



**SECTION 1. IDENTIFICATION**

Product name : Sikaflex®-410 Asphalt Sealant

Company name : Sika Corporation  
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 Lyndhurst, NJ 07071  
 USA  
 www.sikausa.com

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Emergency telephone : CHEMTREC: 800-424-9300  
 INTERNATIONAL: +1-703-527-3887

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 OSHA Hazard Communication Standard (29 CFR 1910.1200)**

Eye irritation : Category 2A

Skin sensitization : Category 1

Carcinogenicity (Inhalation) : Category 1A

Reproductive toxicity : Category 2

**GHS label elements**

Hazard pictograms :

Signal Word : Danger

Hazard Statements : H317 May cause an allergic skin reaction.  
 H319 Causes serious eye irritation.  
 H350 May cause cancer by inhalation.  
 H361 Suspected of damaging fertility or the unborn child.

Precautionary Statements : **Prevention:**



P201 Obtain special instructions before use.  
 P202 Do not handle until all safety precautions have been read and understood.  
 P261 Avoid breathing mist or vapors.  
 P264 Wash skin thoroughly after handling.  
 P272 Contaminated work clothing must not be allowed out of the workplace.  
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

**Response:**

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
 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.  
 P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
 P337 + P313 If eye irritation persists: Get medical advice/ attention.  
 P362 + P364 Take off contaminated clothing and wash it before reuse.

**Storage:**

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  $\geq 1\%$ .

**Other hazards**

None known.

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

Chemical name	CAS-No.	Classification	Concentration (% w/w)
trimethoxyvinylsilane	2768-02-7	Flam. Liq. 3; H226 Skin Sens. 1B; H317	$\geq 1 - < 5$
N-[3-(trimethoxysilyl)propyl]butylamine	31024-56-3	Skin Irrit. 2; H315 Eye Dam. 1; H318	$\geq 1 - < 5$
Quartz (SiO <sub>2</sub> ) $>5\mu\text{m}$	14808-60-7	Carc. 1A; H350i STOT RE 1; H372 STOT SE 3; H335	$\geq 0.1 - < 1$
bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate	52829-07-9	Eye Dam. 1; H318 Repr. 2; H361	$\geq 0.1 - < 1$



Actual concentration is withheld as a trade secret

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#### SECTION 4. FIRST AID MEASURES

- |   |   |  |
|---|---|--|
| General advice  | : | Move out of dangerous area.<br>Consult a physician.<br>Show this material safety data sheet to the doctor in attendance.   |
| If inhaled  | : | Move to fresh air.<br>Consult a physician after significant exposure.  |
| In case of skin contact                                     | : | Take off contaminated clothing and shoes immediately.<br>Wash off with soap and plenty of water.<br>If symptoms persist, call a physician.   |
| In case of eye contact                                      | : | Immediately flush eye(s) with plenty of water.<br>Remove contact lenses.<br>Keep eye wide open while rinsing.<br>If eye irritation persists, consult a specialist.   |
| If swallowed  | : | Clean mouth with water and drink afterwards plenty of water.<br>Do not induce vomiting without medical advice.<br>Do not give milk or alcoholic beverages.<br>Never give anything by mouth to an unconscious person.<br>Obtain medical attention.            |
| Most important symptoms and effects, both acute and delayed | : | Allergic reactions<br>Excessive lachrymation<br>irritant effects<br>sensitizing effects<br>May cause an allergic skin reaction.<br>Causes serious eye irritation.<br>May cause cancer by inhalation.<br>Suspected of damaging fertility or the unborn child. |
| Notes to physician  | : | Treat symptomatically.   |

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#### SECTION 5. FIRE-FIGHTING MEASURES

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|--|---|---|
| Suitable extinguishing media                   | : | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.   |
| Further information                            | : | Collect contaminated fire extinguishing water separately. This must not be discharged into drains.<br>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 : 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 container tightly closed in a dry and 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.

