1. PRODUCT AND COMPANY IDENTIFICATION

Product name : ALPATEC 540

Recommended use of the chemical and restrictions on use

Recommended use : Coatings
Textile auxiliary

Restrictions on use : No uses advised against have been identified at this time.

Manufacturer or supplier's details

Manufacturer/Supplier

CHT Germany GmbH
Bismarckstraße 102
72072 Tübingen
Germany
Tel.: +49 7071 154 0
info@cht.com

CHT Switzerland AG
Kriessernstrasse 20
9462 Montlingen
Switzerland
Tel.: +41 71 763 88 11
info.switzerland@cht.com

Importer : -
-
-
-
-
-

Responsible Department : CHT Germany GmbH
CHT Switzerland AG
Product Safety
sds.germany@cht.com
sds.switzerland@cht.com

Emergency telephone number

Emergency telephone number : +1 703 527 3887 CHEMTREC (International, 24 hours)

2. HAZARDS IDENTIFICATION

GHS Classification

Skin corrosion/irritation : Category 2

Serious eye damage/eye irritation : Category 2A

Long-term (chronic) aquatic hazard : Category 3

GHS label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : H315 Causes skin irritation.
H319 Causes serious eye irritation.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements :

Prevention:

P264 Wash skin thoroughly after handling.
P273 Avoid release to the environment.
P280 Wear protective gloves/ eye protection/ face protection.
P233 Keep container tightly closed.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332 + P317 If skin irritation occurs: Get medical help.
P337 + P317 If eye irritation persists: Get medical help.
P362 + P364 Take off contaminated clothing and wash it before reuse.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards which do not result in classification

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixtures

Chemical nature : Condensation-crosslinking silicone polymer

Components

Chemical name	CAS-No.	Classification according to UN GHS	Concentration (% w/w)
silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	68909-20-6	STOT RE 2; H373 (Lungs)	>= 1 - < 10
Triacetoxyethylsilane	17689-77-9	Acute Tox. 4; H302	>= 1 - < 3

		Skin Corr./Irrit. 1B; H314 Eye Dam./Irrit. 1; H318	
octamethylcyclotetrasiloxane (REACH SVHC Candidate List)	556-67-2	Flam. Liq. 3; H226 Repr. 2; H361f Aquatic Chronic 1; H410	>= 0.025 - < 0.1

For explanation of abbreviations see section 16.

4. FIRST AID MEASURES

General advice	:	Take off all contaminated clothing immediately. Show this safety data sheet to the doctor in attendance.
If inhaled	:	Move to fresh air. If symptoms persist, call a physician.
In case of skin contact	:	In case of skin contact remove mechanically with cloth or paper. Wash off immediately with soap and plenty of water. If symptoms persist, call a physician.
In case of eye contact	:	In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician immediately.
If swallowed	:	Rinse mouth with water. Do NOT induce vomiting. Call a physician immediately.
Most important symptoms and effects, both acute and delayed	:	There may be reddening, swelling, overheating and pain on contact.
Notes to physician	:	Treat symptomatically.

5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Carbon dioxide (CO2) Water spray Dry powder Alcohol-resistant foam
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during firefighting	:	Hazardous decomposition products formed under fire conditions. Can be released in case of fire:

Carbon oxides
Silica

Specific extinguishing methods : In case of fire do not inhale smoke, conflagration gases and steams.
Use water spray to cool unopened containers.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Contaminated surfaces will be extremely slippery.

Environmental precautions : The product should not be allowed to enter drains, water courses or the soil.
Pay attention to local or official regulations.

Methods and materials for containment and cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Clean contaminated surface thoroughly.
Treat recovered material as described in the section "Disposal considerations".
Dispose of in accordance with local regulations.

7. HANDLING AND STORAGE

Advice on protection against fire and explosion : Normal measures for preventive fire protection.
Keep away from heat and sources of ignition.

Advice on safe handling : Provide sufficient air exchange and/or exhaust in work rooms.

Conditions for safe storage : Do always store in containers which correspond to the original ones.
Keep container tightly closed.
Keep in a dry, cool place.

Further information on storage conditions : Protect from frost.
Protect from humidity and keep away from water.

Materials to avoid : Incompatible with acids and bases.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Please check whether national workplace exposure limits exist for the dangerous ingredients listed in Section 3.

Engineering measures : Solids with occupational exposure limits in liquid preparations do not cause an exposure in the workplace, because they are not present in a respirable form. Exposure can occur in the form of aerosols or after drying of the liquid the solids remain, possibly in a finely dispersed form.
Provide sufficient air exchange and/or exhaust in work rooms.

Personal protective equipment

Respiratory protection : In case the work place is not ventilated sufficiently and during spray processing, it is necessary to wear respiratory protective equipment.

