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

- **1.1 Product identifier**
- **Creation date version 1** 17.03.2005
- **Trade name** NEUKASIL Crosslinker C 5
- **Article number:** S1079
UFI: 7XWP-UGMG-C50J-NECH
- **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:** environment protection department
- **1.4 Emergency telephone number:**
ToxInfo Suisse
Emergency number: 145 (int +41 44 251 51 51)

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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.



GHS07

Acute Tox. 4 H332 Harmful if inhaled.
 Skin Irrit. 2 H315 Causes skin irritation.
 Eye Irrit. 2 H319 Causes serious eye irritation.
 Skin Sens. 1 H317 May cause an allergic skin reaction.
 STOT SE 3 H335 May cause respiratory irritation.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.

(Contd. on page 2)

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Trade name NEUKASIL Crosslinker C 5

(Contd. of page 1)

· **Hazard pictograms**



GHS02 GHS07

· **Signal word** Warning

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

tetraethyl silicate

Dimethylbis[(1-oxoneodecyl)oxy]stannan

· **Hazard statements**

H226 Flammable liquid and vapour.

H332 Harmful if inhaled.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H317 May cause an allergic skin reaction.

H335 May cause respiratory irritation.

· **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.

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

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

· **Dangerous components:**

CAS: 78-10-4	tetraethyl silicate	50-75%
EINECS: 201-083-8	⚠ Flam. Liq. 3, H226; ⚠ Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE 3, H335	
CAS: 68928-76-7	Dimethylbis[(1-oxoneodecyl)oxy]stannan	≥10- <25%
EINECS: 273-028-6	⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315; Skin Sens. 1A, H317; Aquatic Chronic 3, H412	

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

(Contd. on page 3)

Trade name NEUKASIL Crosslinker C 5

(Contd. of page 2)

SECTION 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).

Seek immediate medical advice.

· 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.

toxic fume

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.

(Contd. on page 4)

Trade name NEUKASIL Crosslinker C 5

(Contd. of page 3)

- **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 section 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**
Take care by opening
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:**
Fumes can combine with air to form an explosive mixture.
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:**
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:**
Do not store together with reducing agents, heavy-metal compounds, acids and alkalis.
Store away from foodstuffs.
- **Further information about storage conditions:** Keep container tightly sealed.
- **Storage class:** 3
- **7.3 Denomination of Origin** Made in Germany
- **Processing information** Homogenize content before use
- **General remark** For processing instructions see data sheet

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

OEEL (Ireland)	Long-term value: 44 mg/m ³ , 5 ppm
	IOELV
IOELV (European Union)	Long-term value: 44 mg/m ³ , 5 ppm
WEL (Great Britain)	Long-term value: 44 mg/m ³ , 5 ppm

· **DNELs**

78-10-4 tetraethyl silicate

Dermal	DNEL Acute - systemic effects	8.4 mg/kg (General population)
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(Contd. on page 5)

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Trade name NEUKASIL Crosslinker C 5

(Contd. of page 4)

Inhalative	DNEL Long-term - systemic effects	12.1 mg/kg (workers) 8.4 mg/kg (General population)
	DNEL Acute - systemic effects	12.1 mg/kg (workers) 25 mg/m ³ (General population)
	DNEL Long-term - systemic effects	85 mg/m ³ (workers) 25 mg/m ³ (General population)
	DNEL Acute - local effects	85 mg/m ³ (workers) 25 mg/m ³ (General population)
	DNEL Long-term exposure - local effects	85 mg/m ³ (workers) 25 mg/m ³ (General population)

· **PNECs**

78-10-4 tetraethyl silicate

PNEC STP	4,000 mg/L (sewage plant)
PNEC sediment	0.18 mg/kg (freshwater- sediment) 0.018 mg/kg (seawater - sediment)
PNEC soil	0.05 mg/kg (soil (Boden))
PNEC	0.192 mg/l (freshwater) 0.0192 mg/l (marine water) 10 mg/l (intermittent releases)

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

· **8.2 Exposure controls**

· **Appropriate engineering controls** No further data; see section 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.

Avoid contact with the eyes.

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.

· **Hand protection**



Protective gloves

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

(Contd. on page 6)

Trade name NEUKASIL Crosslinker C 5

(Contd. of page 5)

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

- **Eye/face 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**

- **Physical state**

Fluid

- **Colour:**

Colourless

- **Odour:**

Characteristic

- **Odour threshold:**

Not determined.

- **Melting point/freezing point:**

Undetermined.

- **Boiling point or initial boiling point and boiling range**

168 °C (78-10-4 tetraethyl silicate)

- **Flammability**

Flammable.

- **Lower and upper explosion limit**

- **Lower:**

1.3 Vol % (78-10-4 tetraethyl silicate)

- **Upper:**

23 Vol % (78-10-4 tetraethyl silicate)

- **Flash point:**

55 °C (78-10-4 tetraethyl silicate)

- **Auto-ignition temperature:**

222 °C (78-10-4 tetraethyl silicate)

- **Decomposition temperature:**

Not determined.

- **pH**

Not determined.

- **Viscosity:**

- **Kinematic viscosity**

Not determined.

- **Dynamic at 20 °C:**

25 mPas

- **Solubility**

- **water:**

Insoluble.

- **Partition coefficient n-octanol/water (log value)**

Not determined.

