

1. Identification

Product name : Sikaflex® Primer 449

Supplier : Sika Corporation

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Recommended use of the chemical and restrictions on use : For further information, refer to the product technical data sheet.

2. Hazards identification**GHS Classification**

Flammable liquids , Category 2	H225: Highly flammable liquid and vapor.
Skin irritation , Category 2	H315: Causes skin irritation.
Eye irritation , Category 2A	H319: Causes serious eye irritation.
Skin sensitization , Category 1	H317: May cause an allergic skin reaction.
Carcinogenicity , Category 2	H351: Suspected of causing cancer.
Reproductive toxicity , Category 2	H361: Suspected of damaging fertility or the unborn child.
Specific target organ systemic toxicity - single exposure , Category 3, Central nervous system	H336: May cause drowsiness or dizziness.
Specific target organ systemic toxicity - repeated exposure , Category 2 (Inhalation)	H373: May cause damage to organs through prolonged or repeated exposure if inhaled.
Aspiration hazard , Category 1	H304: May be fatal if swallowed and enters airways.

GHS Label element

Hazard pictograms : 

Signal Word : Danger

Hazard Statements : H225 Highly flammable liquid and vapor.
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.
H336 May cause drowsiness or dizziness.
H351 Suspected of causing cancer.
H361 Suspected of damaging fertility or the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure if inhaled.

Precautionary Statements

: **Prevention:**

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/ eye protection/ face protection.
P281 Use personal protective equipment as required.

Response:

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P331 Do NOT induce vomiting.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

Disposal:

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



Warning : Reports have associated repeated and prolonged exposure to some of the chemicals in this product with permanent brain, liver, kidney and nervous system damage. Intentional misuse by deliberate concentration and inhalation of vapors may be harmful or fatal.

See Section 11 for more detailed information on health effects and symptoms.

3. Composition/information on ingredients

Hazardous ingredients

Chemical Name	CAS-No.	Concentration (%)
butanone	78-93-3	>= 50 - <= 100 %
Toluene	108-88-3	>= 25 - < 50 %
hexamethylenediisocyanate homopolymer	28182-81-2	>= 5 - < 10 %
n-butyl acetate	123-86-4	>= 1 - < 2 %
Triethyl orthoformate	122-51-0	>= 1 - < 2 %
xylene	1330-20-7	>= 1 - < 2 %
ethylbenzene	100-41-4	>= 0 - < 1 %

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

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 : Clean mouth with water and drink afterwards plenty of water.
Do NOT induce vomiting.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
Take victim immediately to hospital.

Most important symptoms and effects, both acute and delayed : Risk of serious damage to the lungs (by aspiration).
irritant effects
sensitizing effects

Aspiration may cause pulmonary edema and pneumonitis.
Respiratory disorder



Allergic reactions
Excessive lachrymation
Erythema
Dermatitis
Loss of balance
Vertigo
See Section 11 for more detailed information on health effects and symptoms.

- Protection of first-aiders : Move out of dangerous area.
Consult a physician.
Show this material safety data sheet to the doctor in attendance.
- Notes to physician : Treat symptomatically.

5. Fire-fighting measures

- Suitable extinguishing media : Alcohol-resistant foam
Carbon dioxide (CO₂)
Dry chemical
- Unsuitable extinguishing media : Water
- Specific extinguishing methods : Use water spray to cool unopened containers.
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.
- Special protective equipment for fire-fighters : 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.
Remove all sources of ignition.
Deny access to unprotected persons.
Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.
- Environmental precautions : Prevent product from entering drains.
If the product contaminates rivers and lakes or drains inform respective authorities.
Local authorities should be advised if significant spillages cannot be contained.
- Methods and materials for containment and cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).



7. Handling and storage

- Advice on safe handling : Do not breathe vapors or spray mist.
 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 sensitization 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.
 Take precautionary measures against static discharge.
 Open drum carefully as content may be under pressure.
 Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors).
 Follow standard hygiene measures when handling chemical products.
- Conditions for safe storage : Store in original container.
 Store in cool place.
 Keep in a well-ventilated place.
 Containers which are opened must be carefully resealed and kept upright to prevent leakage.
 Observe label precautions.
 Store in accordance with local regulations.
- Materials to avoid : no data available

