

**1. Identification**

Product name : Sikagard®-664 Part A

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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**

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 1A (Inhalation)	H350i: May cause cancer by inhalation.
Specific target organ systemic toxicity - single exposure, Category 3, Respiratory system	H335: May cause respiratory irritation.
Specific target organ systemic toxicity - repeated exposure, Category 1, Lungs	H372: Causes damage to organs through prolonged or repeated exposure.

GHS label elements

Hazard pictograms : 

Signal Word : Danger

Hazard Statements : H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H350i May cause cancer by inhalation.
H372 Causes damage to organs (Lungs) through prolonged or repeated exposure.



Precautionary Statements

: **Prevention:**

P201 Obtain special instructions before use.
 P202 Do not handle until all safety precautions have been read and understood.
 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.
 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.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
 P304 + P340 IF INHALED: Remove person to fresh air and keep 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.
 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.

Storage:

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

Disposal:

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

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 (%)
Quartz (SiO ₂)	14808-60-7	$\geq 25 - < 50 \%$
bisphenol-A-(epichlorhydrin) epoxy resin	25068-38-6	$\geq 25 - < 50 \%$
bisphenol-F-(epichlorhydrin) epoxy resin	28064-14-4	$\geq 5 - < 10 \%$
oxirane, mono[(C12-14-alkyloxy)methyl]derivatives	68609-97-2	$\geq 2 - < 5 \%$
bisphenol-F-(epichlorhydrin) epoxy resin	9003-36-5	$\geq 1 - < 2 \%$
p-tert-butylphenyl 1-(2,3-epoxy)propyl ether	3101-60-8	$\geq 1 - < 2 \%$



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 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	: irritant effects sensitizing effects carcinogenic effects Cough Respiratory disorder Allergic reactions Excessive lachrymation Erythema Dermatitis See Section 11 for more detailed information on health effects and symptoms. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. May cause respiratory irritation. May cause cancer by inhalation. Causes damage to organs through prolonged or repeated exposure.
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 | : | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| 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 | : | 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.
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
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

*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 Contaminant (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.

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

9. Physical and chemical properties

- Appearance : liquid
- Color : various
- Odor : ether-like
- Odor Threshold : No data available
- Flash point : 266 °F (130 °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 : ca.1.5 g/cm³
at 73 °F (23 °C)
- Water solubility : Note: soluble



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	:	43 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.
Conditions to avoid	:	No data available
Incompatible materials	:	No data available

11. Toxicological information

Acute toxicity

Not classified based on available information.

Ingredients:

bisphenol-A-(epichlorhydrin) epoxy resin:

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

Acute dermal toxicity : LD50 Dermal (Rabbit): > 20,000 mg/kg

bisphenol-F-(epichlorhydrin) epoxy resin:

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

p-tert-butylphenyl 1-(2,3-epoxy)propyl ether:

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

Acute inhalation toxicity : LC50 (Rat): 3,466 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 Dermal (Rabbit): 6,000 mg/kg

**Skin corrosion/irritation**

Causes skin irritation.

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.

Reproductive toxicity

Not classified based on available information.

STOT-single exposure

May cause respiratory irritation.

STOT-repeated exposure

Causes damage to organs (Lungs) through prolonged or 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.

Carcinogenicity

May cause cancer by inhalation.

IARC

Group 2B: Possibly carcinogenic to humans

titanium dioxide 13463-67-7

Group 1: Carcinogenic to humans

NTP

Quartz (SiO₂) 14808-60-7

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 been 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 cause lung cancer. Epidemiology 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.
 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
 May be harmful to the environment if released in large quantities.
 Water polluting material.

Component:

bisphenol-A-
 (epichlorhydrin) epoxy
 resin

25068-38-6

Toxicity to fish:

LC50

Species: Oncorhynchus mykiss (rainbow trout)

Dose: 2 mg/l

Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates:

EC50

Species: Daphnia magna (Water flea)

Dose: 1.8 mg/l

Exposure time: 48 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

UN number	3082
Description of the goods	Environmentally hazardous substance, liquid, n.o.s. (bisphenol-A-(epichlorhydrin) epoxy resin)
Class	9
Packing group	III
Labels	9
Packing instruction (cargo aircraft)	964
Packing instruction (passenger aircraft)	964
Packing instruction	Y964



(passenger aircraft)

IMDG

UN number	3082
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (bisphenol-A-(epichlorhydrin) epoxy resin)
Class	9
Packing group	III
Labels	9
EmS Number 1	F-A
EmS Number 2	S-F
Marine pollutant	yes

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 : Chronic Health Hazard
Skin corrosion or irritation
Serious eye damage or eye irritation
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 : 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

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).

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

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		1
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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Sikagard®-664 Part A



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