Safety data sheet

1. Substance/preparation and company identification

1.1 Product identifier

Trade name: Vernetzer V51

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:

BEIL
Kunststoffproduktions- und Handelsgesellschaft mbH
Lehmkuhlenweg 25
D- 31224 Peine
Telefon: +49 (0)5171/70 99-0
Telefax: +49 (0)5171/7099-29
E-Mail: service@beil-peine.de

Information in case of emergency:
Giftzentrale Göttingen
Tel.: +49 (0)551/19240

2. Hazard 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.

GHS07

Acute Tox. 4	H302	Harmful if swallowed.
Eye Irrit. 2	H319	Causes serious eye irritation.
Skin Sens. 1	H317	May cause an allergic skin reaction.
Aquatic Chronic 3	H412	Harmful to aquatic life with long lasting effects.

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
Signal word Warning
Hazard-determining components of labelling:
Dimethylbis[(1-oxoneodecyl)oxy]stannan
Hazard statements
H226 Flammable liquid and vapour.
H302 Harmful if swallowed.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H412 Harmful to aquatic life with long lasting effects.
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.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
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.
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.

3. Composition/information on ingredients

3.2 Chemical characterisation: Mixtures
Description: Mixture of substances listed below with nonhazardous additions.
Dangerous components:

CAS: 78-10-4	tetraethyl silicate	≥10-<20%
EINECS: 201-083-8	Flam. Liq. 3, H226; Acute Tox. 4, H332;	
Reg.nr.: 01-2119496195-28-xxxx	Eye Irrit. 2, H319; STOT SE 3, H335	
CAS: 68928-76-7	Dimethylbis[(1-oxoneodecyl)oxy]stannan	≥5-<10%
EINECS: 273-028-6	Acute Tox. 3, H301; Aquatic Chronic 2, H411;	
Reg.nr.: 01-2120770324-57-xxxx	Skin Irrit. 2, H315; Skin Sens. 1A, H317	

Additional information: For the wording of the listed hazard phrases refer to section 16.

4. First-aid measures

4.1 Description of first aid measures
General information:
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:
If skin irritation continues, consult a doctor.
Immediately wash with water and soap and rinse thoroughly.
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.
If swallowed, rinse mouth with water (only if the person is conscious).
A person vomiting while laying on their back should be turned onto their side.

Call a doctor immediately.

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.

5. Fire-fighting 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.

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.

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.

Information about storage in one common storage facility: Store away from foodstuffs.

Further information about storage conditions: Keep container tightly sealed.

Storage class: 3

7.3 Specific end use(s) No further relevant information available.

8. Exposure controls and 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

WEL (Great Britain)	Long-term value: 44 mg/m³, 5 ppm
IOELV (European Union)	Long-term value: 44 mg/m³, 5 ppm
AGW (Germany)	Long-term value: 12 mg/m³, 1.4 ppm 1(I); AGS
MAK (Austria)	Short-term value: 88 mg/m³, 10 ppm Long-term value: 44 mg/m³, 5 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:

Short term filter device:

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.

Not necessary if room is well-ventilated.

Protection of hands:

Protective gloves

The glove material must 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 cannot be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material

The exact break through time must 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

Eye protection:

Tightly sealed goggles

Body protection: Protective work clothing

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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/Melting range:	Undetermined.
Boiling point/Boiling range:	> 60 °C
Flash point:	45 °C
Flammability (solid, gaseous):	Not applicable.
Ignition temperature:	265 °C
Decomposition temperature:	Not determined.
Self-igniting:	Product is not self-igniting.
Danger of explosion:	Test
Explosion limits:	
Lower:	1,3 Vol %
Upper:	23,0 Vol %
Vapour pressure at 20 °C:	1,7 hPa
Density at 20 °C:	0,96955 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:	0,4 %
VOC:	0,0 g/l
9.2 Other information	No further relevant information available.

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 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

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:

Polydimethylsiloxan

Oral	LD50	>15,400 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)

78-10-4 tetraethyl silicate

Oral	LD50	6,270 mg/kg (rat)

Dermal	LD50	5,860 mg/kg (rabbit)
Inhalative	LC50/4 h	5.4 mg/l (rat)

68928-76-7 Dimethylbis[(1-oxoneodecyl)oxy]stannan

Oral	LD50	190 mg/kg (rat)
Dermal	LD50	> 2,000 mg/kg (rat) mg/kg (rabbit)

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 (carcinogenity, 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
Suspected of damaging the unborn child.
STOT-single exposure Based on available data, the classification criteria are not met.
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.

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.
Danger to drinking water if even small quantities leak into the ground.
12.5 Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.
12.6 Other adverse effects No further relevant information available.

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.
Must be specially treated adhering to official regulations.
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.

14. Transport information

14.1 UN-Number
ADR, IMDG, IATA UN1993
14.2 UN proper shipping name

ADR	1993 FLAMMABLE LIQUID, N.O.S.(TETRAETHYL SILICATE)
IMDG, IATA	FLAMMABLE LIQUID, N.O.S. (TETRAETHYL SILICATE)

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:	Yes
14.6 Special precautions for user	Warning: Flammable liquids.
Danger code (Kemler):	30
EMS Number:	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. (TETRAETHYL SILICATE), 3, III

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

Signal word Warning

Hazard-determining components of labelling:

Dimethylbis[(1-oxoneodecyl)oxy]stannan

Hazard statements

H226 Flammable liquid and vapour.
H302 Harmful if swallowed.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H412 Harmful to aquatic life with long lasting effects.

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.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
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.
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
National regulations:
Waterhazard class: Water hazard class 2 (Self-assessment): hazardous for water.
15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16. Other information

Relevant phrases

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.
H301 Toxic if swallowed.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H411 Toxic to aquatic life with long lasting effects.

Recommended restriction of use

The information in this safety data sheet corresponds to the best of our knowledge at the time of the revision. The information should give you clues for the safe handling of the product mentioned in this safety data sheet during storage, processing, transport and disposal. The details are not transferable to other products. Insofar as the product mentioned in this safety data sheet is mixed with other materials, mixed or processed, or subjected to processing, the information in this safety data sheet, unless expressly stated otherwise, can not be transferred to the new material produced in this way. Unless expressly described in chapter 1.2, BEIL products are for industrial use only. They are not intended for use in certain medical applications that are implanted, injected or taken directly (usually 30 days or more) into the human body, and are not intended for the manufacture of multiple-use contraceptives.

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
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 v
PvB: 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. 2: Reproductive toxicity – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1
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