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Section 1: Product Identification

Product Type: Liquid Polymer Tube Crack Repair Products - Sealant

Akona Product Name:

Akonaflex® Self-Leveling Concrete Repair

Section 2: Hazard Identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Classification of the product:

Flam. Liq.	4	Flammable liquids
Eye Dam./Irrit.	2A	Serious eye damage/eye irritation
Resp. Sens.	1	Respiratory sensitization
Skin Sens.	1	Skin sensitization
Carc.	2	Carcinogenicity
Repr.	2 (unborn child)	Reproductive toxicity
STOT RE	1	Specific target organ toxicity-repeated exposure

Label elements

Pictogram:



Signal Word:

Danger

Hazard Statement:

H227	Combustible liquid.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.
H351	Suspected of causing cancer.
H361	Suspected of damaging the unborn child.



H372 Causes damage to organs (Central nervous system) through prolonged or repeated exposure.

Precautionary Statements (Prevention):

P280 Wear protective gloves/protective clothing/eye protection/face protection.
P260 Do not breathe dust/gas/mist/vapors.
P201 Obtain special instructions before use.
P210 Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.
P202 Do not handle until all safety precautions have been read and understood.
P284 In case of inadequate ventilation wear respiratory protection.
P270 Do not eat, drink, or smoke when using this product.
P264 Wash with plenty of soap and water thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.

Precautionary Statements (Response):

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P314 Get medical advice/attention if you feel unwell.
P308+P311 IF exposed or concerned: Call a POISON CENTER or doctor/physician.
P303+P352 IF ON SKIN (or hair): Wash with plenty of soap and water.
P362+P364 Take off contaminated clothing and wash before reuse.
P337+P311 If eye irritation persists: Call a POISON CENTER or doctor/physician.
P370+P378 In case of fire: Use water spray, dry powder, foam or carbon dioxide for extinction.

Precautionary Statements (Storage):

P405 Store locked up.
P403+P235 Store in a well-ventilated place. Keep cool.

Precautionary Statements (Disposal):

P501 Dispose of contents/container to hazardous or special waste collection point.

Hazards not otherwise classified:

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.



Labeling of special preparations (GHS):

SENSITIZATION CAN OCCUR IN SOME INDIVIDUALS, LEADING TO ASTHMA-LIKE SPASMS OF THE BRONCHIAL TUBES AND DIFFICULTY BREATHING. INDIVIDUALS WITH A HISTORY OF RESPIRATORY ILLNESS, ASTHMATIC CONDITIONS, EYE DAMAGE OR TDI SENSITIZATION SHOULD NOT BE EXPOSED TO THIS PRODUCT. TDI IS INCLUDED IN THE NTP ANNUAL REPORT ON CARCINOGENS. RESULTS FROM A TDI HEALTH STUDY INDICATE THAT OVEREXPOSURE TO A RESPIRATORY IRRITANT, RESULTING IN LOWER RESPIRATORY TRACT SYMPTOMS COULD INCREASE THE RISKS OF DEVELOPING ASTHMA-LIKE REACTIONS FROM SUBSEQUENT TDI EXPOSURE.

According to Regulation 1994 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Emergency overview

Not determined.

Section 3: Hazardous Ingredients/Composition

According to Regulation 2012 OSHA Hazard Communication Standard: 29 CFR Part 1910.1200

Chemical Name	Typical Percentage	CAS #
Limestone.....	>25-<50%	1317-65-3
Titanium dioxide	>=3.0-<5.0%	13463-67-7
Calcium oxide.....	>=1.0-<3.0%	1305-78-8
Stoddard solvent	>=1.0-<3.0%	8052-41-3
Toluene-2, 6-diisocyanate	>=0.3-<1.0%	91-08-7
Trimethoxy(3-(oxiranylmethoxy)propyl)silane	>=0.2-<0.3%	2530-83-8
4-toluenesulphonyl isocyanate	>=0.1-<0.2%	4083-64-1
2-ethylhexanoic acid.....	>0.0-<0.1%	149-57-5

According to Regulation 1994 OSHA Hazard Communication Standard: 29 CFR Part 1910.1200

Chemical Name	Typical Percentage	CAS #
This product has not been evaluated Under 1994 OSHA Hazard Communication Standard: 29 CFR Part 1910.1200		



Section 4: First Aid Measures

Description of first aid measures:

General advice:

First aid personnel should pay attention to their own safety. Immediately remove contaminated clothing.

