SAFETY DATA SHEET

Sikaflex®-291

Version	Revision Date:	SDS Number:	Date of last issue: 2023/03/26
6.0	2025/03/10	000000601552	Date of first issue: 2015/10/26

1. PRODUCT AND COMPANY IDENTIFICATION

Chemical product name : Sikaflex®-291

Supplier's company name, address and phone number

Company name of supplier : Sika Japan Ltd.
Akasaka-K-Tower 7F
1-2-7 Moto-Akasaka
Minato-ku Tokyo
107-0051 Japan

Telephone : +81 3 6434 7291

E-mail address : EHS@jp.sika.com

Telefax : -

Emergency telephone number : -

Recommended use of the chemical and restrictions on use

Product use : Sealant/adhesive

2. HAZARDS IDENTIFICATION

GHS classification of chemical product

Reproductive toxicity : Category 1B

Specific target organ toxicity - single exposure : Category 2 (Central nervous system, Kidney, Liver, respiratory system)

Specific target organ toxicity - repeated exposure : Category 2 (respiratory system, Nervous system)

Short-term (acute) aquatic hazard : Category 3

Long-term (chronic) aquatic hazard : Category 3

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H360 May damage fertility or the unborn child.
H371 May cause damage to organs (Central nervous system, Kidney, Liver, respiratory system).
H373 May cause damage to organs (respiratory system, Nervous system) through prolonged or repeated exposure.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements :

Prevention:

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe mist or vapours.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P308 + P311 IF exposed or concerned: Call a POISON CENTER/ doctor.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards which do not result in classification
None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)	ENCS/ISHL number
Titanium dioxide (> 10 µm)	13463-67-7	>= 1 - < 10	1-558, 5-5225
xylene	1330-20-7	2.3	3-3, 3-60
Stoddard solvent	8052-41-3	>= 1 - < 3	
ethylbenzene	100-41-4	>= 0.1 - < 1	3-28, 3-60
4,4'-methylenediphenyl diisocyanate	101-68-8	>= 0.1 - < 1	4-118

4. 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	:	Clean mouth with water and drink afterwards plenty of water. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed	:	No known significant effects or hazards. See Section 11 for more detailed information on health effects and symptoms. May damage fertility or the unborn child. May cause damage to organs. May cause damage to organs through prolonged or repeated exposure.
Notes to physician	:	Treat symptomatically.

5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Carbon dioxide (CO2)
Unsuitable extinguishing media	:	Water
Hazardous combustion products	:	No hazardous combustion products are known
Specific extinguishing methods	:	Standard procedure for chemical fires.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Deny access to unprotected persons.
Environmental precautions	:	Try to prevent the material from entering drains or water courses. No special environmental precautions required.
Methods and materials for containment and 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.

7. HANDLING AND STORAGE

Handling

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
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. Smoking, eating and drinking should be prohibited in the application area. Follow standard hygiene measures when handling chemical products
Avoidance of contact	:	No data available
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.

Storage

Conditions for safe storage	:	Store in original container. Keep in a well-ventilated place. Observe label precautions. Store in accordance with local regulations.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Threshold limit value and permissible exposure limits for each component in the work environment

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Concentration standard / Permissible concentration	Basis
Titanium dioxide (> 10 µm)	13463-67-7	OEL-M (Respirable particulate matter)	1.5 mg/m3 (Titanium)	JP OEL JSOH
	Further information: Group 2B: possibly carcinogenic to humans			
		OEL-M (Total particulate matter)	2 mg/m3 (Titanium)	JP OEL JSOH
xylene	1330-20-7	OEL-M	50 ppm 217 mg/m3	JP OEL JSOH
	Further information: Group 2: Substances presumed to cause reproductive toxicity in humans			
		ACL	50 ppm	JP OEL ISHL
		TWA	20 ppm	ACGIH
Stoddard solvent	8052-41-3	TWA	100 ppm	ACGIH
ethylbenzene	100-41-4	ACL	20 ppm	JP OEL ISHL
		OEL-M	20 ppm 87 mg/m3	JP OEL JSOH
	Further information: Group 2: Substances presumed to cause			

	reproductive toxicity in humans, Skin absorption, Group 2B: possibly carcinogenic to humans			
		TWA	20 ppm	ACGIH
4,4'-methylenediphenyl diisocyanate	101-68-8	OEL-M	0.05 mg/m3	JP OEL JSOH
	Further information: Airway sensitizing agent; Group 1 substances which induce allergic reactions in humans			
		TWA	0.005 ppm	ACGIH

