

Material Safety Data Sheet

according to 1907/2006/EC, Article 31

Printing date 09.05.2011

Revision: 09.05.2011

1 Identification of substance

- **Product details**
- Trade name **KSE 510**
- **Article number:** 0625
- **Application of the substance / the preparation** Stone strengthener
- **Manufacturer/Supplier:**
Remmers Baustofftechnik GmbH
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D-49624 Lönningen / Germany
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- **Informing department:**
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after working hours: Tel.: +49 (0)171/6428-297

2 Hazards identification

- **Hazard designation:**



Xn Harmful

- **Information pertaining to particular dangers for man and environment**
R 10 Flammable.
R 20 Harmful by inhalation.
R 36/37 Irritating to eyes and respiratory system.
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.

3 Composition/information on ingredients

- **Chemical characterization**
- **Description:** Organotin compound + silicic acid ester

- **Dangerous components:**

CAS: 78-10-4 EINECS: 201-083-8	tetraethyl orthosilicate	Xn, Xi; R 10-20-36/37	20-40%
CAS: 77-58-7 EINECS: 201-039-8	dibutyltin dilaurate	T, Xi; R 25-36/38	≤1.0%

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

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4 First aid measures

General information

Immediately remove any clothing soiled by the product.
In case of irregular breathing or respiratory arrest, provide artificial respiration.

After inhalation

Take affected persons into the open air and position comfortably
Seek medical treatment in case of complaints.

After skin contact

Wash immediately with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.

After eye contact Rinse opened eye for several minutes under running water. Then consult doctor.**After swallowing**

Allow to drink 0.5 - 0.8 l water, if possible with ground medicinal charcoal. In case of spontaneous vomiting, make sure that vomit can freely pass so that suffocation is prevented - stable side position. Allow to drink water again. Artificial induction of vomiting should only be carried out by trained rescue personnel.

Do not administer anything if the patient is unconscious or has convulsions. Call doctor immediately.

Information for doctor**Treatment** Allow to inhale cortison spray as soon as possible.

5 Fire fighting measures

Suitable extinguishing agents

Alcohol-resistant foam
Carbon dioxide
Fire-extinguishing powder

For safety reasons unsuitable extinguishing agents Water with a full water jet.**Special hazards caused by the material, its products of combustion or flue gases:**

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

Protective equipment: Wear self-contained breathing apparatus.**Additional information** Cool endangered containers with water spray jet.

6 Accidental release measures

Person-related safety precautions:

Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Keep away from ignition sources

Measures for environmental protection:

Do not allow product to reach sewage system or water bodies.
Do not allow to enter the ground/soil.
Inform responsible authorities in case product reaches bodies of water or sewage system.
Inform responsible authorities if the product penetrates into the ground.
Observe local, official regulations.

Measures for cleaning/collecting:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Send for recovery or disposal in suitable containers.
Ensure adequate ventilation.
Place leaking containers in a marked drum or recovery drum.

Additional information:

See Section 13 for information on disposal.
Fumes can combine with air to form an explosive mixture.

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7 Handling and storage

- **Handling**
- **Information for safe handling:**
Use only in well ventilated areas.
Avoid the formation of aerosols.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Fumes can combine with air to form an explosive mixture.
- **Storage**
- **Requirements to be met by storerooms and containers:** No special requirements.
- **Information on storage in a common storage facility:** Store away from food.
- **Further information about storage conditions:**
Store cool and dry in tightly closed containers.
Protect from humidity and keep away from water.
Store container in a well ventilated position.
Protect from heat and direct sunlight.
Do not smoke in storage areas. Storage temperature: room temperature.

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:**

77-58-7 dibutyltin dilaurate

WEL	Short-term value: 0.2 mg/m ³ Long-term value: 0.1 mg/m ³ as Sn; Sk
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- **Additional information:** The lists that were valid during compilation were used as a basis.
- **Personal protective equipment**
- **General protective and hygienic measures**
Keep away from food, beverages and animal feed.
Immediately remove soiled, saturated clothing.
Do not eat, drink or smoke while working.
Use skin protection cream for preventive skin protection.
Wash hands before pauses and after work.
Avoid contact with eyes and skin.
Do not inhale gases / vapours / aerosols.
- **Respiratory equipment:**
Respiratory protection if there is a risk of splashes/mist.
Short term filter device:
Filter A/P2.
- **Protection of hands:** Protective gloves.
- **Material of gloves** Butyl rubber, BR
- **Penetration time of glove material**
Break through time: max. 240 min (DIN EN 374).
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.

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9 Physical and chemical properties:

· General Information

Form:	Fluid
Colour:	transparent
Odour:	Weak, characteristic

· Change in condition

Melting point/Melting range: Not determined
Boiling point/Boiling range: ca. 170°C

· **Flash point:** 47°C (Abel-Pensky 20 ml/)

· **Ignition temperature:** 230 - 240°C

· **Self-inflammability:** Product is not self-igniting.

