



1. Identification

Product name : Sikaflex®-1c Arctic

Supplier : Sika Corporation
201 Polito Avenue
Lyndhurst, NJ 07071
USA
www.sikausa.com

Telephone : (201) 933-8800

Telefax : (201) 804-1076

E-mail address : ehs@sika-corp.com

Emergency telephone : CHEMTREC: 800-424-9300
INTERNATIONAL: 703-527-3887


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

2. Hazards identification

GHS Classification

| | |
|--|---|
| Flammable liquids, Category 4 | H227: Combustible liquid. |
| Respiratory sensitization, Category 1 | H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| Skin sensitization, Category 1 | H317: May cause an allergic skin reaction. |
| Carcinogenicity, Category 1A (Inhalation) | H350i: May cause cancer by inhalation. |
| Specific target organ systemic toxicity - repeated exposure, Category 2, hearing organs (Inhalation) | H373: May cause damage to organs through prolonged or repeated exposure if inhaled. |

GHS label elements

Hazard pictograms : 

Signal Word : Danger

Hazard Statements : H227 Combustible liquid.
H317 May cause an allergic skin reaction.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H350i May cause cancer by inhalation.
H373 May cause damage to organs (hearing 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.
 P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
 P272 Contaminated work clothing must not be allowed out of the workplace.
 P280 Wear protective gloves.
 P281 Use personal protective equipment as required.
 P285 In case of inadequate ventilation wear respiratory protection.
Response:
 P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
 P304 + P341 IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.
 P308 + P313 IF exposed or concerned: Get medical advice/ attention.
 P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
 P363 Wash contaminated clothing before reuse.
 P370 + P378 In case of fire: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment for extinction.
Storage:
 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.
 There are no hazards not otherwise classified that have been identified during the classification process.
 There are no ingredients with unknown acute toxicity used in a mixture at a concentration >= 1%.

3. Composition/information on ingredients

Hazardous ingredients

| Chemical name | CAS-No. | Concentration (%) |
|---|------------|-------------------|
| xylenes | 1330-20-7 | >= 2 - < 5 % |
| Calcium oxide | 1305-78-8 | >= 3 - < 5 % |
| ethylbenzene | 100-41-4 | >= 0.1 - < 1 % |
| Quartz (SiO2) | 14808-60-7 | >= 0.1 - < 1 % |
| Toluene diisocyanate, oligomeric reaction products with 2,2'-oxydiethanol and | 53317-61-6 | >= 0.1 - < 1 % |



| | | |
|---|-----------|----------------|
| propylidenetriethanol | | |
| 3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate | 4098-71-9 | >= 0.1 - < 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 : 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 without medical advice.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
Obtain medical attention.
- Most important symptoms and effects, both acute and delayed : sensitizing effects
carcinogenic effects

Asthmatic appearance
Allergic reactions
See Section 11 for more detailed information on health effects and symptoms.

May cause an allergic skin reaction.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause cancer by inhalation.
May cause damage to organs through prolonged or repeated exposure if inhaled.
- 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 : Carbon dioxide (CO2)
- Unsuitable extinguishing : Water



media

Specific extinguishing methods : 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. Deny access to unprotected persons.

Environmental precautions : Do not flush into surface water or sanitary sewer system. 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 : 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

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. Follow standard hygiene measures when handling chemical products.

Conditions for safe storage : Prevent unauthorized access. Store in original container. Keep in a well-ventilated place. 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 |
|-----------|---------|----------|-------|---------------------------------------|
|-----------|---------|----------|-------|---------------------------------------|



| | | | | |
|--|------------|----------|------|--|
| xylylene | 1330-20-7 | OSHA Z-1 | TWA | 100 ppm 435 mg/m3 |
| | | OSHA P0 | STEL | 150 ppm 655 mg/m3 |
| | | OSHA P0 | TWA | 100 ppm 435 mg/m3 |
| | | ACGIH | TWA | 100 ppm |
| | | ACGIH | STEL | 150 ppm |
| Calcium oxide | 1305-78-8 | ACGIH | TWA | 2 mg/m3 |
| | | OSHA Z-1 | TWA | 5 mg/m3 |
| | | OSHA P0 | TWA | 5 mg/m3 |
| ethylbenzene | 100-41-4 | ACGIH | TWA | 20 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 |
| Quartz (SiO ₂) | 14808-60-7 | OSHA Z-3 | TWA | 10 mg/m ³ / %SiO ₂ +2 respirable |
| | | OSHA Z-3 | TWA | 250 mppcf / %SiO ₂ +5 respirable |
| | | OSHA P0 | TWA | 0.1 mg/m ³ Respirable fraction |
| | | ACGIH | TWA | 0.025 mg/m ³ Respirable fraction |
| | | OSHA Z-1 | TWA | 0.05 mg/m ³ Respirable dust |
| 3-isocyanatomethyl-3,5,5-trimethylcyclohexyl | 4098-71-9 | ACGIH | TWA | 0.005 ppm |



| | | | | |
|------------|--|---------|------|-----------|
| isocyanate | | OSHA P0 | TWA | 0.005 ppm |
| | | OSHA P0 | STEL | 0.02 ppm |

