

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

- **1.1 Product identifier**
- **Trade name** NEUKASIL Crosslinker C 25
- **Utilization of the substance of the formulation:** Crosslinking agents for the production of elastomers
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application for the substance / the preparation** Crosslinking agents for the production of elastomers
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Suter Kunststoffe AG
Aefligenstrasse 3
CH-3312 Fraubrunnen
Tel: +41 (0)31 763 60 60
Fax: +41 (0)31 763 60 61
e-mail: info@swiss-composite.ch
- **Further information obtainable from:** Sales Team
- **1.4 Emergency telephone number:**
Tox Info Suisse
Emergency number: 145 (from abroad: +41 44 251 51 51)

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS08 health hazard

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS07

Eye Irrit. 2 H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

Aquatic Chronic 4 H413 May cause long lasting harmful effects to aquatic life.

- **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**



GHS02



GHS07



GHS08

- **Signal word** Warning
- **Hazard-determining components of labelling:**
Reaktionsprodukt aus Kieselsäureester und Bis(acetyloxy)dioctylstannan
tetraethyl silicate

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· **Hazard statements**

- H226 Flammable liquid and vapour.
 H319 Causes serious eye irritation.
 H335 May cause respiratory irritation.
 H373 May cause damage to organs through prolonged or repeated exposure.
 H413 May cause long lasting harmful effects to aquatic life.

· **Precautionary statements**

- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P241 Use explosion-proof electrical/ventilating/lighting equipment.
 P260 Do not breathe dust/fume/gas/mist/vapours/spray.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P405 Store locked up.
 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 Chemical characterisation: Mixtures**

- **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

| | | |
|---|---|--------|
| CAS: 93925-43-0 | Reaktionsprodukt aus Kieselsäureester und Bis(acetyloxy) dioctylstannan ⚠ Flam. Liq. 3, H226; ⚠ STOT RE 2, H373; Aquatic Chronic 4, H413 | 50-75% |
| CAS: 78-10-4 EINECS: 201-083-8 Reg.nr.: 01-2119496195-28-xxxx | tetraethyl silicate ⚠ Flam. Liq. 3, H226; ⚠ Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE 3, H335 | 10-25% |

- **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:**

- Personal protection for the First Aider.
 Provide oxygen treatment if affected person has difficulty breathing.
 Immediately remove any clothing soiled by the product.

· **After inhalation:**

- Supply fresh air.
 In case of unconsciousness place patient stably in side position for transportation.
 Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

· **After skin contact:**

- Immediately wash 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 a doctor.· **After swallowing:**

- Do not induce vomiting; call for medical help immediately.

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If swallowed, rinse mouth with water (only if the person is conscious).

Seek medical treatment.

· **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.

· **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.

Carbon monoxide (CO)

carbon dioxide

· **5.3 Advice for firefighters**

· **Protective equipment:**

Do not inhale explosion gases or combustion gases.

Wear fully protective suit.

Wear self-contained respiratory protective device.

· **Additional information** Cool endangered receptacles with water spray.

SECTION 6: Accidental release measures

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

Wear protective equipment. Keep unprotected persons away.

Wear protective clothing.

· **6.2 Environmental precautions:** 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.

Do not flush with water or aqueous cleansing agents

· **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**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

Take care by opening

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

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Fumes can combine with air to form an explosive mixture.

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

· **Storage:**

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

Keep container tightly closed and dry and storage in a good ventilated room.

Storage temperature: 20 - 25 °C.

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- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:**
Protect from humidity and water.
Keep container tightly sealed.
- **Storage class:** 3
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

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

· **8.1 Control parameters**

- **Ingredients with limit values that require monitoring at the workplace:**

78-10-4 tetraethyl silicate

| | |
|------------------------|---|
| IOELV (European Union) | Long-term value: 44 mg/m ³ , 5 ppm |
| AGW (Germany) | Long-term value: 12 mg/m ³ , 1.4 ppm I(I);AGS |
| MAK (Austria) | Short-term value: 340 mg/m ³ , 40 ppm Long-term value: 170 mg/m ³ , 20 ppm |

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

· **8.2 Exposure controls**· **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.
Avoid contact with the eyes and skin.

· **Respiratory protection:**

For long or strong exposure:

Gas mask filter ABEK.

Short term filter device:

· **Protection of hands:**

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**

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 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

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· Eye protection:



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

· Appearance:

| | |
|------------------|-----------------|
| Form: | Fluid |
| Colour: | Yellowish |
| Odour: | Characteristic |
| Odour threshold: | Not determined. |

· pH-value: Not determined.

· Change in condition

| | |
|--|---------------|
| Melting point/freezing point: | Undetermined. |
| Initial boiling point and boiling range: | > 60 °C |

· Flash point: 45 °C

· Flammability (solid, gas): Not applicable.

· Ignition temperature: 265 °C

· Decomposition temperature: Not determined.

· Auto-ignition temperature: Product is not selfigniting.

· Explosive properties: Test

· Explosion limits:

| | |
|--------|------------|
| Lower: | 1,3 Vol % |
| Upper: | 23,0 Vol % |

· Vapour pressure at 20 °C: 1,7 hPa

· Density at 20 °C: 0,98 g/cm³

· Relative density: Not determined.

· Vapour density: Not determined.

· Evaporation rate: Not determined.

· Solubility in / Miscibility with water:

Insoluble.

· Partition coefficient: n-octanol/water: Not determined.

