



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

### 1.1 Product identifier

Trade name : Sikaflex® TS Plus

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Product use : Sealant/adhesive

### 1.3 Details of the supplier of the safety data sheet

Company name of supplier : Sika Schweiz AG  
Tüffenwies 16  
8048 Zürich  
Telephone : +41 58 436 40 40  
Telefax : -  
E-mail address of person : EHS@ch.sika.com  
responsible for the SDS

### 1.4 Emergency telephone number

Tox Info Suisse  
CH-8028 Zurich  
+41(0)44 251 51 51 / Speed calling: 145

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## SECTION 2: Hazards identification


### 2.1 Classification of the substance or mixture

#### Classification (REGULATION (EC) No 1272/2008)

Respiratory sensitisation, Category 1 H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

### 2.2 Label elements

#### Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms : 

Signal word : Danger

Hazard statements : H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Precautionary statements : **Prevention:**  
P261 Avoid breathing mist or vapours.



P284 In case of inadequate ventilation wear respiratory protection.

**Response:**

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER/ doctor.

**Disposal:**

P501 Dispose of contents/container in accordance with local regulation.

**Hazardous components which must be listed on the label:**

4,4'-methylenediphenyl diisocyanate  
m-tolylidene diisocyanate

**Additional Labelling**

EUH211 Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist.

"As from 24 August 2023 adequate training is required before industrial or professional use."

**2.3 Other hazards**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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**SECTION 3: Composition/information on ingredients**

**3.2 Mixtures**

**Components**

Chemical name	CAS-No. EC-No. Registration number	Classification	Concentration (% w/w)
Urea,N,N''-(methylenedi-4,1-phenylene)bis[N'-butyl-	77703-56-1 416-600-4 01-0000016345-72-XXXX	Aquatic Chronic 4; H413	>= 2,5 - < 5



<p>4,4'-methylenediphenyl diisocyanate</p>	<p>101-68-8 202-966-0 01-2119457014-47-XXXX</p>	<p>Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Resp. Sens. 1; H334 Skin Sens. 1; H317 Carc. 2; H351 STOT SE 3; H335 (Respiratory system) STOT RE 2; H373</p> <hr/> <p>specific concentration limit Eye Irrit. 2; H319 &gt;= 5 % STOT SE 3; H335 &gt;= 5 % Skin Irrit. 2; H315 &gt;= 5 % Resp. Sens. 1; H334 &gt;= 0,1 %</p> <hr/> <p>Acute toxicity estimate</p> <p>Acute inhalation toxicity (dust/mist): 1,5 mg/l</p>	<p>&gt;= 0,5 - &lt; 1</p>
<p>m-tolyldiene diisocyanate</p>	<p>26471-62-5 247-722-4 01-2119454791-34-XXXX</p>	<p>Acute Tox. 1; H330 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Resp. Sens. 1; H334 Skin Sens. 1; H317 Carc. 2; H351 STOT SE 3; H335 (Respiratory system) Aquatic Chronic 3; H412</p> <hr/> <p>specific concentration limit Resp. Sens. 1; H334 &gt;= 0,1 %</p> <hr/> <p>Acute toxicity estimate</p> <p>Acute inhalation toxicity (vapour): 0,107 mg/l</p>	<p>&gt;= 0,0025 - &lt; 0,025</p>

For explanation of abbreviations see section 16.



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## SECTION 4: First aid measures

### 4.1 Description of first aid measures

- General advice : Move out of dangerous area.  
Consult a physician.  
Show this safety data sheet to the doctor in attendance.
- If inhaled : Move to fresh air.  
Consult a physician after significant exposure.
- In case of skin contact : Take off contaminated clothing and shoes immediately.  
Wash off with soap and plenty of water.  
If symptoms persist, call a physician.
- In case of eye contact : Remove contact lenses.  
Keep eye wide open while rinsing.  
If eye irritation persists, consult a specialist.
- If swallowed : Do not induce vomiting without medical advice.  
Rinse mouth with water.  
Do not give milk or alcoholic beverages.  
Never give anything by mouth to an unconscious person.

### 4.2 Most important symptoms and effects, both acute and delayed

- Symptoms : Asthmatic appearance  
Allergic reactions  
See Section 11 for more detailed information on health effects and symptoms.
- Risks : sensitising effects
- May cause allergy or asthma symptoms or breathing difficulties if inhaled.

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

- Treatment : Treat symptomatically.

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media : In case of fire, use water/water spray/water jet/carbon dioxide/sand/foam/alcohol resistant foam/chemical powder for extinction.

### 5.2 Special hazards arising from the substance or mixture

- Hazardous combustion prod- : No hazardous combustion products are known



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### 5.3 Advice for firefighters

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

Further information : Standard procedure for chemical fires.