*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 | : | paste |
| Color | : | gray |
| Odor | : | aromatic |
| Odor Threshold | : | No data available |
| Flash point | : | 150.01 °F (65.56 °C) |
| Ignition temperature | : | No data available |
| Decomposition temperature | : | No data available |
| Lower explosion limit (Vol%) | : | No data available |
| Upper explosion limit (Vol%) | : | No data available |
| Flammability (solid, gas) | : | No data available |
| Oxidizing properties | : | No data available |
| pH | : | Note: Not applicable |
| Melting point/range / Freezing point | : | No data available |
| Boiling point/boiling range | : | No data available |
| Vapor pressure | : | 0.01 mmHg (0.01 hpa) |
| Density | : | 1.40 g/cm ³ at 74.7 °F (23.7 °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 : 64.2 g/l
(VOC) content

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.

Conditions to avoid : Extremes of temperature and direct sunlight.

Incompatible materials : No data available

11. Toxicological information

Acute toxicity

Not classified based on available information.

Components:

xylenes:

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

Acute dermal toxicity : LD50 Dermal (Rabbit): 1,700 mg/kg

ethylbenzene:

Acute oral toxicity : LD50 Oral (Rat): 3,500 mg/kg

Acute dermal toxicity : LD50 Dermal (Rabbit): 5,510 mg/kg

Toluene diisocyanate, oligomeric reaction products with 2,2'-oxydiethanol and propylidenetriethanol:

Acute oral toxicity : LD50 Oral (Rat): > 5,000 mg/kg

3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate:

Acute oral toxicity : LD50 Oral (Rat): 4,814 mg/kg

Acute inhalation toxicity : LC50 (Rat): 0.031 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 Dermal (Rat): > 7,000 mg/kg

Skin corrosion/irritation

Not classified based on available information.

Serious eye damage/eye irritation

Not classified based on available information.

Respiratory or skin sensitization

Skin sensitization: May cause an allergic skin reaction.
Respiratory sensitization: May cause allergy or asthma symptoms or breathing difficulties if



inhaled.

Germ cell mutagenicity

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

May cause damage to organs (hearing organs) through prolonged or repeated exposure if inhaled.

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.

Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Aspiration toxicity

Not classified based on available information.

Carcinogenicity

May cause cancer by inhalation.

| | | |
|-------------|---|------------|
| IARC | Group 1: Carcinogenic to humans | |
| | Quartz (SiO2) | 14808-60-7 |
| | Group 2B: Possibly carcinogenic to humans | |
| | titanium dioxide | 13463-67-7 |
| | ethylbenzene | 100-41-4 |
| NTP | Known to be human carcinogen | |
| | Quartz (SiO2) | 14808-60-7 |
| | Titanium dioxide (13463-67-7) | |

In lifetime inhalation studies of rats, airborne respirable-size titanium dioxide particles have shown to cause an increase in lung tumors at concentrations associated with substantial particle lung burdens and consequential pulmonary overload and inflammation. The potential for these adverse health effects appears to be closely related to the particle size and the amount of the exposed surface area that comes into contact with the lung. However, tests with other laboratory animals such as mice and hamsters, indicate that rats are significantly more susceptible to the pulmonary overload and inflammation that causes lung cancer. Epidemiological studies do not suggest an increased risk of cancer in humans from occupational exposure to titanium dioxide. Titanium dioxide has been characterized by IARC as possibly carcinogenic to humans (Group 2B) through inhalation (not ingestion). It has not been characterized as a potential carcinogen by either NTP or OSHA.

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:

| | | |
|--------|-----------|---|
| xylene | 1330-20-7 | <u>Toxicity to fish:</u> LC50 Species: Oncorhynchus mykiss (rainbow trout) Dose: 3.3 mg/l Exposure time: 96 h |
|--------|-----------|---|

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
Not regulated

IATA
Not regulated

IMDG
Not regulated

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



SARA 311/312 Hazards : Flammable (gases, aerosols, liquids, or solids)
 Chronic Health Hazard
 Respiratory or skin sensitization
 Carcinogenicity
 Specific target organ toxicity (single or repeated exposure)

SARA 302 : This material does not contain any components with a section 302 EHS TPQ.

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

| | | |
|--------------|-----------|--------|
| xylene | 1330-20-7 | 3.82 % |
| ethylbenzene | 100-41-4 | 0.92 % |

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):

| | | |
|--------|-----------|--------|
| xylene | 1330-20-7 | 3.82 % |
|--------|-----------|--------|

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:** Cancer and Reproductive Harm - www.P65Warnings.ca.gov

16. Other information

HMIS Classification

| | | |
|----------------------------|---|---|
| Health | * | 3 |
| Flammability | | 2 |
| 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.

SIKA MAKES NO WARRANTIES EXPRESS OR IMPLIED AND ASSUMES NO LIABILITY ARISING FROM THIS INFORMATION OR ITS USE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES AND SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.

All sales of Sika products are subject to its current terms and conditions of sale available at www.sikausa.com or 201-933-8800.

Revision Date 12/07/2018

Material number: 581319