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Ingredients with workplace control parameters**

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Quartz (SiO <sub>2</sub> ) >5µm	14808-60-7	TWA (Respirable particulate mat-	0.025 mg/m <sup>3</sup>	ACGIH

**Sikaflex®-410 Asphalt Sealant**



Revision Date 11/12/2021

Print Date 11/12/2021

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		TWA (Respirable dust)	0.05 mg/m3	OSHA Z-1
		TWA (respirable)	10 mg/m3 / %SiO2+2	OSHA Z-3
		TWA (respirable)	250 mppcf / %SiO2+5	OSHA Z-3
		TWA (respirable dust fraction)	0.1 mg/m3	OSHA P0
		TWA (Respirable particulate matter)	0.025 mg/m3 (Silica)	ACGIH
		TWA (respirable dust fraction)	0.1 mg/m3	OSHA P0
		TWA (Respirable particulate matter)	0.025 mg/m3	ACGIH
		TWA (Respirable particulate matter)	0.025 mg/m3 (Silica)	ACGIH

The above constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

**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.

**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 contaminated clothing and protective equipment before entering eating areas.  
Wash thoroughly after handling.

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**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

- Appearance : viscous liquid
- Color : black
- Odor : mild
- 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 : ca. 221 °F / 105 °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. 1.40 g/cm<sup>3</sup> (74.7 °F / 23.7 °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	:	No data available
Viscosity, kinematic	:	> 20.5 mm <sup>2</sup> /s (104 °F / 40 °C)
Explosive properties	:	No data available
Oxidizing properties	:	No data available
Volatile organic compounds (VOC) content	:	13.30 g/l

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#### SECTION 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	:	No data available
Incompatible materials	:	No data available
Hazardous decomposition products	:	No decomposition if stored and applied as directed.

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#### SECTION 11. TOXICOLOGICAL INFORMATION

##### Acute toxicity

Not classified based on available information.

##### Components:

##### **trimethoxyvinylsilane:**

Acute oral toxicity	:	LD50 Oral (Rat): ca. 7,120 mg/kg
Acute inhalation toxicity	:	LC50: ca. 16.8 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	:	LD50: 3,540 mg/kg

##### **N-[3-(trimethoxysilyl)propyl]butylamine:**

Acute oral toxicity	:	LD50 Oral (Rat): > 2,000 mg/kg
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**Sikaflex®-410 Asphalt Sealant**



Revision Date 11/12/2021

Print Date 11/12/2021

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

**Skin corrosion/irritation**

Not classified based on available information.

**Serious eye damage/eye irritation**

Causes serious eye irritation.

**Respiratory or skin sensitization**

**Skin sensitization**

May cause an allergic skin reaction.

**Respiratory sensitization**

Not classified based on available information.

**Germ cell mutagenicity**

Not classified based on available information.

**Carcinogenicity**

May cause cancer by inhalation.

<b>IARC</b>	Group 1: Carcinogenic to humans Quartz (SiO <sub>2</sub> ) (Silica dust, crystalline)	14808-60-7
	Group 2B: Possibly carcinogenic to humans Carbon black	1333-86-4
<b>OSHA</b>	OSHA specifically regulated carcinogen Quartz (SiO <sub>2</sub> ) (crystalline silica)	14808-60-7
<b>NTP</b>	Known to be human carcinogen Quartz (SiO <sub>2</sub> ) (Silica, Crystalline (Respirable Size))	14808-60-7

**Reproductive toxicity**

Suspected of damaging fertility or the unborn child.

**STOT-single exposure**

Not classified based on available information.

**STOT-repeated exposure**

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

**Aspiration toxicity**

Not classified based on available information.

**Further information**

**Product:**

Remarks : Carbon black (1333-86-4)  
Animal Toxicity:  
Rat, oral, duration 2 year





Effect: no tumors

Mouse, oral, duration 2 years

Effect: no tumors

Mouse, dermal, duration 18 months

Effect: no skin tumors

Rat, inhalation, duration 2 years

Target organ: lungs

Effect: inflammation, fibrosis, tumors

Note: Tumors in the rat lung are considered to be related to the "particle overload phenomenon" rather than to a specific chemical effect of carbon black itself in the lung. These effects in rats have been reported in many studies on other poorly soluble inorganic particles and appear to be rat specific. Tumors have not been observed in other species (i.e., mouse and hamster) for carbon black or other poorly soluble particles under similar circumstances and study conditions. Mortality studies (human data): A study on carbon black production workers in the UK (Sorahan, 2001) found an increased risk of lung cancer in two of the five plants studied; however, the increase was not related to the dose of carbon black. Thus, the authors did not consider the increased risk in lung cancer to be due to carbon black exposure. A German study of carbon black workers at one plant (Morfeld, 2006; Buechte, 2006) found a similar increase in lung cancer risk but, like the Sorahan, 2001 (UK study) found no association with carbon black exposure. A large US study of 18 plants showed a reduction in lung cancer risk in carbon black production workers (DEll, 2006). Based upon these studies, the February 2006 Working Group at the International Agency for Research on Cancer (IARC) concluded that the human evidence for carcinogenicity was inadequate (IARC, 2010). Since the IARC evaluation of carbon black, Sorahan and Harrington (2007) have re-analyzed the UK study data using an alternative exposure hypothesis and found a positive association with carbon black exposure in two of the five plants. The same exposure hypothesis was applied by Morfeld and McCunney (2009) to the German cohort; in contrast, they found no association between carbon black exposure and lung cancer risk and, thus, no support for the alternative exposure hypothesis used by Sorahan and Harrington.