Hand protection

Material	:	butyl-rubber
Break through time	:	> 480 min
Glove thickness	:	> 0.5 mm
Protective index	:	Class 6

Remarks : Wear chemical resistant impervious gloves. Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer.

Eye protection : Goggles
Always wear eye protection when the potential for inadvertent eye contact with the product cannot be excluded.

Skin and body protection : Wear suitable protective clothing.
Work uniform or laboratory coat.

Hygiene measures : Avoid contact with skin, eyes and clothing.
Do not breathe vapours, aerosols.
Take off all contaminated clothing immediately.
Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	paste
Colour	:	colourless
Odour	:	characteristic
pH	:	Not applicable substance/mixture is non-soluble (in water)
Melting point/range	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	> 100 °C
Evaporation rate	:	Not applicable
Flammability (liquids)	:	Sustains combustion
Self-ignition	:	not auto-flammable
Upper explosion limit / Upper flammability limit	:	Not applicable
Lower explosion limit / Lower flammability limit	:	Not applicable
Vapour pressure	:	No data available
Relative vapour density	:	Not applicable
Density	:	1.02 g/cm3 (23 °C) Method: DIN 53479
Solubility(ies)		
Water solubility	:	insoluble
Partition coefficient: n-octanol/water	:	Not applicable
Auto-ignition temperature	:	not determined
Decomposition temperature	:	The substance or mixture is not classified self-reactive.
Viscosity		
Viscosity, dynamic	:	ca. 100,000 mPa.s (23 °C)

Method: Brookfield

Viscosity, kinematic	:	not determined
Oxidizing properties	:	Not applicable
Conductivity	:	Not determined
Particle characteristics Particle Size Distribution	:	Not applicable

10. STABILITY AND REACTIVITY

Reactivity	:	No hazardous reactions known if stored an handled properly.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	Protect from moisture.
Incompatible materials	:	Acids Bases
Hazardous decomposition products	:	During processing in contact with atmospheric moisture or with water small quantities of are formed: Acetic acid

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute inhalation toxicity : Remarks: Based on available data, the classification criteria are not met.

Components:

silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 423
Remarks: No mortality observed at this dose.

Triacetoxyethylsilane:

Acute oral toxicity : LD50 (Rat): 1,460 mg/kg
Method: OECD Test Guideline 401

octamethylcyclotetrasiloxane (REACH SVHC Candidate List):

Acute oral toxicity	:	LD50 Oral (Rat, male): 4,800 mg/kg Method: OECD Test Guideline 401 Remarks: No mortality observed at this dose.
Acute inhalation toxicity	:	LC50 (Rat, male and female): 36 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403
Acute dermal toxicity	:	LD50 (Rat): > 2,375 mg/kg Method: OECD Test Guideline 402 Remarks: No mortality observed at this dose.

Skin corrosion/irritation

Product:

Remarks	:	Causes skin irritation.

Components:

silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	No skin irritation
Assessment	:	Repeated exposure may cause skin dryness or cracking.

Triacetoxyethylsilane:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	Causes burns.

octamethylcyclotetrasiloxane (REACH SVHC Candidate List):

Species	:	Rat
Method	:	OECD Test Guideline 404
Result	:	No skin irritation

Serious eye damage/eye irritation

Product:

Remarks	:	Causes serious eye irritation.

Components:

silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica:

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Result	:	No eye irritation
Remarks	:	Dust contact with the eyes can lead to mechanical irritation.

octamethylcyclotetrasiloxane (REACH SVHC Candidate List):

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Result	:	No eye irritation

Respiratory or skin sensitisation

Product:

Remarks	:	This product is classified by the European Union as a skin sensitiser. May produce an allergic reaction.

Components:

silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica:

Test Type	:	Maximisation Test
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Does not cause skin sensitisation.

Triacetoxyethylsilane:

Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Did not cause sensitisation on laboratory animals.

octamethylcyclotetrasiloxane (REACH SVHC Candidate List):

Test Type	:	Maximisation Test
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Did not cause sensitisation on laboratory animals.

Germ cell mutagenicity

Product:

Germ cell mutagenicity - Assessment	:	Based on available data, the classification criteria are not met.

Carcinogenicity

Product:

Carcinogenicity - Assessment	:	Based on available data, the classification criteria are not met.

Reproductive toxicity

Product:

Reproductive toxicity - Assessment	:	Based on available data, the classification criteria are not met.

Components:

octamethylcyclotetrasiloxane (REACH SVHC Candidate List):

Reproductive toxicity - Assessment : Suspected of damaging fertility., toxic effect on reproduction, category 2

STOT - single exposure

Product:

Remarks : Based on available data, the classification criteria are not met.

STOT - repeated exposure

Product:

Exposure routes : Inhalation
Target Organs : Lungs
Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.
Remarks : The product is liquid, there are no dust particles in respirable form.

Components:

silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica:

Exposure routes : Inhalation
Target Organs : Lungs
Assessment : May cause damage to organs through prolonged or repeated exposure.