- **Vapour pressure at 20 °C:**

10 hPa (78-10-4 tetraethyl silicate)

- **Density and/or relative density**

- **Density at 20 °C:**

1 g/cm³

(Contd. on page 7)

Trade name NEUKASIL Crosslinker C 5

(Contd. of page 6)

· Relative density	Not determined.
· Vapour density	Not determined.
· 9.2 Other information	
· Appearance:	
· Form:	Fluid
· Important information on protection of health and environment, and on safety.	
· Ignition temperature:	Product is not selfigniting.
· Explosive properties:	Not determined.
· Solvent content:	
· Organic solvents:	55.6 %
· VOC (EC)	556.3 g/l
· Change in condition	
· Evaporation rate	Not determined.

· 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.
· 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** Forms flammable gases/fumes.
- **10.4 Conditions to avoid**
Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Vapors may form explosive mixtures with air.
Moisture. Heat, open flames and other ignition sources. With contaminated pipes and tanks or corroded or rusty containers may lead to increased formation of hydrogen. Detail in section 7.
- **10.5 Incompatible materials:** Incompatible with oxidizing agents, acids

(Contd. on page 8)

Trade name NEUKASIL Crosslinker C 5

(Contd. of page 7)

· **10.6 Hazardous decomposition products:** at the termic dismantling can be build formaldehyde**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:****78-10-4 tetraethyl silicate**

Oral LD50 >2,500 mg/kg (rat) (OECD 423 Acute oral toxicity)

Inhalative LC50/4 h 10 mg/l (rat) (OECD 403 Acute Inhalation Toxicity)

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

Oral LD50 890 mg/kg (rat)

· **Skin corrosion/irritation**

irritation feasible

Causes skin irritation.

· **Serious eye damage/irritation** Causes serious eye irritation.· **Respiratory or skin sensitisation** May cause an allergic skin reaction.· **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** Based on available data, the classification criteria are not met.· **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**

LC50 (96 h) >245 mg/l (Brachydanio rerio) (OECD 203 Fish, Acute Toxicity Test)

EC50 (48 h) >75 mg/l (Daphnia Magna) (OECD 202 Daphnia sp. Acute Immobilisation Test)

EC50 (72 h) >100 mg/l (Pseudokirchnerella Subcapitata) (OECD 201 Alga, Growth Inhibition Test)

EC50(3h) >100 mg/l (activated sludge) (OECD209 Activated Sludge, Respiration Inhibition Test)

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

LC50 (48h) 39 mg/l (D)

EC50 (48 h) 39 mg/l (Daphnia Magna)

EC50 (72 h) 7.6 mg/l (A)

· **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.

(Contd. on page 9)

Trade name **NEUKASIL Crosslinker C 5**

(Contd. of page 8)

- **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.
- **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**
- **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.
WGK 3 stark wassergefährdend

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.
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.

SECTION 14: Transport information

- **14.1 UN number or ID number**
- **ADR, IMDG, IATA** UN1993
- **14.2 UN proper shipping name**
- **ADR** 1993 FLAMMABLE LIQUID, N.O.S.
(TETRAETHYL SILICATE, Dimethylbis[(1-oxoneodecyl)oxy]stannan)
- **IMDG, IATA** FLAMMABLE LIQUID, N.O.S. (TETRAETHYL
SILICATE, Dimethylbis[(1-oxoneodecyl)oxy]
stannan)

(Contd. on page 10)

Trade name **NEUKASIL Crosslinker C 5**

(Contd. of page 9)

· **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:**

Not applicable.

· **14.6 Special precautions for user**

Warning: Flammable liquids.

· **Hazard identification number (Kemler code):** 30

· **EMS Number:** F-E,S-E

· **Stowage Category** A

· **14.7 Maritime transport in bulk according to IMO instruments**

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

(Contd. on page 11)

Trade name NEUKASIL Crosslinker C 5

(Contd. of page 10)

· UN "Model Regulation": UN 1993 FLAMMABLE LIQUID, N. O. S. (TETRAETHYL SILICATE, DIMETHYLBIS[(1-OXONEODECYL)OXY]STANNAN), 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

- Signal word Warning
- Hazard-determining components of labelling:
 - tetraethyl silicate
 - Dimethylbis[(1-oxoneodecyl)oxy]stannan
- Hazard statements
 - H226 Flammable liquid and vapour.
 - H332 Harmful if inhaled.
 - H315 Causes skin irritation.
 - H319 Causes serious eye irritation.
 - H317 May cause an allergic skin reaction.
 - H335 May cause respiratory irritation.
- 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.
 - P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or 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
- 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.

(Contd. on page 12)

Trade name NEUKASIL Crosslinker C 5

(Contd. of page 11)

· **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:**· **Technical instructions (air):**

Class	Share in %
NK	50-75

· **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.

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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.

H302 Harmful 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.

H412 Harmful to aquatic life with long lasting effects.

· **Recommended restriction of use**

UFI code is valid in:

Germany

Denmark

Austria

Slovenia

Poland

Netherlands

Hungary

France

Italy

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

(Contd. on page 13)

IE

Trade name NEUKASIL Crosslinker C 5

(Contd. of page 12)

information in this safety data sheet, unless expressly stated otherwise, can not be transferred to the new material produced in this way.

- **Department issuing SDS:** environment protection department
- **Contact:** Herr Ottensmann Tel. +49 (0)2056-25863-7
- **Date of previous version:** 23.08.2023
- **Version number of previous version:** 68
- **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)
 - VOC: Volatile Organic Compounds (USA, EU)
 - DNEL: Derived No-Effect Level (REACH)
 - PNEC: Predicted No-Effect Concentration (REACH)
 - 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
 - Skin Irrit. 2: Skin corrosion/irritation – Category 2
 - Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
 - Skin Sens. 1: Skin sensitisation – Category 1
 - Skin Sens. 1A: Skin sensitisation – Category 1A
 - STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
 - Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3
- *** Data compared to the previous version altered.**