· Viscosity:

| | |
|-------------------|-----------------|
| Dynamic at 20 °C: | 50 mPas |
| Kinematic: | Not determined. |

· Solvent content:

| | |
|-------------------|---------|
| Organic solvents: | 0,0 % |
| VOC (EC) | 0.0 g/l |

· 9.2 Other information: No further relevant information available.

SECTION 10: Stability and reactivity

· 10.1 Reactivity: No further relevant information available.

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- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** Forms flammable gases/fumes.
- **10.4 Conditions to avoid**
Keep away from sources of heat (hot surfaces), sparks and open flames. Vapors may form explosive mixtures with air.
- **10.5 Incompatible materials:** Incompatible with oxidizing agents, acids
- **10.6 Hazardous decomposition products:**
at the termic dismantling can be build formaldehyde
Carbon monoxide and carbon dioxide

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 relevant for classification:**

78-10-4 tetraethyl silicate

| | | |
|------------|----------|-------------------------|
| Oral | LD50 | 6,270 mg/kg (Ratte) |
| Dermal | LD50 | 5,860 mg/kg (Kaninchen) |
| Inhalative | LC50/4 h | 5.4 mg/l (Ratte) |

- **Primary irritant effect:**
- **Skin corrosion/irritation** irritation feasible
- **Serious eye damage/irritation**
Causes serious eye irritation.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **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-single exposure**
May cause respiratory irritation.
- **STOT-repeated exposure**
May cause damage to organs through prolonged or repeated exposure.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability**
This product hydrolyses in water or wet soil, releasing alcohols and silicic acid.
This Product hydrolyses in water or moist air, releasing methanol and organosilicons connectione.
- **Other information:** Elimination by adsorption onto activated sludge
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**

· **Recommendation**

Dispose in accordance with applicable international, national and local laws, ordinances and statutes. For disposal within the EC, the appropriate waste code according to the European Waste Catalogue (EWC) should be used.

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

· **Waste disposal key:**

This product has no waste code according to the European Waste Catalogue (EWC) can be determined, as only the

Usage enables an allocation by the consumer. The waste code number is within the EU Establish cooperation with the disposal.

· **Uncleaned packaging:**

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

SECTION 14: Transport information

· **14.1 UN-Number**

· **ADR, IMDG, IATA**

UN1993

· **14.2 UN proper shipping name**

· **ADR**

1993 FLAMMABLE LIQUID, N.O.S. (Reaktionsprodukt aus Kieselsäureester und Bis(acetyloxy)dioctylstannan, TETRAETHYL SILICATE)

· **IMDG**

FLAMMABLE LIQUID, N.O.S. (Reaktionsprodukt aus Kieselsäureester und Bis(acetyloxy)dioctylstannan, TETRAETHYL SILICATE), MARINE POLLUTANT

· **IATA**

FLAMMABLE LIQUID, N.O.S. (Reaktionsprodukt aus Kieselsäureester und Bis(acetyloxy)dioctylstannan, TETRAETHYL SILICATE)

· **14.3 Transport hazard class(es)**

· **ADR**



· **Class**

3 (F1) Flammable liquids.

· **Label**

3

· **IMDG**



· **Class**

3 Flammable liquids.

· **Label**

3

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· IATA



- Class 3 Flammable liquids.
- Label 3

· 14.4 Packing group

- ADR, IMDG, IATA III

· 14.5 Environmental hazards:

- Marine pollutant: Yes
Symbol (fish and tree)
- Special marking (ADR): Symbol (fish and tree)

· 14.6 Special precautions for user

- Danger code (Kemler): Warning: Flammable liquids.
- EMS Number: 30
- Stowage Category: F-E, S-E
- Stowage Category: A

· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable.

· Transport/Additional information:

special instruction : ADNR , ADR , RID , special instruction 640 D

· 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 1993 FLAMMABLE LIQUID, N.O.S.
(REAKTIONSPRODUKT AUS KIESELSÄUREESTER
UND BIS(ACETYLOXY)DIOCTYLSTANNAN,
TETRAETHYL SILICATE), 3, III

SECTION 15: Regulatory information

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

· Labelling according to Regulation (EC) No 1272/2008

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

· Hazard pictograms



GHS02



GHS07



GHS08

· Signal word Warning

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

Reaktionsprodukt aus Kieselsäureester und Bis(acetyloxy)dioctylstannan
tetraethyl silicate

· **Hazard statements**

H226 Flammable liquid and vapour.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H373 May cause damage to organs through prolonged or repeated exposure.

H413 May cause long lasting harmful effects to aquatic life.

· **Precautionary statements**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P241 Use explosion-proof electrical/ventilating/lighting equipment.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Directive 2012/18/EU**

· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

· **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

· **National regulations:**

· **Waterhazard class:** Water hazard class 3 (Self-assessment): extremely hazardous for water.

· **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.

· **Relevant phrases**

H226 Flammable liquid and vapour.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H335 May cause respiratory irritation.

H373 May cause damage to organs through prolonged or repeated exposure.

H413 May cause long lasting harmful effects to aquatic life.

· **Department issuing SDS:** environment protection department

· **Contact:**

Herr Karasmann Tel. +49 (0)451-49960-0

Herr Grützmacher Tel. +49 (0)2056-25863-6

· **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 européen sur le transport 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

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*ELINCS: European List of Notified Chemical Substances**CAS: Chemical Abstracts Service (division of the American Chemical Society)**VOC: Volatile Organic Compounds (USA, EU)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**PBT: Persistent, Bioaccumulative and Toxic**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**STOT SE 3: Specific target organ toxicity (single exposure) – Category 3**STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2**Aquatic Chronic 4: Hazardous to the aquatic environment - long-term aquatic hazard – Category 4*

GB