


**SECTION 1. IDENTIFICATION**

Product name	:	Sikaflex®-221
Other means of identification	:	No data available
Company name	:	601, avenue Delmar Canada Pointe-Claire, QC H9R 4A9 Sika Canada Inc. www.sika.ca
Telephone	:	(514) 697-2610 / 1 (800) 933-7452
Telefax	:	(514) 694-2792
E-mail address	:	ehs@ca.sika.com
Emergency telephone	:	CANUTEC (collect) (613) 996-6666 (24 hours)
Recommended use of the chemical and restrictions on use	:	For further information, refer to product data sheet.

**SECTION 2. HAZARDS IDENTIFICATION****GHS classification in accordance with the Hazardous Products Regulations**

Flammable liquids	:	Category 4
Respiratory sensitization	:	Category 1
Skin sensitization	:	Category 1
Carcinogenicity (Inhalation)	:	Category 2
Specific target organ toxicity - repeated exposure (Inhalation)	:	Category 1 (Central nervous system)
Specific target organ toxicity - repeated exposure (Inhalation)	:	Category 2

**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.
- H351 Suspected of causing cancer if inhaled.
- H372 Causes damage to organs (Central nervous system) through prolonged or repeated exposure if inhaled.
- 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, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
- P264 Wash skin thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P272 Contaminated work clothing should not be allowed out of the workplace.
- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
- P284 In case of inadequate ventilation wear respiratory protection.

**Response:**

- P302 + P352 IF ON SKIN: Wash with plenty of water.
- 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.
- P362 + P364 Take off contaminated clothing and wash it before reuse.
- P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

**Storage:**

- P403 Store in a well-ventilated place.
- P405 Store locked up.

**Disposal:**

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

**Additional Labeling**

There are no ingredients with unknown acute toxicity used in a mixture at a concentration >= 1%.

**Other hazards**

None known.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**



Substance / Mixture : Mixture

**Components**

Chemical name	CAS-No.	Classification	Concentration (% w/w)
xylene	1330-20-7	Flam. Liq. 3; H226 Acute Tox. 4; H332 Acute Tox. 4; H312 Skin Irrit. 2; H315 Eye Irrit. 2A; H319 STOT SE 3; H335 STOT RE 2; H373 Asp. Tox. 1; H304	>= 1 - < 5
naphtha (petroleum), hydrodesulfurized heavy	64742-82-1	Flam. Liq. 3; H226 STOT SE 3; H336 STOT RE 1; H372 Asp. Tox. 1; H304	>= 1 - < 5
4,4'-methylenediphenyl diisocyanate	101-68-8	Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2B; H320 Resp. Sens. 1; H334 Skin Sens. 1; H317 STOT SE 3; H335 STOT RE 2; H373	>= 0.1 - < 1
ethylbenzene	100-41-4	Flam. Liq. 2; H225 Acute Tox. 4; H332 STOT RE 2; H373 Asp. Tox. 1; H304 Carc. 2; H351 Eye Irrit. 2A; H319	>= 0.1 - < 1

Actual concentration or concentration range is withheld as a trade secret

**SECTION 4. FIRST AID MEASURES**

- General advice : Move out of dangerous area.  
Consult a physician.  
Show this material 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 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  
Allergic reactions  
May cause an allergic skin reaction.  
May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
Suspected of causing cancer if inhaled.  
Causes damage to organs through prolonged or repeated exposure if inhaled.
- Notes to physician : Treat symptomatically.

**SECTION 5. FIRE-FIGHTING MEASURES**

- Suitable extinguishing media : Carbon dioxide (CO<sub>2</sub>)
- Unsuitable extinguishing media : Water
- 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.
- Special protective equipment for fire-fighters : In the event of fire, wear self-contained breathing apparatus.

**SECTION 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.

**SECTION 7. HANDLING AND STORAGE**

- Advice on protection against fire and explosion : Normal measures for preventive fire protection.
- 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 : Store in original container.  
Keep in a well-ventilated place.  
Observe label precautions.  
Store in accordance with local regulations.

