. the above listed protection glove type. The mentioned permeation times' data were generated and verified with material samples of the recommended protection glove type in the scope of laboratory analyses of the company KCL GmbH in compliance with EN374.

This recommendation refers exclusively to the material safety data sheet referenced product delivered by Akemi and the indicated field of application. In case of product dilution or in case of mixture with different substances or chemicals, and in condition of EN374 deviation the producer of CE-approved protection gloves must be contacted for detailed information (e.g., KCL GmbH, Germany, 36124 Eichenzell, internet: <http://www.kcl.de>).



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· Material of gloves

Butyl rubber, BR

Nitrile rubber, NBR

Chloroprene rubber, CR

Fluorocarbon rubber (Viton)

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 materialValue for the permeation: Level ≤ 6 , 480 min

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

· For the permanent contact gloves made of the following materials are suitable:

Nitrile rubber, NBR

Camatril (KCL, Art_No. 730, 731, 732, 733)

Dermatril (Art_No. 740, 741, 742)

Chloroprene rubber, CR

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· As protection from splashes gloves made of the following materials are suitable:

Camapren (KCL, Art_No. 720, 722, 726)
Butyl rubber, BR
Butoject (KCL, Art_No. 897, 898)

· Not suitable are gloves made of the following materials:

Nitrile rubber, NBR
Dermatril (KCL, Art_No. 740, 741, 742)
Camatril (KCL, 730, 731, 732, 733)

· Eye/face protection

Leather gloves
Strong material gloves



Tightly sealed goggles

· Body protection:

Protective work clothing

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Colour:

Colourless

· Odour:

Characteristic

· Melting point/freezing point:

Undetermined.

· Boiling point or initial boiling point and boiling range

Undetermined.

· Lower and upper explosion limit

· Lower:

1.3 Vol %

· Upper:

23 Vol %

· Flash point:

40 °C

· Ignition temperature:

230 °C

· pH

Not determined.

Not applicable

· Viscosity:

· Kinematic viscosity

Not determined.

· Dynamic at 20 °C:

1.6 mPas

· Solubility

· water:

Not miscible or difficult to mix.

· Vapour pressure at 20 °C:

1.7 hPa

· Density and/or relative density

· Density at 20 °C:

1 g/cm³

· 9.2 Other information

· Appearance:

· Form:

Fluid

· Important information on protection of health and environment, and on safety.

· Auto-ignition temperature:

Product is not selfigniting.

· Explosive properties:

Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· Information with regard to physical hazard classes

· Explosives

Void

· Flammable gases

Void

· Aerosols

Void

· Oxidising gases

Void

· Gases under pressure

Void

· Flammable liquids

Flammable liquid and vapour.

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- | | |
|---|------|
| · Flammable solids | Void |
| · Self-reactive substances and mixtures | Void |
| · Pyrophoric liquids | Void |
| · Pyrophoric solids | Void |
| · Self-heating substances and mixtures | Void |
| · Substances and mixtures, which emit flammable gases in contact with water | Void |
| · Oxidising liquids | Void |
| · Oxidising solids | Void |
| · Organic peroxides | Void |
| · Corrosive to metals | Void |
| · Desensitised explosives | Void |

SECTION 10: Stability and reactivity

- | | |
|---|---|
| · 10.1 Reactivity | No further relevant information available. |
| · 10.2 Chemical stability | |
| · Thermal decomposition / conditions to be avoided: | No decomposition if used according to specifications. |
| · 10.3 Possibility of hazardous reactions | Reacts with water. |
| · 10.4 Conditions to avoid | Heat, flames and other sources of ignition |
| · 10.5 Incompatible materials: | Water |
| · 10.6 Hazardous decomposition products: | Ethanol
Possible in traces. |

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- Acute toxicity Harmful if inhaled.