Overall, as a result of these detailed investigations, no causative link between carbon black exposure and cancer risk in humans has been demonstrated.

**IARC CANCER CLASSIFICATION:** In 2006 IARC re-affirmed its 1995 finding that there is "inadequate evidence" from human health studies to assess whether carbon black causes cancer in humans. IARC concluded that there is "sufficient evidence" in experimental animal studies for the carcinogenicity of carbon black. IARC's overall evaluation is that carbon black is "possibly carcinogenic to humans" (Group 2B)". This conclusion was based on IARC's guidelines, which generally require such a classification if one species exhibits carcinogenicity in two or more animal studies (IARC, 2010).



Solvent extracts of carbon black were used in one study of rats in which skin tumors were found after dermal application and several studies of mice in which sarcomas were found following subcutaneous injection. IARC concluded that there was "sufficient evidence" that carbon black extracts can cause cancer in animals (Group 2B).

**ICGIH CANCER CLASSIFICATION:** Confirmed Animal Carcinogen with Unknown Relevance to Humans (Category A3 Carcinogen).

**ASSESSMENT:** Applying the guidelines of self-classification under the Globally Harmonized System of Classification and Labeling of Chemicals, carbon black is not classified as a carcinogen. Lung tumors are induced in rats as a result of repeated exposure to inert, poorly soluble particles like carbon black and other poorly soluble particles. Rats tumors are a result of a secondary non-genotoxic mechanism that has questionable relevance for classification in humans. In support of this opinion, the CLP Guidance for Specific Target Organ Toxicity - Repeated Exposure (STOT-RE), cites lung overload under mechanisms not relevant to humans. Human health studies show that exposure to carbon black does not increase the risk to carcinogenicity.

Quartz (14808-60-7): This classification is relevant when exposed to Quartz (silicon dioxide) in dust or powder form only, including cured product that is subject to sanding, grinding, cutting, or other surface preparation activities.

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## SECTION 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Components:

**bis(2,2,6,6-tetramethyl-4-piperidyl) sebacate:**

#### **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.

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**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.

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**SECTION 14. TRANSPORT INFORMATION**

**International Regulations**

**IATA-DGR**

Not regulated as a dangerous good

**IMDG-Code**

Not regulated as a dangerous good

**Domestic regulation**

**49 CFR**

Not regulated as a dangerous good

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**SECTION 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.

**CERCLA Reportable Quantity**

Listed substances in the product are at low enough levels to not be expected to exceed the RQ

**SARA 304 Extremely Hazardous Substances Reportable Quantity**

Listed substances in the product are at low enough levels to not be expected to exceed the RQ

**SARA 302 Extremely Hazardous Substances Threshold Planning Quantity**

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

- SARA 311/312 Hazards** : Respiratory or skin sensitization  
Carcinogenicity  
Reproductive toxicity  
Serious eye damage or eye irritation

- SARA 313** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**Clean Air Act**

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

**California Prop. 65**

**⚠ WARNING:** This product can expose you to chemicals including Carbon black, amorphous, which is known to the State of California to cause cancer, and methanol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

**SECTION 16. OTHER INFORMATION****Full text of other abbreviations**

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
OSHA P0	:	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
OSHA Z-1	:	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
OSHA Z-3	:	USA. Occupational Exposure Limits (OSHA) - Table Z-3 Mineral Dusts
ACGIH / TWA	:	8-hour, time-weighted average
OSHA P0 / TWA	:	8-hour time weighted average
OSHA Z-1 / TWA	:	8-hour time weighted average
OSHA Z-3 / TWA	:	8-hour time weighted average

**Notes to Reader**

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Revision Date 11/12/2021

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