Materials to avoid : Explosives  
Oxidizing agents  
Poisonous gases  
Poisonous liquids

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
xylene	1330-20-7	TWA	100 ppm 434 mg/m <sup>3</sup>	CA AB OEL
		STEL	150 ppm 651 mg/m <sup>3</sup>	CA AB OEL
		TWAEV	100 ppm 434 mg/m <sup>3</sup>	CA QC OEL
		STEV	150 ppm 651 mg/m <sup>3</sup>	CA QC OEL
		TWA	100 ppm	CA BC OEL
		STEL	150 ppm	CA BC OEL
		TWA	100 ppm	ACGIH
4,4'-methylenediphenyl diisocyanate	101-68-8	STEL	150 ppm	ACGIH
		TWA	0.005 ppm	CA BC OEL
		C	0.01 ppm	CA BC OEL
		TWA	0.005 ppm	CA ON OEL
		C	0.02 ppm	CA ON OEL
		TWAEV	0.005 ppm 0.051 mg/m <sup>3</sup>	CA QC OEL
		TWA	0.005 ppm	ACGIH
ethylbenzene	100-41-4	TWA	100 ppm 434 mg/m <sup>3</sup>	CA AB OEL



		STEL	125 ppm 543 mg/m3	CA AB OEL
		TWA	20 ppm	CA BC OEL
		STEVE	125 ppm 543 mg/m3	CA QC OEL
		TWAEV	100 ppm 434 mg/m3	CA QC OEL

**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** : 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.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance : paste

Color : various



Odor	:	slight
Odor Threshold	:	No data available
pH	:	Not applicable
Melting point/range / Freezing point	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	76 °C (Method: closed cup)
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapor pressure	:	0.01 hpa
Relative vapor density	:	No data available
Density	:	ca. 1.26 g/cm <sup>3</sup> (20 °C)
Solubility(ies)		
Water solubility	:	insoluble
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	Not applicable
Viscosity, kinematic	:	> 20.5 mm <sup>2</sup> /s ( 40 °C)
Explosive properties	:	No data available
Oxidizing properties	:	No data available
Volatile organic compounds (VOC) content	:	43 g/l

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**SECTION 10. STABILITY AND REACTIVITY**

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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
Hazardous decomposition products	:	No decomposition if stored and applied as directed.

**SECTION 11. TOXICOLOGICAL INFORMATION**

**Acute toxicity**

Not classified based on available information.

**Components:**

**xylene:**

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

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

**4,4'-methylenediphenyl diisocyanate:**

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

**ethylbenzene:**

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

Acute dermal toxicity : LD50 Dermal (Rabbit): 5,510 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.





**Carcinogenicity**

Suspected of causing cancer if inhaled.

<b>IARC</b>	Group 2B: Possibly carcinogenic to humans titanium dioxide	13463-67-7
	Group 2B: Possibly carcinogenic to humans naphtha (petroleum), hydrodesulfurized heavy	64742-82-1
	Group 2B: Possibly carcinogenic to humans ethylbenzene	100-41-4

**OSHA** Not applicable

**NTP** Not applicable

**Reproductive toxicity**

Not classified based on available information.

**STOT-single exposure**

Not classified based on available information.

**STOT-repeated exposure**

Causes damage to organs (Central nervous system) through prolonged or repeated exposure if inhaled.

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

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

**Aspiration toxicity**

Not classified based on available information.

**SECTION 12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**Components:**

**ethylbenzene:**

**Persistence and degradability**

No data available

**Bioaccumulative potential**

No data available

**Mobility in soil**

No data available

**Other adverse effects**

**Product:**

Additional ecological 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.



**SECTION 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.

**SECTION 14. TRANSPORT INFORMATION**

**International Regulations**

**IATA-DGR**

Not regulated as a dangerous good

**IMDG-Code**

Not regulated as a dangerous good

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

Not applicable for product as supplied.

**Domestic regulation**

**TDG**

Not regulated as a dangerous good

**SECTION 15. REGULATORY INFORMATION**

**Canadian lists**

No substances are subject to a Significant New Activity Notification.

**SECTION 16. OTHER INFORMATION**

**Full text of other abbreviations**

- ACGIH : USA. ACGIH Threshold Limit Values (TLV)
- CA AB OEL : Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
- CA BC OEL : Canada. British Columbia OEL
- CA ON OEL : Ontario Table of Occupational Exposure Limits made under the Occupational Health and Safety Act.
- CA QC OEL : Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
- ACGIH / TWA : 8-hour, time-weighted average
- ACGIH / STEL : Short-term exposure limit
- CA AB OEL / TWA : 8-hour Occupational exposure limit
- CA AB OEL / STEL : 15-minute occupational exposure limit



CA BC OEL / TWA	:	8-hour time weighted average
CA BC OEL / STEL	:	short-term exposure limit
CA BC OEL / C	:	ceiling limit
CA ON OEL / C	:	Ceiling Limit (C)
CA ON OEL / TWA	:	Time-Weighted Average Limit (TWA)
CA QC OEL / TWAEV	:	Time-weighted average exposure value
CA QC OEL / STEV	:	Short-term exposure value
ADR	:	Accord européen relatif au transport international des marchandises Dangereuses par Route
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

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# Safety Data Sheet

## Sikaflex®-221



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All sales of Sika products are subject to its current terms and conditions of sale available at [www.sika.ca](http://www.sika.ca) or 514-697-2610.

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