

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878

Sikaflex®-645



Revision Date: 30.09.2024
Date of last issue: -

Version 1.0

Print Date 07.10.2024

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

1.1 Product identifier

Trade name : Sikaflex®-645

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)

Long-term (chronic) aquatic hazard, Category 3 : H412: Harmful to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard statements : H412 Harmful to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**

P273 Avoid release to the environment.

Disposal:

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

Additional Labelling

EUH208 Contains 4,4'-methylenediphenyl diisocyanate, Pentamethylpiperidinol-

SAFETY DATA SHEET

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substituted polyester, 2,6-di-tert-butyl-4-nonylphenol. May produce an allergic reaction.

EUH204 Contains isocyanates. May produce an allergic reaction.
EUH211 Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist.

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)
2,6-di-tert-butyl-4-nonylphenol Contains: 4-nonylphenol, branched >= 0,01 - <= 0,1 %	4306-88-1 224-320-7 01-2120759723-46-XXXX	Skin Sens. 1B; H317 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 0,5 - < 1

SAFETY DATA SHEET

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Sikaflex®-645



Revision Date: 30.09.2024
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Version 1.0

Print Date 07.10.2024

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 % specific concentration limit STOT SE 3; H335 >= 5 % specific concentration limit Skin Irrit. 2; H315 >= 5 % specific concentration limit Resp. Sens. 1; H334 >= 0,1 % Acute toxicity estimate Acute inhalation toxicity (dust/mist): 1,5 mg/l	0 - < 0,1
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For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : No hazards which require special first aid measures.

If inhaled : Move to fresh air.

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Sikaflex®-645



Revision Date: 30.09.2024
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- In case of skin contact : Take off contaminated clothing and shoes immediately.
Wash off with soap and plenty of water.
- In case of eye contact : Remove contact lenses.
Keep eye wide open while rinsing.
- 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 : See Section 11 for more detailed information on health effects and symptoms.
- Risks : No known significant effects or hazards.

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 products : No hazardous combustion products are known

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 : For personal protection see section 8.

6.2 Environmental precautions

- Environmental precautions : Do not flush into surface water or sanitary sewer system.
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Sikaflex®-645



Revision Date: 30.09.2024
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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 : Wipe up with absorbent material (e.g. cloth, fleece).
Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For personal protection see section 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : For personal protection see section 8.
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.

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) : 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/m ³ (NCO)	CH SUVA
Further information: Toxic by skin resorption possible; Substanc-				

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Sikaflex®-645



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	es, 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/m ³ (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

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.

SAFETY DATA SHEET

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Sikaflex®-645



Revision Date: 30.09.2024
Date of last issue: -

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

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state : liquid
Appearance : paste
Colour : various

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 / 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

SAFETY DATA SHEET

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Sikaflex®-645



Revision Date: 30.09.2024

Version 1.0

Print Date 07.10.2024

Date of last issue: -

Decomposition temperature : No data available

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

Viscosity

Viscosity, kinematic : > 20,5 mm²/s (40 °C)

Solubility(ies)

Water solubility : insoluble

Partition coefficient: n-octanol/water : No data available

Vapour pressure : 0,01 hPa

Density : ca. 1,42 g/cm³ (20 °C)

Relative vapour density : No data available

Particle characteristics : No data available

9.2 Other information

No data available

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 : Avoid moisture.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878

Sikaflex®-645



Revision Date: 30.09.2024
Date of last issue: -

Version 1.0

Print Date 07.10.2024

10.5 Incompatible materials

Materials to avoid : No data available

10.6 Hazardous decomposition products

No decomposition if stored and applied as directed.

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

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

Not classified due to lack of data.

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.

SAFETY DATA SHEET

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Sikaflex®-645



Revision Date: 30.09.2024
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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.

SECTION 12: Ecological information

12.1 Toxicity

No data available

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.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878

Sikaflex®-645



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12.7 Other adverse effects

Product:

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Harmful to aquatic life with long lasting effects.

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 VeVA/LVA : 08 01 11 [S] Paint and varnish waste containing organic solvents or other hazardous substances

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

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Sikaflex®-645



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Print Date 07.10.2024

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.

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 3

Number on list 75:
Banned and/or restricted

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) on substances that deplete the ozone layer : Not applicable

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- 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) : Conditions of restriction for the following annexes should be considered:
Annex 1.11 Dangerous liquid substances
4,4'-methylenediphenyl diisocyanate: Annex 2.9 Plastics and additives
- Waters Protection Ordinance (WPO 814.201)
Water pollution class : slightly hazardous to water
Classification according to AwSV, Annex 1 (5.2)
- Volatile organic compounds : Law on the incentive tax for volatile organic compounds (VOCV)
Volatile organic compounds (VOC) content: < 0,01% 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:

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.

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.
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.

SAFETY DATA SHEET

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Sikaflex®-645



Revision Date: 30.09.2024

Version 1.0

Print Date 07.10.2024

Date of last issue: -

- H373 : May cause damage to organs through prolonged or repeated exposure if inhaled.
H400 : Very toxic to aquatic life.
H410 : Very toxic to aquatic life with long lasting effects.

Full text of other abbreviations

- Acute Tox. : Acute toxicity
Aquatic Acute : Short-term (acute) aquatic hazard
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:

Aquatic Chronic 3 H412

Classification procedure:

Calculation method

SAFETY DATA SHEET

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Sikaflex®-645



Revision Date: 30.09.2024
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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