

**Safety Data Sheet**

according to WHMIS

**VITAFOL H Hardener**

Revision date:

Product code: 059

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**1. Identification****Product identifier**

VITAFOL H Hardener

**Relevant identified uses of the substance or mixture and uses advised against****Use of the substance/mixture**

Use as laboratory reagent

**Details of the supplier of the safety data sheet**

Company name:	VITA Zahnfabrik H.Rauter GmbH & Co.KG	
Street:	Spitalgasse 3	
Place:	D-79713 Bad Säckingen	
Post-office box:	1338	
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e-mail:	info@vita-zahnfabrik.com	
Internet:	www.vita-zahnfabrik.com	
Responsible Department:	Regulatory Affairs	

**Emergency telephone number:** +49-(0)761-19240

**2. Hazard identification****Classification of the substance or mixture****WHMIS 2015**

Flammable liquid: Flam. Liq. 3  
Acute toxicity: Acute Tox. 4 (inhalation)  
Serious eye damage/eye irritation: Eye Irrit. 2  
Specific target organ toxicity - single exposure: STOT SE 3 (respiratory tract irritation)  
Specific target organ toxicity - repeated exposure: STOT RE 2

**Label elements****WHMIS 2015****Signal word:** Warning**Pictograms:****Hazard statements**

Flammable liquid and vapour.  
Causes serious eye irritation.  
Harmful if inhaled.  
May cause respiratory irritation.  
May cause damage to organs through prolonged or repeated exposure.

**Precautionary statements**

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
Keep container tightly closed.  
Use explosion-proof electrical/ventilating/lighting equipment.  
Do not breathe dust/fume/gas/mist/vapours/spray.  
Wear protective gloves/protective clothing/eye protection/face protection.

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

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Store in a well-ventilated place. Keep cool.

### Other hazards

No information available.

## 3. Composition/information on ingredients

### Mixtures

#### **Hazardous components**

CAS No	Chemical name	Quantity
78-10-4	ethyl silicate, tetraethyl silicate	65 - < 85% (*)
93925-43-0	Silicic acid (H <sub>4</sub> SiO <sub>4</sub> ), tetraethyl ester, reaction products with bis(acetyloxy)dioctylstannane	7 - < 13% (*)
68299-15-0	Bis(neodecanoyloxy)dioctylstannane	1 - < 5% (*)

(\*) The actual concentration is withheld as a trade secret.

## 4. First-aid measures

### Description of first aid measures

#### **After inhalation**

Provide fresh air. Medical treatment necessary.

#### **After contact with eyes**

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

#### **After ingestion**

Rinse mouth immediately and drink plenty of water. Induce vomiting when the affected person is not unconscious. Medical treatment necessary.

### Most important symptoms and effects, whether acute or delayed

No information available.

### Indication of immediate medical attention and special treatment needed

Treat symptomatically.

## 5. Fire-fighting measures

### Extinguishing media

#### **Suitable extinguishing media**

Carbon dioxide (CO<sub>2</sub>), Foam, Extinguishing powder.

#### **Unsuitable extinguishing media**

Water.

### Specific hazards arising from the hazardous product

Flammable. Vapours can form explosive mixtures with air.

### Special protective equipment and precautions for fire-fighters

In case of fire: Wear self-contained breathing apparatus.

### Additional information

Use water spray jet to protect personnel and to cool endangered containers. Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

## 6. Accidental release measures

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**Personal precautions, protective equipment and emergency procedures****General advice**

Remove all sources of ignition. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

**Environmental precautions**

Do not allow uncontrolled discharge of product into the environment. Danger of explosion

**Methods and material for containment and cleaning up****Other information**

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

**Reference to other sections**

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

**7. Handling and storage****Precautions for safe handling****Advice on safe handling**

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

**Advice on protection against fire and explosion**

Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges. Vapours can form explosive mixtures with air.

**Advice on general occupational hygiene**

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.

**Conditions for safe storage, including any incompatibilities****Requirements for storage rooms and vessels**

Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only. Provide adequate ventilation as well as local exhaustion at critical locations. Keep in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

**Hints on joint storage**

Do not store together with: Oxidising agent. Pyrophoric or self-heating substances.

**8. Exposure controls/Personal protection****Control parameters****Exposure controls****Appropriate engineering controls**

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

**Individual protection measures, such as personal protective equipment****Eye/face protection**

Suitable eye protection: goggles.

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**Hand protection**

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. Recommended glove articles KCK Dermatril P NBR (Nitrile rubber) Breakthrough time: 30 min

**Skin protection**

Wear suitable protective clothing.