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## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment.  
Deny access to unprotected persons.

### 6.2 Environmental precautions

Environmental precautions : Do not flush into surface water or sanitary sewer system.

### 6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).  
Keep in suitable, closed containers for disposal.

### 6.4 Reference to other sections

For personal protection see section 8.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Advice on safe handling : Avoid exceeding the given occupational exposure limits (see section 8).  
For personal protection see section 8.  
Persons with a history of skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.  
Smoking, eating and drinking should be prohibited in the application area.  
Follow standard hygiene measures when handling chemical products

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

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

Requirements for storage areas and containers : Keep container tightly closed in a dry and well-ventilated place. Store in accordance with local regulations.

Further information on storage stability : No decomposition if stored and applied as directed.

**7.3 Specific end use(s)**

Specific use(s) : Cleaning with aprotic polar solvents must be avoided. Consult most current local Product Data Sheet prior to any use.

**SECTION 8: Exposure controls/personal protection**

**8.1 Control parameters**

**Occupational Exposure Limits**

Components	CAS-No.	Value type (Form of exposure)	Control parameters *	Basis *
4,4'-methylenediphenyl diisocyanate	101-68-8	TWA	0,02 mg/m3 (NCO)	CH SUVA
		Further information: Toxic by skin resorption possible; Substances, which are easily absorbed through the skin, can give by additional skin resorption a substantial higher risk compared to only inhalation by the airways., Sensitizers; Substances marked with an S can lead to very strong allergic reactions., Health and Safety Executive (Occupational Medicine and Hygiene Laboratory), Harm to the unborn child is not to be expected when the OEL-value is respected		
		STEL	0,02 mg/m3 (NCO)	CH SUVA
m-tolylidene diisocyanate	26471-62-5	STEL	0,02 mg/m3	CH SUVA
		TWA	0,02 mg/m3	CH SUVA
		TWA	0,02 mg/m3 (NCO)	CH SUVA
		Further information: Sensitizers; Substances marked with an S can lead to very strong allergic reactions., Health and Safety Executive (Occupational Medicine and Hygiene Laboratory)		
		STEL	0,02 mg/m3 (NCO)	CH SUVA

\*The above mentioned values are in accordance with the legislation in effect at the date of the release of this safety data sheet.

**Biological occupational exposure limits**

Substance name	CAS-No.	Control parameters	Sampling time	Basis
4,4'-methylenediphenyl diisocyanate	101-68-8	4,4'-diaminodiphenylmethane: 10 µg/g creatinine (Urine)	Immediately after exposure or after working hours	CH BAT



		4,4'-diaminodiphenylmethane: 5 nmol/mmol creatinine (Urine)	Immediately after exposure or after working hours	CH BAT
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## 8.2 Exposure controls

### Engineering measures

Maintain air concentrations below occupational exposure standards.  
Ensure adequate ventilation, especially in confined areas.

### Personal protective equipment

- Eye/face protection : Safety glasses with side-shields conforming to EN166  
Eye wash bottle with pure water
- Hand protection : Chemical-resistant, impervious gloves complying with an approved standard must be worn at all times when handling chemical products. Reference number EN 374. Follow manufacturer specifications.
- Suitable for short time use or protection against splashes:  
Butyl rubber/nitrile rubber gloves (> 0,1 mm)  
Contaminated gloves should be removed.  
Suitable for permanent exposure:  
Viton gloves (0.4 mm),  
breakthrough time >30 min.
- Skin and body protection : Protective clothing (e.g. Safety shoes acc. to EN ISO 20345, long-sleeved working clothing, long trousers). Rubber aprons and protective boots are additionally recommended for mixing and stirring work.
- Respiratory protection : In case of inadequate ventilation wear respiratory protection. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.  
Use a properly fitted NIOSH approved air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.  
organic vapor filter (Type A)  
A1: < 1000 ppm; A2: < 5000 ppm; A3: < 10000 ppm  
Ensure adequate ventilation. This can be achieved by local exhaust extraction or by general ventilation. (EN 689 - Methods for determining inhalation exposure). This applies in particular to the mixing / stirring area. In case this is not sufficient to keep the concentrations under the occupational exposure limits then respiration protection measures must be used.

### Environmental exposure controls

- General advice : Do not flush into surface water or sanitary sewer system.