8. Exposure controls/personal protection

Component	CAS-No.	Basis **	Value	Exposure limit(s)* / Form of exposure
butanone	78-93-3	ACGIH	TWA	200 ppm
		ACGIH	STEL	300 ppm
		OSHA Z-1	TWA	200 ppm 590 mg/m ³
		OSHA P0	TWA	200 ppm 590 mg/m ³
		OSHA P0	STEL	300 ppm 885 mg/m ³
Toluene	108-88-3	ACGIH	TWA	20 ppm
		OSHA Z-2	TWA	200 ppm



		OSHA Z-2	CEIL	300 ppm
		OSHA Z-2	Peak	500 ppm
		OSHA P0	TWA	100 ppm 375 mg/m3
		OSHA P0	STEL	150 ppm 560 mg/m3
n-butyl acetate	123-86-4	ACGIH	TWA	150 ppm
		ACGIH	STEL	200 ppm
		OSHA Z-1	TWA	150 ppm 710 mg/m3
		OSHA P0	TWA	150 ppm 710 mg/m3
		OSHA P0	STEL	200 ppm 950 mg/m3
xylene	1330-20-7	OSHA Z-1	TWA	100 ppm 435 mg/m3
		ACGIH	TWA	100 ppm
		ACGIH	STEL	150 ppm
		OSHA P0	STEL	150 ppm 655 mg/m3
		OSHA P0	TWA	100 ppm 435 mg/m3
ethylbenzene	100-41-4	ACGIH	TWA	100 ppm
		ACGIH	STEL	125 ppm
		OSHA Z-1	TWA	100 ppm 435 mg/m3
		OSHA P0	TWA	100 ppm 435 mg/m3
		OSHA P0	STEL	125 ppm 545 mg/m3



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

****Basis**

ACGIH. Threshold Limit Values (TLV)

OSHA P0. Table Z-1, Limit for Air Contaminat (1989 Vacated Values)

OSHA P1. Permissible Exposure Limits (PEL), Table Z-1, Limit for Air Contaminant

OSHA P2. Permissible Exposure Limits (PEL), Table Z-2

OSHA Z3. Table Z-3, Mineral Dust

Engineering measures : Use of adequate ventilation should be sufficient to control worker exposure to airborne contaminants. If the use of this product generates dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.
The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits.

Personal protective equipment

Respiratory protection : 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.

The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.

Hand protection
Remarks : 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.

Hygiene measures : Avoid contact with skin, eyes and clothing.
Wash hands before breaks and immediately after handling the product.
Remove respiratory and skin/eye protection only after vapors have been cleared from the area.
Remove contaminated clothing and protective equipment before entering eating areas.
Wash thoroughly after handling.

**9. Physical and chemical properties**

Appearance	: liquid
Color	: no data available
Odor	: aromatic
Odor Threshold	: no data available
Flash point	: 72 °F (22 °C)
Ignition temperature	: 869 °F (465 °C)
Decomposition temperature	: no data available
Lower explosion limit (Vol%)	: 1 %(V)
Upper explosion limit (Vol%)	: 7 %(V)
Flammability (solid, gas)	: no data available
Oxidizing properties	: no data available
Autoignition temperature	: no data available
pH	: no data available
Melting point/range / Freezing point	: no data available
Boiling point/boiling range	: no data available
Vapor pressure	: 66.750 mmHg (88.9924 hpa)
Density	: 0.87 g/cm ³ at 68 °F (20 °C)
Water solubility	: Note: insoluble
Partition coefficient: n- octanol/water	: no data available
Viscosity, dynamic	: no data available
Viscosity, kinematic	: > 20.5 mm ² /s at 104 °F (40 °C)
Relative vapor density	: no data available
Evaporation rate	: no data available
Burning rate	: no data available
Volatile organic compounds (VOC) content	: 670.7 g/l

**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	: Stable under recommended storage conditions. Vapors may form explosive mixture with air.
Conditions to avoid	: Heat, flames and sparks.
Incompatible materials	: no data available

11. Toxicological information**Acute toxicity****Product**

Acute oral toxicity	: no data available
Acute inhalation toxicity	: no data available
Acute dermal toxicity	: no data available

Ingredients:**butanone :**

Acute oral toxicity	: LD50 Oral rat: 3,300 mg/kg
Acute inhalation toxicity	: LC50 rat: 36 mg/l Exposure time: 4 h
Acute dermal toxicity	: LD50 Dermal rabbit: > 5,000 mg/kg

n-butyl acetate :

Acute oral toxicity	: LD50 Oral rat: > 5,000 mg/kg
Acute inhalation toxicity	: LC50 rat: 23.4 mg/l Exposure time: 4 h Test atmosphere: vapor
Acute dermal toxicity	: LD50 Dermal rabbit: > 5,000 mg/kg

Skin corrosion/irritation**Product**

Causes skin irritation.



