



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

### 1.1 Product identifier

Trade name : SikaMelt®-677

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

Product use : 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

## 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.
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
Carcinogenicity, Category 2	H351: Suspected of causing cancer.

### 2.2 Label elements

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

Hazard pictograms	:	
Signal word	:	Danger
Hazard statements	:	H317 May cause an allergic skin reaction. H334 May cause allergy or asthma symptoms or breath-



	H351	ing difficulties if inhaled. Suspected of causing cancer.
Precautionary statements	:	<b>Prevention:</b>
	P201	Obtain special instructions before use.
	P261	Avoid breathing mist or vapours.
	P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
	P284	In case of inadequate ventilation wear respir- atory protection.
		<b>Response:</b>
	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.

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

4,4'-methylenediphenyl diisocyanate  
n-butyl methacrylate  
methyl methacrylate

**Additional Labelling**

"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.



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

**3.2 Mixtures**

**Components**

Chemical name	CAS-No. EC-No. Registration number	Classification	Concentration (% w/w)
4,4'-methylenediphenyl diisocyanate	101-68-8 202-966-0 01-2119457014-47-XXXX	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  specific concentration limit Eye Irrit. 2; H319 ≥ 5 % STOT SE 3; H335 ≥ 5 % Skin Irrit. 2; H315 ≥ 5 % Resp. Sens. 1; H334 ≥ 0,1 %  Acute toxicity estimate  Acute inhalation toxicity (dust/mist): 1,5 mg/l	≥ 2,5 - < 5
n-butyl methacrylate	97-88-1 202-615-1 01-2119486394-28-XXXX	Flam. Liq. 3; H226 Eye Irrit. 2; H319 STOT SE 3; H335 Skin Irrit. 2; H315 Skin Sens. 1; H317	≥ 0,1 - < 0,5
methyl methacrylate	80-62-6 201-297-1 01-2119452498-28-XXXX	Flam. Liq. 2; H225 Skin Irrit. 2; H315 Skin Sens. 1; H317 STOT SE 3; H335 (Respiratory system)	≥ 0,1 - < 0,5

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 an allergic skin reaction.  
May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
Suspected of causing cancer.

### 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



ucts

### 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.  
If the product contaminates rivers and lakes or drains inform respective authorities.

### 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 formation of aerosol.  
Avoid exceeding the given occupational exposure limits (see section 8).  
Do not get in eyes, on skin, or on clothing.  
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.

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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.

**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. Containers which are opened must be carefully resealed and kept upright to prevent leakage. 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
methyl methacrylate	80-62-6	TWA	50 ppm	2009/161/EU
	Further information: Indicative			
		STEL	100 ppm	2009/161/EU
		TWA	50 ppm 210 mg/m3	CH SUVA
	Further information: Sensitizers; Substances marked with an S can lead to very strong allergic reactions., National Institute for Occupational Safety and Health, Institut National de Recherche et de Sécurité pour la prévention des accidents du travail et des maladies professionnelles, Harm to the unborn child is not to be expected when the OEL-value is respected			
		STEL	100 ppm 420 mg/m3	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

**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.
  - : When handling hot material, wear heat-resistant protective gloves that are able to withstand the temperature of molten product.
  
- 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 : Even at normal processing temperatures it may occur that hot melts form vapours, which often have an unpleasant odour. If the recommended processing temperatures are exceeded over a fairly long period, additionally the formation of hazardous organic decomposition products is possible. It is recommended to remove such vapours e.g. by using an efficient



exhauster.

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.

organic vapor (Type A) and particulate filter

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.

A1: < 1000 ppm; A2: < 5000 ppm; A3: < 10000 ppm

P1: Inert material; P2, P3: hazardous substances

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.  
If the product contaminates rivers and lakes or drains inform respective authorities.

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## **SECTION 9: Physical and chemical properties**

### **9.1 Information on basic physical and chemical properties**

Physical state : solid  
Colour : opaque

Odour : odourless

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 / Up- per flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available





Flash point	:	> 200 °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	:	Not applicable
Viscosity, kinematic	:	Not applicable

**Solubility(ies)**

Water solubility	:	insoluble
Partition coefficient: n-octanol/water	:	No data available
Vapour pressure	:	0,01 hPa
Density	:	ca. 1,1 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.

##### Components:

##### **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

##### **methyl methacrylate:**

Acute oral toxicity : LD50 Oral (Rat): > 5.000 mg/kg

Acute inhalation toxicity : LC50 (Rat): 29,8 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour

Acute dermal toxicity : LD50 Dermal (Rabbit): > 5.000 mg/kg

##### **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**

May cause an allergic skin reaction.

**Respiratory sensitisation**

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

**Germ cell mutagenicity**

Not classified due to lack of data.

**Carcinogenicity**

Suspected of causing cancer.

**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:**

**methyl methacrylate:**

Toxicity to fish : NOEC (Danio rerio (zebra fish)): 9,4 mg/l

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 69 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202

NOEC : 37 mg/l  
Exposure time: 21 d  
Method: OECD Test Guideline 202



Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 37 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)

**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 contaminat-  
ed 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)

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: < 0,01% w/w

**Other regulations:**

Article 13 Maternity ordinance (SR 822.111.52): Expectant and nursing mothers are only permitted to come into contact with this product during the course of their work if, based on a risk assessment carried out in accordance with Article 63 of Ordinance 1 on the Employment Act (ArGV 1) (SR 822.111), the chemicals in question have been found not to cause any specific harm to mothers or children or if such harm can be ruled out by taking appropriate protective measures.

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**

H225	:	Highly flammable liquid and vapour.
H226	:	Flammable liquid and vapour.
H315	:	Causes skin irritation.
H317	:	May cause an allergic skin reaction.
H319	:	Causes serious eye irritation.
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.

**Full text of other abbreviations**

Acute Tox.	:	Acute toxicity
Carc.	:	Carcinogenicity
Eye Irrit.	:	Eye irritation
Flam. Liq.	:	Flammable liquids
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



2009/161/EU	:	Europe. COMMISSION DIRECTIVE 2009/161/EU establishing a third list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Commission Directive 2000/39/EC
CH BAT	:	Switzerland. List of BAT-values
CH SUVA	:	Switzerland. Limit values at the work place
2009/161/EU / TWA	:	Limit Value - eight hours
2009/161/EU / STEL	:	Short term exposure limit
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 dosis (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
Skin Sens. 1	H317
Carc. 2	H351

##### Classification procedure:

Calculation method
Calculation method
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 !



SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

**SikaMelt®-677**



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CH / EN