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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state : liquid  
Appearance : paste  
Colour : various

Odour : slight

Melting point/range / Freezing point : No data available

Boiling point/boiling range : No data available

Flammability (solid, gas) : No data available

#### Upper/lower flammability or explosive limits

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

Flash point : > 101 °C  
Method: closed cup

Auto-ignition temperature : No data available

Decomposition temperature : No data available

pH : Not applicable  
substance/mixture is non-soluble (in water)

#### Viscosity

Viscosity, dynamic : ca. 90.000 mPa.s (20 °C)

Viscosity, kinematic : > 20,5 mm<sup>2</sup>/s (40 °C)

#### Solubility(ies)

Water solubility : insoluble

Partition coefficient: n- : No data available





octanol/water

Vapour pressure : 0,01 hPa  
Density : ca. 1,25 g/cm<sup>3</sup> (20 °C)  
Relative vapour density : No data available  
Particle characteristics : No data available

## 9.2 Other information

No data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No dangerous reaction known under conditions of normal use.

### 10.2 Chemical stability

The product is chemically stable.

### 10.3 Possibility of hazardous reactions

Hazardous reactions : No hazards to be specially mentioned.

### 10.4 Conditions to avoid

Conditions to avoid : No data available

### 10.5 Incompatible materials

Materials to avoid : No data available

### 10.6 Hazardous decomposition products

:  
No hazardous decomposition products are known.

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## SECTION 11: Toxicological information

### 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### Acute toxicity

Not classified due to lack of data.

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**Components:**

**Urea,N,N''-(methylenedi-4,1-phenylene)bis[N'-butyl-:**

Acute oral toxicity : LD50 Oral (Rat): > 2.000 mg/kg  
Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 Dermal (Rabbit): > 2.000 mg/kg  
Method: OECD Test Guideline 402

**4,4'-methylenediphenyl diisocyanate:**

Acute oral toxicity : LD50 Oral (Rat): > 5.000 mg/kg  
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50: 1,5 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: Expert judgement

Acute toxicity estimate: 1,5 mg/l  
Test atmosphere: dust/mist  
Method: Calculation method

**m-tolyldiene diisocyanate:**

Acute inhalation toxicity : LC50 (Rat): 0,107 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour

Acute toxicity estimate: 0,107 mg/l  
Test atmosphere: vapour  
Method: Calculation method

**Skin corrosion/irritation**

Not classified due to lack of data.

**Serious eye damage/eye irritation**

Not classified due to lack of data.

**Respiratory or skin sensitisation**

**Skin sensitisation**

Not classified due to lack of data.

**Respiratory sensitisation**

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**Germ cell mutagenicity**

Not classified due to lack of data.

**Carcinogenicity**

Not classified due to lack of data.



**Reproductive toxicity**

Not classified due to lack of data.

**STOT - single exposure**

Not classified due to lack of data.

**STOT - repeated exposure**

Not classified due to lack of data.

**Aspiration toxicity**

Not classified due to lack of data.

**11.2 Information on other hazards**

**Endocrine disrupting properties**

**Product:**

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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**SECTION 12: Ecological information**

**12.1 Toxicity**

**Components:**

**Urea,N,N''-(methylenedi-4,1-phenylene)bis[N'-butyl-:**

Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): > 250 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): > 100 mg/l  
aquatic invertebrates Exposure time: 48 h

Toxicity to algae/aquatic : EC50 (Raphidocelis subcapitata (freshwater green alga)): >  
plants 100 mg/l  
Exposure time: 72 h

**12.2 Persistence and degradability**

No data available

**12.3 Bioaccumulative potential**

No data available

**12.4 Mobility in soil**

No data available

**12.5 Results of PBT and vPvB assessment**

**Product:**



Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher..

## 12.6 Endocrine disrupting properties

### Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

## 12.7 Other adverse effects

### Product:

Additional ecological information : There is no data available for this product.

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product : The generation of waste should be avoided or minimized wherever possible.  
Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way.  
Dispose of surplus and non-recyclable products via a licensed waste disposal contractor.  
Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.  
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Waste code Switzerland : 08 04 09 [S] waste adhesives and sealants containing organic  
VeVA/LVA solvents or other dangerous substances

Contaminated packaging : 15 01 10 [S] packaging containing residues of or contaminated by dangerous substances

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## SECTION 14: Transport information

### 14.1 UN number or ID number

ADR : Not regulated as a dangerous good



**IMDG** : Not regulated as a dangerous good

**IATA** : Not regulated as a dangerous good

**14.2 UN proper shipping name**

**ADR** : Not regulated as a dangerous good

**IMDG** : Not regulated as a dangerous good

**IATA** : Not regulated as a dangerous good

**14.3 Transport hazard class(es)**

**ADR** : Not regulated as a dangerous good

**IMDG** : Not regulated as a dangerous good

**IATA** : Not regulated as a dangerous good

**14.4 Packing group**

**ADR** : Not regulated as a dangerous good

**IMDG** : Not regulated as a dangerous good

**IATA (Cargo)** : Not regulated as a dangerous good

**IATA (Passenger)** : Not regulated as a dangerous good

**14.5 Environmental hazards**

Not regulated as a dangerous good

**14.6 Special precautions for user**

Not applicable

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

Not applicable for product as supplied.