Aspiration toxicity

Product:

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

12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish :
Remarks: No data is available on the product itself.

Toxicity to daphnia and other aquatic invertebrates :
Remarks: No data is available on the product itself.

Toxicity to algae/aquatic plants :
Remarks: No data is available on the product itself.

Toxicity to microorganisms : Remarks: No data is available on the product itself.

Components:

silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica:

Toxicity to fish : LC50 (Fish): > 100 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia (water flea)): > 100 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Triacetoxyethylsilane:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 251 mg/l
Exposure time: 96 h
Test Type: semi-static test
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 168.7 mg/l
Exposure time: 48 h
Test Type: static test
Method: Regulation (EC) No. 440/2008, Annex, C.2

Toxicity to algae/aquatic plants : NOEC (Pseudokirchneriella subcapitata (green algae)): 18 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201

EC50 (Pseudokirchneriella subcapitata (green algae)): > 1,000 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201

Toxicity to microorganisms : (activated sludge): > 100 mg/l
Exposure time: 3 h
Test Type: static test
Method: OECD Test Guideline 209

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : > 100 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Test Type: semi-static test
Method: OECD Test Guideline 211
Remarks: Argument by analogy

octamethylcyclotetrasiloxane (REACH SVHC Candidate List):

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 0.022 mg/l
Exposure time: 96 h
Remarks: Not classified due to data which are conclusive although insufficient for classification.

Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.015 mg/l Exposure time: 48 h Test Type: flow-through test Remarks: Not classified due to data which are conclusive although insufficient for classification.
Toxicity to algae/aquatic plants	:	EC10 (Pseudokirchneriella subcapitata (algae)): >= 0.022 mg/l Exposure time: 96 h Remarks: Not classified due to data which are conclusive although insufficient for classification. EC50 (Pseudokirchneriella subcapitata (algae)): > 0.022 mg/l Exposure time: 96 h Remarks: Not classified due to data which are conclusive although insufficient for classification.
Toxicity to microorganisms	:	EC50 (activated sludge): > 10,000 mg/l Exposure time: 3 h Test Type: static test Method: ISO 8192
Toxicity to fish (Chronic toxicity)	:	NOEC: >= 0.0044 mg/l Exposure time: 93 d Species: Oncorhynchus mykiss (rainbow trout) Test Type: flow-through test
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: > 0.0015 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Test Type: flow-through test
M-Factor (Chronic aquatic toxicity)	:	10

Persistence and degradability

Product:

Biodegradability	:	Remarks: No data is available on the product itself.
Physico-chemical removability	:	Remarks: The product is insoluble and sinks in water. May be separated mechanically in waste water plants.

Components:

silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica:

Biodegradability	:	Remarks: The methods for determining biodegradability are not applicable to inorganic substances.

Triacetoxyethylsilane:

Biodegradability	:	O2 measuring Result: Readily biodegradable.

Biodegradation: 79.5 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
Remarks: Argument by analogy

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: No data is available on the product itself.

Components:

silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

Triacetoxyethylsilane:

Partition coefficient: n-octanol/water : log Pow: 0.74

octamethylcyclotetrasiloxane (REACH SVHC Candidate List):

Partition coefficient: n-octanol/water : log Pow: 6.98 (21.7 °C)

Mobility in soil

Product:

Mobility : Remarks: No data available

Other adverse effects

Product:

Additional ecological information : According to our knowledge, the product does not contain heavy metals and other compounds of EC directive 2000/60 EC.
The product is insoluble in water, therefore the ecological data such as, e.g. biodegradability, COD, BOD5 values cannot be determined analytically.

13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Product that cannot be reused, reclaimed or recycled should be disposed of at an authorised facility in accordance with national, state and local regulations.

Contaminated packaging : Packaging must be completely emptied. Dispose of non-recyclable/recyclable packaging in accordance with local regulations.

14. TRANSPORT INFORMATION

International Regulations

IATA-DGR
Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good
Segregation group : -

Transport in bulk according to IMO instruments

Not applicable

Special precautions for user

Remarks : see chapter 6 - 8

15. REGULATORY INFORMATION

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

National and local regulations must be observed.

16. OTHER INFORMATION

Revision Date : 2024/07/04

Date format : yyyy/mm/dd

Further information

Training advice : Based on the information in the safety data sheet and the workplace conditions, employees must be regularly trained in the safe handling of the product. National rules for training employees in handling hazardous substances must be observed.

Other information : The classification for dangerous physico-chemical properties, health and environmental hazards has been derived from a combination of computational methods and, if available, test data.

This data sheet contains changes from the previous version in section(s):
1 - 16

Sources of key data used to compile the Safety Data Sheet : Information from our suppliers, as well as data from the "Registered substances database" of the European Chemicals Agency (ECHA) has been used to compile this safety data sheet.

Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.