· **Danger of explosion:** Product is not explosive. However, formation of dangerous explosive vapour/air mixtures is possible.

· Explosive Limits:

Lower:	1.3 Vol %
Upper:	23.0 Vol %

· **Vapour pressure at 20°C:** 10 mbar

· **Density at 20°C** 1.02 g/cm³ (Aräometer 20 ml/)

· Solubility in / Miscibility with

Water: Insoluble

· Viscosity:

kinematic at 20°C: 20 s (DIN 53211/4)

10 Stability and reactivity

· Thermal decomposition / conditions to be avoided:

No decomposition if handled and stored according to specifications.
 No decomposition if used according to specifications.

· Dangerous reactions

Used empty containers may contain product gases which form explosive mixtures with air
 Reacts with water in the presence of alkaline materials or acids by forming ethanol.

· Dangerous decomposition products:

None if used properly.
 None if stored properly.

11 Toxicological information

· Acute toxicity:

· LD/LC50 values that are relevant for classification:

78-10-4 tetraethyl orthosilicate

Inhalative LC50/4 h	<20 mg/l (Ratte)
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· Primary irritant effect:

· on the skin:

No irritating effect.
 Dries skin out.

· on the eye: Irritating effect.

· **Sensitisation:** No sensitising effect known.

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· **Additional toxicological information:**

The product shows the following dangers based on the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version:

Harmful

Irritant

After swallowing, if inhaled e.g. in the form of aerosol mist and after skin contact, damage to your health especially after long term exposure may not be excluded. This product is damaging to liver and kidneys, has a toxic effect on the lungs and causes acute skin inflammation.

12 Ecological information:

· **Information on elimination (persistence and degradability):** By hydrolysis: silicic acid and ethanol

· **General notes:**

Water hazard class 2 : hazardous to water.

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

13 Notes on disposal:

· **Product:**

· **Recommendation**

Add water to gelled product remains and allow to react. Solid silica gel can be added to building rubble refuse.

The given refuse codes are recommendations based upon the intended use of the product. Because of special use and disposal conditions at the user's, other codes may apply under other conditions.

· **European waste catalogue**

17 01 06	mixtures of, or separate fractions of concrete, bricks, tiles and ceramics containing dangerous substances
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· **Uncleaned packaging:**

· **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· **Land transport ADR/RID and GGVS/GGVE (cross-border/domestic)**



· **ADR/RID-GGVS/E Class:** 3 (F1) Flammable liquids.

· **Kemler Number:** 30

· **UN-Number:** 1292

· **Packaging group:** III

· **Danger sign:** 3

· **Designation of goods:** 1292 TETRAETHYL SILICATE

· **Limited quantities (LQ)** LQ7

· **Tunnel restriction code** E

· **Maritime transport IMDG/GGVSea:**



· **IMDG/GGVSea Class:** 3

· **UN Number:** 1292

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- **Label** 3
- **Packaging group:** III
- **EMS Number:** F-E,S-D
- **Marine pollutant:** -
- **Correct technical name:** TETRAETHYL SILICATE

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



- **ICAO/IATA Class:** 3
- **UN/ID Number:** 1292
- **Label** 3
- **Packaging group:** III
- **Correct technical name:** TETRAETHYL SILICATE

15 Regulatory information

- **Designation according to EC guidelines:**

The product has been classified and labelled in accordance with EC Guidelines / Ordinance on Hazardous Materials (GefStoffV)

- **Code letter and hazard designation of product:**



Xn Harmful

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

tetraethyl orthosilicate

- **Risk phrases:**

10 Flammable.

20 Harmful by inhalation.

36/37 Irritating to eyes and respiratory system.

52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

- **Safety phrases:**

2 Keep out of the reach of children.

25 Avoid contact with eyes.

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

46 If swallowed, seek medical advice immediately and show this container or label.

51 Use only in well-ventilated areas.

61 Avoid release to the environment. Refer to special instructions/safety data sheets.

- **National regulations**

- **Ordinance on hazardous incidents (StFV):**

Threshold quantity according to the ordinance on incidents should be observed.

Material group 3 (flammable liquids)

- **Water hazard class:** German Water hazard class 2: hazardous to water.

16 Other information:

This data is based on our present state of knowledge. However, it does not constitute a guarantee for any specific product features and does not establish a legally valid contractual relationship. Delivery specifications are found in the respective Technical Information Sheets.

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· **Relevant R-phrases**

- 10 Flammable.
- 20 Harmful by inhalation.
- 25 Toxic if swallowed.
- 36/37 Irritating to eyes and respiratory system.
- 36/38 Irritating to eyes and skin.

· **Department issuing data specification sheet:** Product Safety department

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