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**SECTION 15: Regulatory information**

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

International Chemical Weapons Convention (CWC) : Not applicable  
Schedules of Toxic Chemicals and Precursors

REACH Information: All substances contained in our Products are  
- registered by our upstream suppliers, and/or  
- registered by us, and/or  
- excluded from the regulation, and/or  
- exempted from the registration.

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : Conditions of restriction for the following entries should be considered:  
Number on list 75, 3



4,4'-methylenediphenyl diisocyanate  
(Number on list 74, 56)  
m-tolyldiene diisocyanate (Number  
on list 74)  
1,2-Benzenedicarboxylic acid, di-C9-  
11-branched alkyl esters, C10-rich  
(Number on list 52)

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).	:	None of the components are listed (=> 0.1 %).
REACH - List of substances subject to authorisation (Annex XIV)	:	Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer	:	Not applicable
Regulation (EU) 2019/1021 on persistent organic pollutants (recast)	:	Not applicable
PIC Ordinance, ChemPICO (814.82)	:	Not applicable
Chemical Risk Reduction Ordinance (ORRChem, SR 814.81)	:	See respective Annex to the Chemical Risk Reduction Ordinance (ORRChem, 814.81) for Conditions of Restriction.
Chemical Risk Reduction Ordinance (ORRChem, SR 814.81)	:	4,4'-methylenediphenyl diisocyanate

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.  
Not applicable

Volatile organic compounds	:	Law on the incentive tax for volatile organic compounds (VOCV) Volatile organic compounds (VOC) content: <= 3% w/w no VOC duties  Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control) Volatile organic compounds (VOC) content: 0,81% w/w
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**Other regulations:**

Young people undergoing basic vocational training may only work with this product if the relevant training ordinance makes provision for them to do so with a view to enabling them to achieve their training objectives and if the preconditions for the training plan have been met and the applicable age restrictions have been complied with. Young people who are not completing any basic vocational training are not permitted to work with this product. Employees of either sex who are under 18 years old are classed as young people.



## 15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out for this mixture by the supplier.

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## SECTION 16: Other information

### Full text of H-Statements

H315	:	Causes skin irritation.
H317	:	May cause an allergic skin reaction.
H319	:	Causes serious eye irritation.
H330	:	Fatal if inhaled.
H332	:	Harmful if inhaled.
H334	:	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	:	May cause respiratory irritation.
H351	:	Suspected of causing cancer.
H373	:	May cause damage to organs through prolonged or repeated exposure if inhaled.
H412	:	Harmful to aquatic life with long lasting effects.
H413	:	May cause long lasting harmful effects to aquatic life.

### Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Carc.	:	Carcinogenicity
Eye Irrit.	:	Eye irritation
Resp. Sens.	:	Respiratory sensitisation
Skin Irrit.	:	Skin irritation
Skin Sens.	:	Skin sensitisation
STOT RE	:	Specific target organ toxicity - repeated exposure
STOT SE	:	Specific target organ toxicity - single exposure
CH BAT	:	Switzerland. List of BAT-values
CH SUVA	:	Switzerland. Limit values at the work place
CH SUVA / TWA	:	Time Weighted Average
CH SUVA / STEL	:	Short Term Exposure Limit
ADR	:	European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS	:	Chemical Abstracts Service
DNEL	:	Derived no-effect level
EC50	:	Half maximal effective concentration
GHS	:	Globally Harmonized System
IATA	:	International Air Transport Association
IMDG	:	International Maritime Code for Dangerous Goods
LD50	:	Median lethal dose (the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals)
LC50	:	Median lethal concentration (concentrations of the chemical in air that kills 50% of the test animals during the observation period)
MARPOL	:	International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978
OEL	:	Occupational Exposure Limit



PBT	:	Persistent, bioaccumulative and toxic
PNEC	:	Predicted no effect concentration
REACH	:	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency
SVHC	:	Substances of Very High Concern
vPvB	:	Very persistent and very bioaccumulative

#### Further information

##### Classification of the mixture:

Resp. Sens. 1                      H334

##### Classification procedure:

Calculation method

The information contained in this Safety Data Sheet corresponds to our level of knowledge at the time of publication. All warranties are excluded. Our most current General Sales Conditions shall apply. Please consult the product data sheet prior to any use and processing.

|| Changes as compared to previous version !

CH / EN