Serious eye damage/eye irritation

Product

Causes serious eye irritation.

Respiratory or skin sensitization

Product

May cause an allergic skin reaction.

Germ cell mutagenicity

Product

Mutagenicity : no data available

Carcinogenicity

Product

Carcinogenicity : Suspected of causing cancer.

IARC

Group 2B: Possibly carcinogenic to humans
ethylbenzene 100-41-4

NTP

not applicable

Reproductive Toxicity/Fertility

Product

Reproductive toxicity : Suspected of damaging fertility or the unborn child.

Reproductive Toxicity/Development/Teratogenicity

Product

Teratogenicity : no data available

STOT-single exposure

Product

Assessment: May cause drowsiness or dizziness.

STOT-repeated exposure

Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels. Reports have associated repeated and prolonged exposure to some of the chemicals in this product with permanent brain, liver, kidney and nervous system damage. Intentional misuse by deliberate concentration and inhalation of vapors may be harmful or fatal.

Product

Assessment: May cause damage to organs through prolonged or repeated exposure if inhaled.

Aspiration toxicity

Product

May be fatal if swallowed and enters airways.



12. Ecological information

Other information Do not empty into drains; dispose of this material and its container in a safe way.
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Component:

n-butyl acetate	123-86-4	<u>Toxicity to fish:</u> LC50 Species: Fish Dose: 18 mg/l Exposure time: 96 h <u>Toxicity to daphnia and other aquatic invertebrates:</u> EC50 Species: Daphnia magna (Water flea) Dose: 44 mg/l Exposure time: 48 h <u>Toxicity to algae:</u> EC50 Species: Desmodesmus subspicatus (green algae) Dose: 647.7 mg/l Exposure time: 72 h
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13. Disposal considerations

Disposal methods

Waste from residues : 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.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	1993
Description of the goods	Flammable liquids, n.o.s. (butanone, Toluene)
Class	3
Packing group	II
Labels	3
Emergency Response	128
Guidebook Number	

**IATA**

UN number	1993
Description of the goods	Flammable liquid, n.o.s. (butanone, Toluene)
Class	3
Packing group	II
Labels	3
Packing instruction (cargo aircraft)	364
Packing instruction (passenger aircraft)	353
Packing instruction (passenger aircraft)	Y341

IMDG

UN number	1993
Description of the goods	FLAMMABLE LIQUID, N.O.S. (butanone, Toluene)
Class	3
Packing group	II
Labels	3
EmS Number 1	F-E
EmS Number 2	S-E
Marine pollutant	no

DOT: For Limited Quantity exceptions reference 49 CFR 173.150 (b)

IMDG: For Limited Quantity special provisions reference IMDG Code Chapter 3.4

Special precautions for user

no data available

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

not applicable

15. Regulatory information

TSCA list : All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.

EPCRA - Emergency Planning and Community Right-to-Know**CERCLA Reportable Quantity**

This material does not contain any components with a CERCLA RQ.

SARA304 Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.



SARA 311/312 Hazards : Fire Hazard
Acute Health Hazard
Chronic Health Hazard

SARA 302 : SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

Toluene	108-88-3	25.53 %
xylene	1330-20-7	1.09 %

Clean Air Act

Ozone-Depletion Potential This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

Toluene	108-88-3	25.53 %
xylene	1330-20-7	1.09 %

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

California Prop 65 WARNING! This product contains a chemical known in the State of California to cause cancer.
WARNING: This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.

16. Other information

HMIS Classification

Health	*	3
Flammability		3
Physical Hazard		0
Personal Protection		X

Caution: HMIS® rating is based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® rating is not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® rating is to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). Please note HMIS® attempts to convey full health warning information to all employees.

Notes to Reader

The information contained in this Safety Data Sheet applies only to the actual Sika Corporation ("Sika") product identified and described herein. This information is not intended to address, nor does it address the use or application of the identified Sika product in



combination with any other material, product or process. All of the information set forth herein is based on technical data regarding the identified product that Sika believes to be reliable as of the date hereof. Prior to each use of any Sika product, the user must always read and follow the warnings and instructions on the product's current Product Data Sheet, product label and Safety Data Sheet for each Sika product, which are available at web site and/or telephone number listed in Section 1 of this SDS.

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