Inhalation:

If difficulties occur after vapor/aerosol has been inhaled, remove to fresh air and seek medical attention.

Skin Contact:

After contact with skin, wash immediately with plenty of water and soap. Under no circumstances should organic solvent be used. If irritation develops, seek medical attention.

Eye contact:

Wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

Ingestion:

Rinse mouth immediately and then drink plenty of water, seek medical attention. Do not induce vomiting unless told to by a poison control center or doctor.

Most important symptoms and effects, both acute and delayed

Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.

Hazards: No applicable information available.

Indication of any immediate medical attention and special treatment needed

Note to physician:

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

Section 5: Fire Fighting Measures

Fire extinguishing media:

Suitable extinguishing media: foam, water spray, dry powder, carbon dioxide

Unsuitable extinguishing media for safety reasons: water jet

Special hazards arising from the substance or mixture

Hazards during fire-fighting: carbon dioxide, carbon monoxide, harmful vapors, nitrogen oxides, fumes/smoke, carbon black



Advice for fire-fighting

Protective equipment for fire-fighting: Wear a self-contained breathing apparatus.

Further information:

The degree of risk is governed by the burning substance and the fire conditions. If exposed to fire, keep containers cool by spraying with water. Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems. Contaminated extinguishing water must be disposed of in accordance with official regulations.

Section 6: Accidental Release Measures

Personal precautions, protective equipment, and emergency procedures:

Do not breathe vapor/aerosol/spray mists. Wear eye/face protection. If exposed to high vapor concentration, leave area immediately. Use personal protective clothing. Handle in accordance with good building materials hygiene and safety practice.

Environmental precautions:

Contain contaminated water/firefighting water. Do not discharge into drains/surface waters/groundwater.

Methods and material for containment and cleaning up:

For small amounts: Pick up with inert absorbent material (e.g. sand, earth, etc.)
Dispose of contaminated material as prescribed.
For large amounts: Pump off product.

Section 7: Handling and Storage

Precautions for safe handling

Avoid aerosol formation. Avoid inhalation of mists/vapors. Avoid skin contact. No special measures necessary provided product is used correctly.

Conditions for safe storage, including any incompatibilities

No applicable information available.

Further information on storage conditions:

Keep only in the original container in a cool, dry, well-ventilated place away from ignition sources, heat, or flame. Protect from direct sunlight.

Section 8: Exposure Controls/Personal Protection

Components with occupational exposure limits:

toluene-2,6-diisocyanate

ACGIH TLV TWA value 0.005 ppm ; STEL value 0.02 ppm ;



calcium oxide	OSHA PEL	PEL 5 mg/m ³ ; TWA value 5 mg/m ³ ;
	ACGIH TLV	TWA value 2 mg/m ³ ;
Limestone	OSHA PEL	PEL 5 mg/ m ³ Respirable fraction ; PEL 15 mg/ m ³ Total dust ; TWA value 15 mg/m ³ Total dust ; TWA value 5 mg/m ³ Respirable fraction ;
Titanium dioxide	OSHA PEL	PEL 15 mg/ m ³ Total dust ; TWA value 10 mg/m ³ Total dust
	ACGIH TLV	TWA value 10 mg/m ³ ;
Stoddard solvent	OSHA PEL	PEL 500 ppm 2,900 mg/m ³ ;
	ACGIH TVL	TWA value 100 ppm ;

Advice on system design:

Provide adequate exhaust ventilation to control work place concentrations.

Personal protective equipment

Respiratory protection: Where a NIOSH-certified (or equivalent) respirator as necessary.

Hand protection:

Wear chemical resistant protective gloves. Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:

Safety glasses with side-shields.

Body protection:

Impermeable protective clothing.

General safety and hygiene measures:

Do not inhale gases/vapors/aerosols. Avoid contact with the skin, eyes and clothing. Avoid exposure - obtain special instructions before use. Handle in accordance with good building materials hygiene and safety practice. Wearing of closed work clothing is recommended. When using, do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift. At the end of the shift the skin should be cleaned and skin-care agents applied. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks).