Biological occupational exposure limits

Components	CAS-No.	Target substance	Biological specimen	Sampling time	Permissible concentration	Basis
xylene	1330-20-7	total (o-, m-, p-)methylhippuric acid	Urine	End of shift at end of workweek	800 mg/l	JSOH
		Methylhippuric acids	Urine	End of shift (As soon as possible after exposure ceases)	1.5 g/g creatinine	ACGIH BEI
ethylbenzene	100-41-4	Mandelic acid	Urine	End of shift	150 mg/g creatinine	JSOH
		Mandelic acid + Phenylglyoxylic acid	Urine	End of shift at end of workweek	200 mg/g creatinine	JSOH
		Ethylbenzene	Urine	End of shift	15 µg/l	JSOH
		Sum of mandelic acid and phenyl glyoxylic acid	Urine	End of shift (As soon as possible after exposure ceases)	0.15 mg/g creatinine	ACGIH BEI

Personal protective equipment

Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines. The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Eye protection	:	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary.
Skin and body protection	:	Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	paste
Colour	:	various
Odour	:	characteristic
Odour Threshold	:	No data available
Melting point/ range / Freezing point	:	No data available
Boiling point/boiling range	:	No data available
Flammability (solid, gas)	:	No data available

Lower explosion limit and upper explosion limit / flammability limit

Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Flash point	:	ca. 64.6 °C (Method: closed cup)
Decomposition temperature	:	No data available
pH	:	Not applicable
Evaporation rate	:	No data available
Auto-ignition temperature	:	No data available

Viscosity

Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	ca. > 20.5 mm2/s (40 °C)

Solubility(ies)

Water solubility	:	insoluble
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available

Vapour pressure	:	0.01 hPa
Density and / or relative density		
Density	:	1.26 g/cm3 (23 °C)
Relative vapour density	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available

10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	The product is chemically stable.
Possibility of hazardous reactions	:	No hazards to be specially mentioned.
Conditions to avoid	:	No data available
Incompatible materials	:	No data available
Hazardous decomposition products	:	No hazardous decomposition products are known.

11. TOXICOLOGICAL INFORMATION

Acute toxicity
Not classified due to lack of data.
Components:
xylene:

Acute oral toxicity	:	LD50 Oral (Rat): 3,523 mg/kg

ethylbenzene:

Acute oral toxicity	:	LD50 Oral (Rat): 3,500 mg/kg
Acute dermal toxicity	:	LD50 Dermal (Rabbit): 5,510 mg/kg

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

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
May damage fertility or the unborn child.
STOT - single exposure
May cause damage to organs (Central nervous system, Kidney, Liver, respiratory system).
STOT - repeated exposure
May cause damage to organs (respiratory system, Nervous system) through prolonged or repeated exposure.
Aspiration toxicity
Not classified due to lack of data.

12. ECOLOGICAL INFORMATION

Ecotoxicity
Components:
xylene:

Toxicity to fish (Chronic toxicity)	:	NOEC (Oncorhynchus mykiss (rainbow trout)): > 1.3 mg/l Exposure time: 56 d
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia (water flea)): 1.17 mg/l Exposure time: 7 d

ethylbenzene:

Toxicity to fish	:	LC50 (Fish): <= 1 mg/l Exposure time: 96 h
M-Factor (Acute aquatic toxicity)	:	1

Persistence and degradability
No data available
Bioaccumulative potential
No data available
Mobility in soil
No data available
Hazardous to the ozone layer
Not applicable
Other adverse effects
Product:

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

13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	Send to a licensed waste management company.

Do not contaminate ponds, waterways or ditches with chemical or used container.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.

