



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

### 1.1 Product identifier

Trade name : Sikadur®-281

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

Product use : Special system

### 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)

Skin irritation, Category 2	H315: Causes skin irritation.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
Long-term (chronic) aquatic hazard, Category 2	H411: Toxic to aquatic life with long lasting effects.

### 2.2 Label elements

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

Hazard pictograms :  

Signal word : Warning



Hazard statements	:	H315 H317 H319 H411	Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. Toxic to aquatic life with long lasting effects.
Precautionary statements	:	<b>Prevention:</b> P261 P264 P273 P280	Avoid breathing mist or vapours. Wash skin thoroughly after handling. Avoid release to the environment. Wear protective gloves/ eye protection/ face protection.
		<b>Response:</b> P333 + P313 P391	If skin irritation or rash occurs: Get medical advice/ attention. Collect spillage.

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

bis-[4-(2,3-epoxipropoxy)phenyl]propane  
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.

**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)
bis-[4-(2,3-epoxipropoxy)phenyl]propane	1675-54-3 216-823-5 01-2119456619-26-XXXX	Skin Irrit. 2; H315 Eye Irrit. 2; H319 Skin Sens. 1; H317 Aquatic Chronic 2; H411  specific concentration limit Eye Irrit. 2; H319 >= 5 % Skin Irrit. 2; H315 >= 5 %	>=80
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	68609-97-2 271-846-8 01-2119485289-22-XXXX	Skin Irrit. 2; H315 Skin Sens. 1; H317	>= 5 - < 10
(1-methylethyl)-1,1'-biphenyl Contains: diisopropyl-1,1'-biphenyl >= 9,9 %	25640-78-2 247-156-8 01-2119982993-17-XXXX	Eye Irrit. 2; H319 Asp. Tox. 1; H304 Aquatic Acute 1; H400 Aquatic Chronic 2; H411	>= 5 - < 10

For explanation of abbreviations see section 16.

## 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 : Immediately flush eye(s) with plenty of water.  
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 : Allergic reactions  
Excessive lachrymation  
Erythema  
Dermatitis  
See Section 11 for more detailed information on health effects and symptoms.
- Risks : irritant effects  
sensitising effects
- Causes skin irritation.  
May cause an allergic skin reaction.  
Causes serious eye irritation.

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

- Treatment : Treat symptomatically.

---

### 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

- Specific hazards during fire-fighting : Do not allow run-off from fire fighting to enter drains or water courses.
- 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 : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.



---

## 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.

---

## 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).  
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.

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 accord-



ance 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

Components	CAS-No.	Value type (Form of exposure)	Control parameters *	Basis *
------------	---------	-------------------------------	----------------------	---------

Contains no substances with occupational exposure limit values.

### 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 : No special measures required.

#### 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
Colour	:	yellow
Odour	:	epoxy-like
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	:	ca. 5,2 Concentration: 100 %

#### Viscosity

Viscosity, dynamic	:	ca. 1.600 mPa.s (20 °C)
Viscosity, kinematic	:	> 20,5 mm <sup>2</sup> /s (40 °C)

#### Solubility(ies)

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



Vapour pressure	:	0,01 hPa
Density	:	ca. 1,12 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

---

## 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 : Stable under recommended storage conditions.

### 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 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 based on available information.

#### Components:

#### **bis-[4-(2,3-epoxipropoxy)phenyl]propane:**

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

---





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

**oxirane, mono[(C12-14-alkyloxy)methyl] derivs.:**

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

**(1-methylethyl)-1,1'-biphenyl:**

Acute oral toxicity : LD50 Oral (Rat): 4.650 mg/kg  
Method: OECD Test Guideline 401

**Skin corrosion/irritation**

Causes skin irritation.

**Serious eye damage/eye irritation**

Causes serious eye irritation.

**Respiratory or skin sensitisation**

**Skin sensitisation**

May cause an allergic skin reaction.

**Respiratory sensitisation**

Not classified based on available information.

**Germ cell mutagenicity**

Not classified based on available information.

**Carcinogenicity**

Not classified based on available information.

**Reproductive toxicity**

Not classified based on available information.

**STOT - single exposure**

Not classified based on available information.

**STOT - repeated exposure**

Not classified based on available information.

**Aspiration toxicity**

Not classified based on available information.

**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

#### Components:

##### **bis-[4-(2,3-epoxypropoxy)phenyl]propane:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 2 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 1,8 mg/l  
aquatic invertebrates Exposure time: 48 h

##### **(1-methylethyl)-1,1'-biphenyl:**

Toxicity to daphnia and other : LC50 (Daphnia magna (Water flea)): 0,167 mg/l  
aquatic invertebrates Exposure time: 48 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 : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.  
Toxic 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 04 09 [S] waste adhesives and sealants containing organic solvents or other dangerous substances
- Contaminated packaging : 15 01 10 [S] packaging containing residues of or contaminated by dangerous substances

---

## SECTION 14: Transport information

### 14.1 UN number or ID number

- ADR : UN 3082  
IMDG : UN 3082  
IATA : UN 3082

### 14.2 UN proper shipping name

- ADR : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(epoxy resin)
- IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(epoxy resin)
- IATA : Environmentally hazardous substance, liquid, n.o.s.  
(epoxy resin)

### 14.3 Transport hazard class(es)

- |      | Class | Subsidiary risks |
|------|-------|------------------|
| ADR  | : 9   |                  |
| IMDG | : 9   |                  |
| IATA | : 9   |                  |



#### 14.4 Packing group

##### ADR

Packing group : III  
Classification Code : M6  
Hazard Identification Number : 90  
Labels : 9  
Tunnel restriction code : (-)  
Remarks : Transport in accordance with special provision 375

##### IMDG

Packing group : III  
Labels : 9  
EmS Code : F-A, S-F  
Remarks : Transport in accordance with 2.10.2.7 of the IMDG-Code

##### IATA (Cargo)

Packing instruction (cargo aircraft) : 964  
Packing instruction (LQ) : Y964  
Packing group : III  
Labels : Miscellaneous  
Remarks : Transport in accordance with special regulation A 197

##### IATA (Passenger)

Packing instruction (passenger aircraft) : 964  
Packing instruction (LQ) : Y964  
Packing group : III  
Labels : Miscellaneous

#### 14.5 Environmental hazards

##### ADR

Environmentally hazardous : yes

##### IMDG

Marine pollutant : yes

##### IATA (Passenger)

Environmentally hazardous : yes

##### IATA (Cargo)

Environmentally hazardous : yes

#### 14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

#### 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

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

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

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

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.

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

E2 ENVIRONMENTAL HAZARDS

Water hazard class (Germany) : WGK 2 obviously 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: 0,05% 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: 0,05% w/w

#### Other regulations:

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations,



where applicable.

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.

---

## SECTION 16: Other information

### Full text of H-Statements

H304	:	May be fatal if swallowed and enters airways.
H315	:	Causes skin irritation.
H317	:	May cause an allergic skin reaction.
H319	:	Causes serious eye irritation.
H400	:	Very toxic to aquatic life.
H411	:	Toxic to aquatic life with long lasting effects.

### Full text of other abbreviations

Aquatic Acute	:	Short-term (acute) aquatic hazard
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Asp. Tox.	:	Aspiration hazard
Eye Irrit.	:	Eye irritation
Skin Irrit.	:	Skin irritation
Skin Sens.	:	Skin sensitisation
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:**

Skin Irrit. 2	H315
Eye Irrit. 2	H319
Skin Sens. 1	H317
Aquatic Chronic 2	H411

**Classification procedure:**

Calculation method
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 !

CH / EN