Section 9: Physical and Chemical Properties

Form:	liquid
Odor:	mild
Odor threshold:	No applicable information available.
Color:	Light gray



pH value:	neutral
Melting Point:	No applicable information available.
Boiling Point:	No applicable information available.
Sublimation point:	No applicable information available.
Flash point:	185°F / 85°C (ASTM D3278, closed cup)
Flammability:	No applicable information available.
Lower explosion limit:	No applicable information available.
Upper explosion limit:	No applicable information available.
Vapor pressure:	No applicable information available.
Density:	11.3 lb/USg (77°F / 25°C)
Relative density:	No applicable information available.
Vapor density:	No applicable information available.
Partitioning coefficient n-Octanol/water (lo Pow):	No applicable information available.
Self-ignition temperature:	not self-igniting
Thermal decomposition:	No decomposition if stored and handled as prescribed/indicated.
Viscosity, dynamic:	No applicable information available.
Viscosity, kinematic:	No applicable information available.
Solubility in water:	No applicable information available.
Solubility (quantitative):	No applicable information available.
Solubility (qualitative):	No applicable information available.
Evaporation rate:	No applicable information available.
Other information:	If necessary, information on other physical and chemical parameters is indicated in this section.

Section 10: Stability and Reactivity

Reactivity:

No hazardous reactions if stored and handled as prescribed/indicated.

Oxidizing properties: Not an oxidizer.

Chemical stability:

The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions:

The product is stable if stored and handled as prescribed/indicated.

Conditions to avoid:

See MSDS section 7 - Handling and storage.

Incompatible materials:

strong acids, strong bases, strong oxidizing agents, strong reducing agents



Hazardous decomposition products:

Decomposition products:

No hazardous decomposition if stored and handled as prescribed/indicated.

Thermal decomposition:

No decomposition if stored and handled as prescribed/indicated.

Section 11: Toxicological Information

Primary routes of exposure:

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity:

Assessment of acute toxicity: Inhalation of diisocyanates may cause irritation of the mucous membranes of the nose, throat or trachea, breathlessness, chest discomfort, difficult breathing and reduced pulmonary function. High airborne concentrations may result additionally in eye irritation, headache, chemical bronchitis, asthma-like symptoms or pulmonary edema. Isocyanates have also been reported to cause hyper-sensitivity pneumonitis, which is characterized by flu-like symptoms, the onset of which may be delayed. Symptoms include nausea, vomiting and abdominal pain.

Oral:

No applicable information available.

Inhalation:

Type of value: ATE

Value: 21.88 mg/l

Determined for vapor

Dermal:

No applicable information available.

Assessment other acute effects:

No applicable information available.

Irritation / corrosion:

Assessment of irritating effects: Severely irritating to the eyes. The product has not been tested. The statement has been derived from the properties of the ingredients.

Sensitization:

Assessment of sensitization: Sensitization after skin contact possible. The substance may cause sensitization of the respiratory tract.

Chronic Toxicity/Effects

Repeated dose toxicity:

Assessment of repeated dose toxicity: Prolonged exposure may cause chronic effects.



- Genetic toxicity:** Assessment of mutagenicity: The substance was mutagenic in various bacterial test systems; however, a mutagenic effect could not be confirmed in mammalian cell culture.
- Carcinogenicity:** Assessment of carcinogenicity: Contains a compound classified as IARC Group 2B (possibly carcinogenic to humans).

Information on: Titanium dioxide

Assessment of carcinogenicity: IARC (International Agency for Research on Cancer) has classified this substance as group 2B (The agent is possibly carcinogenic to humans). In long-term studies in rats in which the substance was given by inhalation, a carcinogenic effect was observed. Tumors were only observed in rats after chronic inhalative exposure to high concentrations which caused sustained lung inflammation. In long-term studies in rats and mice in which the substance was given by feed, a carcinogenic effect was not observed. Dermal exposure is not expected to be carcinogenic.

Information on: toluene-2,6-diisocyanate

Assessment of carcinogenicity: IARC (International Agency for Research on Cancer) has classified this substance as group 2B (The agent is possibly carcinogenic to humans).

- Reproductive toxicity:** Assessment of reproduction toxicity: Contains a Suspected reproductive toxin.

Information on: 2-ethylhexanoic acid

Assessment of reproduction toxicity: The results of animal studies suggest a fertility impairing effect.

