



1. Identification

Product name : Sikaflex®-2c NS Arctic Part B

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USA
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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 3	H226: Flammable liquid and vapor.
Acute toxicity, Category 4 (Inhalation)	H332: Harmful if inhaled.
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 2	H351: Suspected of causing cancer.
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 : H226 Flammable liquid and vapor.
H317 May cause an allergic skin reaction.
H332 Harmful if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H351 Suspected of causing cancer.
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.
 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.
 P271 Use only outdoors or in a well-ventilated area.
 P272 Contaminated work clothing must not be allowed out of the workplace.
 P280 Wear protective gloves/ eye protection/ face protection.
 P281 Use personal protective equipment as required.
 P285 In case of inadequate ventilation wear respiratory protection.
Response:
 P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 P304 + P340 IF INHALED: 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 dry sand, dry chemical or alcohol-resistant foam to extinguish.
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 \geq 1%.

3. Composition/information on ingredients

**Hazardous ingredients**

Chemical name	CAS-No.	Concentration (%)
xylene	1330-20-7	>= 5 - < 10 %
Isophoronedialdimine	932742-30-8	>= 5 - < 10 %
ethylbenzene	100-41-4	>= 2 - < 5 %
Aliphatic polyisocyanate	28182-81-2	>= 1 - < 2 %
4,4'-methylenediphenyl diisocyanate	101-68-8	< 1 %
4,4'-Methylenediphenyl diisocyanate, oligomers	25686-28-6	< 1 %
Hindered amine derivatives	Proprietary	< 1 %
m-tolyldiene diisocyanate	26471-62-5	< 1 %
methylenediphenyl diisocyanate	26447-40-5	< 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

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

May cause an allergic skin reaction.
Harmful if inhaled.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Suspected of causing cancer.
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 : Alcohol-resistant foam
Carbon dioxide (CO₂)
Dry chemical
- Unsuitable extinguishing media : Water
High volume water jet
- Specific hazards during fire fighting : Do not use a solid water stream as it may scatter and spread fire.
- 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 : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

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.

Provide sufficient air exchange and/or exhaust in work rooms.

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.
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
xylene	1330-20-7	OSHA Z-1	TWA	100 ppm 435 mg/m ³
		OSHA P0	STEL	150 ppm 655 mg/m ³
		OSHA P0	TWA	100 ppm 435 mg/m ³
		ACGIH	TWA	100 ppm
		ACGIH	STEL	150 ppm
		CAL PEL	STEL	150 ppm 655 mg/m ³
		CAL PEL	C	300 ppm
ethylbenzene	100-41-4	CAL PEL	PEL	100 ppm 435 mg/m ³
		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
		CAL PEL	PEL	5 ppm 22 mg/m3
		CAL PEL	STEL	30 ppm 130 mg/m3
4,4'-methylenediphenyl diisocyanate	101-68-8	ACGIH	TWA	0.005 ppm
		OSHA Z-1	C	0.02 ppm 0.2 mg/m3
		OSHA P0	C	0.02 ppm 0.2 mg/m3
		CAL PEL	PEL	0.005 ppm 0.051 mg/m3
		NIOSH REL	TWA	0.005 ppm 0.05 mg/m3
		NIOSH REL	C	0.02 ppm 0.2 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	: paste
Color	: brown
Odor	: aromatic
Odor Threshold	: No data available
Flash point	: ca. 135.0 °F (57.2 °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



pH	:	Note: Not applicable
Melting point/range / Freezing point	:	No data available
Boiling point/boiling range	:	No data available
Vapor pressure	:	6.000 mmHg (7.9993 hpa)
Density	:	ca. 1.02 g/cm ³ at 73 °F (23 °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	:	50.3 g/l A+B Combined

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

Harmful if inhaled.

Ingredients:

Isophoronedialdimine:

Acute oral toxicity : LD50 Oral (Rat): > 2,000 mg/kg



Acute dermal toxicity : LD50 Dermal (Rabbit): > 2,000 mg/kg

Aliphatic polyisocyanate:

Acute oral toxicity : LD50 Oral (Rat): > 2,500 mg/kg

Acute inhalation toxicity : Acute toxicity estimate: 1.5 mg/l
Test atmosphere: dust/mist
Method: Expert judgment

Acute dermal toxicity : LD50 Dermal (Rat): > 2,000 mg/kg

4,4'-methylenediphenyl diisocyanate:

Acute inhalation toxicity : Acute toxicity estimate: 1.5 mg/l
Test atmosphere: dust/mist
Method: Expert judgment

4,4'-Methylenediphenyl diisocyanate, oligomers:

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

Acute inhalation toxicity : Acute toxicity estimate: 1.5 mg/l
Test atmosphere: dust/mist
Method: Expert judgment

Acute dermal toxicity : LD50 Dermal (Rabbit): > 9,400 mg/kg

m-tolylidene diisocyanate:

Acute inhalation toxicity : LC50 (Rat): 0.107 mg/l
Exposure time: 4 h
Test atmosphere: vapor

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

Suspected of causing cancer.

IARC

Group 2B: Possibly carcinogenic to humans

NTP

ethylbenzene	100-41-4
m-tolylidene diisocyanate	26471-62-5
Reasonably anticipated to be a human carcinogen	
m-tolylidene diisocyanate	26471-62-5

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:

Isophoronedialdimine	932742-30-8	<p><u>Toxicity to fish:</u> LC50 Species: Fish Dose: 87.2 mg/l Exposure time: 96 h</p> <p><u>Toxicity to daphnia and other aquatic invertebrates:</u> EC50 Species: Daphnia Dose: > 100 mg/l Exposure time: 48 h</p> <p><u>Toxicity to algae:</u> EC50 Species: Desmodesmus subspicatus (green algae) Dose: 180.4 mg/l Exposure time: 72 h</p>
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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. (xylene)
Class	3
Packing group	III
Labels	3
Emergency Response	128
Guidebook Number	

IATA

UN number	1993
Description of the goods	Flammable liquid, n.o.s. (xylene)
Class	3
Packing group	III
Labels	3
Packing instruction (cargo aircraft)	366

IMDG

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

DOT: As per 49CFR 173.150 (f) Combustible Liquid Exception, Material is Not Regulated.

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
 Chronic Health Hazard
 Acute Health Hazard

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:

xylene	1330-20-7	8.32 %
ethylbenzene	100-41-4	2.08 %
m-tolyldiene diisocyanate	26471-62-5	0.32 %

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	8.32 %
ethylbenzene	100-41-4	2.08 %

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 birth defects or other reproductive harm.

WARNING! This product contains a chemical known in the State of California to cause cancer.

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

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