**Respiratory protection**

Technical ventilation of workplace Provide adequate ventilation as well as local exhaust at critical locations.

**9. Physical and chemical properties****Information on basic physical and chemical properties**

Physical state:	Liquid
Colour:	light red
Odour:	characteristic

**Changes in the physical state**

Melting point/freezing point:	not determined
Boiling point or initial boiling point and boiling range:	166 °C
Flash point:	37 °C

**Flammability**

Solid/liquid:	not applicable
Gas:	not applicable
Lower explosive limits:	not determined
Upper explosive limits:	not determined

**Self-ignition temperature**

Solid:	not applicable
Gas:	not applicable
Decomposition temperature:	not determined
pH-Value:	not determined
Water solubility:	No

**Solubility in other solvents**

not determined	
Partition coefficient n-octanol/water:	not determined
Vapour pressure: (at 50 °C)	<=1100 hPa
Density:	not determined
Relative vapour density:	not determined

**Other information****Information with regard to physical hazard classes**

Oxidizing properties  
Not oxidising.

**Other safety characteristics**

Solid content:	0,0 %
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Evaporation rate:

not determined

**Further Information****10. Stability and reactivity****Reactivity**

Flammable.

**Chemical stability**

The product is stable under storage at normal ambient temperatures.

**Possibility of hazardous reactions**

No known hazardous reactions.

**Conditions to avoid**

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Vapours can form explosive mixtures with air.

**Incompatible materials**

No information available.

**Hazardous decomposition products**

No known hazardous decomposition products.

**11. Toxicological information****Information on toxicological effects****Acute toxicity**

Harmful if inhaled.

**ATEmix calculated**

ATE (inhalation vapour) 13,10 mg/l; ATE (inhalation aerosol) 1,786 mg/l

CAS No	Chemical name				
	Route of exposure	Dose	Species	Source	Method
78-10-4	ethyl silicate, tetraethyl silicate				
	dermal	LD50 mg/kg	5860		
	inhalation vapour	ATE	11 mg/l		
	inhalation aerosol	ATE	1.5 mg/l		
93925-43-0	Silicic acid (H4SiO4), tetraethyl ester, reaction products with bis(acetyloxy)dioctylstannane				
	oral	ATE mg/kg	500		

**Irritation and corrosivity**

Causes serious eye irritation.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

**Sensitizing effects**

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

**Carcinogenic/mutagenic/toxic effects for reproduction**

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

**STOT-single exposure**

May cause respiratory irritation. (ethyl silicate, tetraethyl silicate)

**STOT-repeated exposure**

May cause damage to organs through prolonged or repeated exposure. (Bis(neodecanoyloxy)dioctylstannane)

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**Aspiration hazard**

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

**Additional information on tests**

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

**12. Ecological information****Ecotoxicity**

The product is not: Ecotoxic.

**Persistence and degradability**

The product has not been tested.

**Bioaccumulative potential**

The product has not been tested.

**Mobility in soil**

The product has not been tested.

**Other adverse effects**

No information available.

**Further information**

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

**13. Disposal considerations****Waste treatment methods****Disposal recommendations**

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation.

**Contaminated packaging**

This material and its container must be disposed of as hazardous waste. Handle contaminated packages in the same way as the substance itself.

**14. Transport information****Marine transport (IMDG)**

<b><u>UN number or ID number:</u></b>	UN 1292
<b><u>United Nations proper shipping name:</u></b>	TETRAETHYL SILICATE
<b><u>Transport hazard class(es):</u></b>	3
<b><u>Packing group:</u></b>	III
Hazard label:	3



Special Provisions:	-
Limited quantity:	5 L
Excepted quantity:	E1
EmS:	F-E, S-D

**Air transport (ICAO-TI/IATA-DGR)**

<b><u>UN number or ID number:</u></b>	UN 1292
<b><u>United Nations proper shipping name:</u></b>	TETRAETHYL SILICATE

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**Transport hazard class(es):** 3**Packing group:** III

Hazard label: 3



Limited quantity Passenger: 10 L

Passenger LQ: Y344

Excepted quantity: E1

IATA-packing instructions - Passenger: 355

IATA-max. quantity - Passenger: 60 L

IATA-packing instructions - Cargo: 366

IATA-max. quantity - Cargo: 220 L

**Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: No

**15. Regulatory information****Canadian regulations****16. Other information****Abbreviations and acronyms**

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 Harmonized 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

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

**Further Information**

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

*(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*