- Teratogenicity:** Assessment of teratogenicity: No indications of a developmental toxic / teratogenic effect were seen in animal studies.
- Other Information:** Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses. The product has not been tested. The statements on toxicology have been derived from the properties of the individual components

Symptoms of Exposure:

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.



Medical conditions aggravated by overexposure:

The isocyanate component is a respiratory sensitizer. It may cause allergic reaction leading to asthma-like spasms of the bronchial tubes and difficulty in breathing. Medical supervision of all employees who handle or come into contact with isocyanates is recommended. Contact may aggravate pulmonary disorders. Persons with history of respiratory disease or hypersensitivity should not be exposed to this product. Preemployment and periodic medical examinations with respiratory function tests (FEV, FVC as a minimum) are suggested. Persons with asthmatic conditions, chronic bronchitis, other chronic respiratory diseases, recurrent eczema or pulmonary sensitization should be excluded from working with isocyanates. Once a person is diagnosed as having pulmonary sensitization (allergic asthma) to isocyanates, further exposure is not recommended.

Section 12: Ecological Information

Toxicity

Aquatic toxicity Assessment of aquatic toxicity: Based on available data, the classification criteria are not met.

Persistence and degradability

Assessment biodegradation and elimination (H₂O)

Poorly biodegradable. The product is unstable in water. The elimination data also refer to products of hydrolysis.

Assessment biodegradation and elimination (H₂O)

Information on: TDI

Poorly biodegradable. The product is unstable in water. The elimination data also refer to products of hydrolysis.

Mobility in soil

Assessment transport between environmental compartments

Adsorption to solid soil phase is not expected.

Additional information

Other ecotoxicological advice:

Do not discharge product into the environment without control. The product has not been tested. The statements on ecotoxicology have been derived from the properties of the individual components.

Section 13: Disposal Considerations

Waste disposal of substance:



Dispose of in accordance with local authority regulations. Do not discharge into drains/surface waters/groundwater.

Container disposal:

Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned.

Section 14: Transportation

Land transport

USDOT

Classified as combustible liquid in containers greater than 119 gallons.

Sea transport

IMDG

Not classified as a dangerous good under transport regulations

Air transport

IATA/ICAO

Not classified as a dangerous good under transport regulations

Section 15: Regulatory Information

Federal Regulations

Registration status:

Chemical TSCA, US released / listed

TSCA § 5 proposed Significant New Use Restriction (SNUR) listed on TSCA-Inventory with S-flag

This product contains a substance subject to a pending SNUR. 40 CFR 721.10789

EPCRA 311/312 (Hazard categories): Acute; Chronic

EPCRA 313:

<u>CAS Number</u>	<u>Chemical Name</u>
91-08-7	toluene-2,6-diisocyanate

<u>CERCLA RQ</u>	<u>CAS Number</u>	<u>Chemical name</u>
5000 LBS	7664-38-2	phosphoric acid
1000 LBS	108-88-3	Toluene
100 LBS	108-90-7;	chlorobenzene;
	584-84-9; 91-08-7	toluene-2,4-diisocyanate; toluene-2,6-diisocyanate



State regulations

State RTK

CAS Number

Chemical name

PA	13463-67-7	Titanium dioxide
	1317-65-3	Limestone
	91-08-7	toluene-2,6-diisocyanate
	28553-12-0	Di-isononylphthalate
	1305-78-8	calcium oxide
MA	8052-41-3	Stoddard solvent
	1317-65-3	Limestone
	91-08-7	toluene-2,6-diisocyanate
	1305-78-8	calcium oxide
	13463-67-7	Titanium dioxide
NJ	8052-41-3	Stoddard solvent
	13463-67-7	Titanium dioxide
	1305-78-8	calcium oxide
	8052-41-3	Stoddard solvent
	1317-65-3	Limestone
	91-08-7	toluene-2,6-diisocyanate

California Proposition 65

The state of California requires the following statement (Proposition 65) in regards to this material:



WARNING: Cancer, Reproductive Harm - www.P65Warnings.ca.gov

NFPA Hazard codes:

Health: 2 Fire: 2 Reactivity: 0 Special:

Section 16: Other Information

Additional information on the products is available at: www.tccmaterials.com

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Version: 1.2

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