· LD/LC50 values relevant for classification:

ATE (Acute Toxicity Estimates)

Inhalative	LC50/4 h	16.8-28.2 mg/l (rat)
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78-10-4 tetraethyl silicate

Oral	LD50	>2,500 mg/kg (rat)
	NOAEL	10 mg/kg (rat)
Inhalative	LC50/4 h	10-16.8 mg/l (rat)

3648-18-8 dioctyltin dilaurate

Oral	LD50	6,450 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rat)

- | | |
|-------------------------------------|---|
| · Skin corrosion/irritation | Based on available data, the classification criteria are not met. |
| · Serious eye damage/irritation | Causes serious eye irritation. |
| · Respiratory or skin sensitisation | Based on available data, the classification criteria are not met. |
| · 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 | May damage the unborn child. |
| · STOT-single exposure | May cause respiratory irritation. |
| · STOT-repeated exposure | Based on available data, the classification criteria are not met. |

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· Aspiration hazard Based on available data, the classification criteria are not met.

· **11.2 Information on other hazards**

· Endocrine disrupting properties

None of the ingredients is listed.

SECTION 12: Ecological information

· **12.1 Toxicity**

· Aquatic toxicity:

78-10-4 tetraethyl silicate

EC50 >100 mg/l (Klärschlamm: Atmungs-/Vermehrungshemmung)

EC50/48h >75 mg/l (daphnia magna)

EC50/72h >100 mg/l (Pseudokirchneriella subcapitata)

LC50/96h >245 mg/l (Danio rerio.)

· **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**

· PBT:

Not applicable.

· vPvB:

Not applicable.

· **12.6 Endocrine disrupting properties**

The product does not contain substances with endocrine disrupting properties.

· **12.7 Other adverse effects**

· Remark:

Harmful to fish

· Additional ecological information:

· General notes:

Harmful to aquatic organisms

Do not allow product to reach ground water, water course or sewage system.

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**

· Recommendation

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

· European waste catalogue

16 00 00	WASTES NOT OTHERWISE SPECIFIED IN THE LIST
----------	--

16 03 00	off-specification batches and unused products
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16 03 06	organic wastes other than those mentioned in 16 03 05
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· Uncleaned packaging:

· Recommendation:

Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.

SECTION 14: Transport information

· **14.1 UN number or ID number**

· ADR, IMDG, IATA

UN1292

· **14.2 UN proper shipping name**

· ADR

1292 TETRAETHYL SILICATE mixture

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· IMDG, IATA	TETRAETHYL SILICATE mixture
· 14.3 Transport hazard class(es)	
· ADR	
	
· Class	3 (F1) Flammable liquids.
· Label	3
· IMDG, IATA	
	
· Class	3 Flammable liquids.
· Label	3
· 14.4 Packing group	
· ADR, IMDG, IATA	III
· 14.5 Environmental hazards:	
· Marine pollutant:	No
· 14.6 Special precautions for user	Warning: Flammable liquids.
· Hazard identification number (Kemler code):	30
· EMS Number:	F-E, S-D
· Stowage Category	A
· 14.7 Maritime transport in bulk according to IMO instruments	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· Transport category	3
· Tunnel restriction code	D/E
· IMDG	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN 1292 TETRAETHYL SILICATE MIXTURE, 3, III

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

· Directive 2012/18/EU

· Named dangerous substances -
ANNEX I

None of the ingredients is listed.

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- Seveso category P5c FLAMMABLE LIQUIDS
- Qualifying quantity (tonnes) for the application of lower-tier requirements 5,000 t
- Qualifying quantity (tonnes) for the application of upper-tier requirements 50,000 t
- REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3, 20

· Regulation (EU) No 649/2012

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Annex I Part 1

· DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II

None of the ingredients is listed.

· REGULATION (EU) 2019/1148· Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))

None of the ingredients is listed.

· Annex II - REPORTABLE EXPLOSIVES PRECURSORS

None of the ingredients is listed.

· Regulation (EC) No 273/2004 on drug precursors

None of the ingredients is listed.

· Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors

None of the ingredients is listed.

· National regulations:· Waterhazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.· Substances of very high concern (SVHC) according to REACH, Article 57

3648-18-8 dioctyltin dilaurate

· VOC EU 0.0 g/l· **15.2 Chemical safety assessment:**

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- Department issuing SDS: Laboratory
- Date of previous version: 24.01.2023
- Version number of previous version: 2
- Abbreviations and acronyms:
 - RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
 - ICAO: International Civil Aviation Organisation
 - ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
 - 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)

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LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 3: Flammable liquids – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Repr. 1A: Reproductive toxicity – Category 1A
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

EU