Do not re-use empty containers.
Do not burn, or use a cutting torch on, the empty drum.

14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number	:	Not applicable
Proper shipping name	:	Not applicable
Class	:	Not applicable
Subsidiary risk	:	Not applicable
Packing group	:	Not applicable
Labels	:	Not applicable
Environmentally hazardous	:	no

IATA-DGR

UN/ID No.	:	Not applicable
Proper shipping name	:	Not applicable
Class	:	Not applicable
Subsidiary risk	:	Not applicable
Packing group	:	Not applicable
Labels	:	Not applicable
Packing instruction (cargo aircraft)	:	Not applicable
Packing instruction (passenger aircraft)	:	Not applicable

IMDG-Code

UN number	:	Not applicable
Proper shipping name	:	Not applicable
Class	:	Not applicable
Subsidiary risk	:	Not applicable
Packing group	:	Not applicable
Labels	:	Not applicable
EmS Code	:	Not applicable
Marine pollutant	:	Not applicable

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.
National Regulations
Refer to section 15 for specific national regulation.
Special precautions for user
Not applicable

15. REGULATORY INFORMATION

Related Regulations

Fire Service Law

Designated Flammable Substances, Flammable solid

Industrial Safety and Health Law

Harmful Substances Prohibited from Manufacture

Not applicable

Harmful Substances Required Permission for Manufacture

Not applicable

Substances Prevented From Impairment of Health

Not applicable

Circular concerning Information on Chemicals having Mutagenicity - Annex 2: Information on Existing Chemicals having Mutagenicity

Not applicable

Circular concerning Information on Chemicals having Mutagenicity - Annex 1: Information on Notified Substances having Mutagenicity

Not applicable

Substances Subject to be Notified Names

Law Article 57-2 (Ministerial Order Article 34-2 Appended Table 2)

Chemical name	Concentration (%)	Remarks
Titanium(IV) oxide	>=1 - <10	-
Xylene	>=1 - <10	-
Petroleum naphtha	>=1 - <10	-
Ethylbenzene	>=0.1 - <1	-
Methylenebis (4,1-phenylene) diisocyanate	>=0.1 - <1	-

Substances Subject to be Indicated Names

Law Article 57 (Ministerial Order Article 30 Appended Table 2)

Chemical name	Remarks
Titanium(IV) oxide	-
xylene	-
Petroleum naphtha Mineral spirits (include mineral thinner, petroleum spirits, white spirits and mineral turpentine)	- -
ethylbenzene	-

Skin and Eye Damage Substances (ISHL MO Art. 594-2)

Chemical name
Xylene

Carcinogenic Substances (Article 577-2 of the Occupational Health and Safety Regulations)

Not applicable

Ordinance on Prevention of Hazards Due to Specified Chemical Substances

Not applicable

Ordinance on Prevention of Lead Poisoning

Not applicable

Ordinance on Prevention of Tetraalkyl Lead Poisoning

Not applicable

Ordinance on Prevention of Organic Solvent Poisoning

Not applicable

Poisonous and Deleterious Substances Control Law

Not applicable

Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof

Class I Designated Chemical Substances

Chemical name	Administration number	Concentration (%)
Xylene	80	2.3

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

High Pressure Gas Safety Act

Not applicable

16. OTHER INFORMATION

In this SDS, if the concentration of substances subject to notification under the Industrial Safety and Health Law is indicated as a range, it includes cases where it is a trade secret.

Date format	:	yyyy/mm/dd
Full text of other abbreviations		
ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI	:	ACGIH - Biological Exposure Indices (BEI)
JP OEL ISHL	:	Japan. Administrative Control Levels
JP OEL JSOH	:	Japan. The Japan Society for Occupational Health. Recommendation of Occupational Exposure Limits
JSOH	:	Occupational exposure limits based on biological monitoring (JSOH).
ACGIH / TWA	:	8-hour, time-weighted average
JP OEL ISHL / ACL	:	Administrative Control level
JP OEL JSOH / OEL-M	:	Occupational Exposure Limit-Mean
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

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.

JP / EN