



**Safety Data Sheet**  
**Akonaseal™ Polyurethane Masonry / Joint Sealant**  
© Akona Manufacturing LLC.  
Version 1.0

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**Emergency Telephone Number:**  
651-688-9116  
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651-905-8137

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**Section 1: Product Identification**

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Product Type: Liquid Polymer Tube Crack Repair Products / Sealant

**Akona Product Name:**  
Akonaseal™ Polyurethane Masonry/Joint Sealant

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**Section 2: Hazard Identification**

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

**Classification of the product:**

Acute Tox.	4 (Inhalation-vapor)	Acute toxicity
Eye Dam./Irrit.	2A	Serious eye damage/eye irritation
Resp. Sens.	1	Respiratory sensitization
Skin Sens.	1	Skin sensitization
Carc.	2	Carcinogenicity
STOT RE	1	Specific target organ toxicity-repeated exposure

**Label elements**

Pictogram:



**Signal Word:**

Danger

**Hazard Statement:**

H332 Harmful if inhaled.  
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



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.  
P271 Use only outdoors or in a well-ventilated area.  
P260 Do not breathe dust/gas/mist/vapors.  
P201 Obtain special instructions before use.  
P261 Avoid breathing vapors.  
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):**

P308+311 IF exposed or concerned: Call a POISON CENTER or doctor/physician.  
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.  
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.

**Precautionary Statements (Storage):**

P405 Store locked up.

**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):**

CONTAINS ISOCYANATES. INHALATION OF ISOCYANATE MISTS OR VAPORS MAY CAUSE RESPIRATORY IRRITATION, BREATHLESSNESS, CHEST



DISCOMFORT AND REDUCED PULMONARY FUNCTION. OVEREXPOSURE WELL ABOVE THE PEL MAY RESULT IN BRONCHITIS, BRONCHIAL SPASMS AND PULMONARY EDEMA. LONG-TERM EXPOSURE TO ISOCYANATES HAS BEEN REPORTED TO CAUSE LUNG DAMAGE, INCLUDING REDUCED LUNG FUNCTION WHICH MAY BE PERMANENT. ACUTE OR CHRONIC OVEREXPOSURE TO ISOCYANATES MAY CAUSE SENSITIZATION IN SOME INDIVIDUALS, RESULTING IN ALLERGIC RESPIRATORY REACTIONS INCLUDING WHEEZING, SHORTNESS OF BREATH AND DIFFICULTY BREATHING. ANIMAL TESTS INDICATE THAT SKIN CONTACT MAY PLAY A ROLE IN CAUSING RESPIRATORY SENSITIZATION.

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**Section 3: Hazardous Ingredients/Composition**

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

Ingredient	Typical Percentage	CAS #
Limestone.....	>=15.0-<20.0%	1317-65-3
Titanium dioxide .....	>=3.0-<5.0%	13463-67-7
talc.....	>=3.0-<5.0%	1487-96-6
Stoddard solvent .....	>=1.0-<3.0%	8052-41-3
Calcium oxide.....	>=1.0-<3.0%	1305-78-8
Trimethoxy(3-(oxiranylmethoxy)propyl)silane .....	>=0.3-<1.0%	2530-83-8
Toluene-2, 6-diisocyanate .....	>=0.3-<1.0%	91-08-7
Toluene-2, 4-diisocyanate .....	>=0.03-<0.04%	584-84-9

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**Section 4: First Aid Measures**

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**Description of first aid measures:**

**General advice:**

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

**Inhalation:**

Remove the affected individual into fresh air and keep the person calm. Assist in breathing if necessary.

Immediate medical attention required.

**Skin Contact:**

Wash thoroughly with soap and water. If irritation develops, seek medical attention

**Eye contact:**

Hold eyelids apart and flush eyes with plenty of water. At least fifteen minutes of flushing is recommended for any chemical contact. If any irritation persists, get medical attention.



**Ingestion:**

Rinse mouth and then drink plenty of water. Do not induce vomiting. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Immediate medical attention required.

**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: Symptoms can appear later.

**Indication of any immediate medical attention and special treatment needed**

**Note to physician:**

Antidote: Specific antidotes or neutralizers to isocyanates do not exist.

Treatment: Treatment should be supportive and based on the judgement of the physician in response to the reaction of the patient.

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**Section 5: Fire Fighting Measures**

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**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: nitrous gases, fumes/smoke, isocyanate, vapor

**Advice for fire-fighting**

Protective equipment for fire-fighting: Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

**Further information:**

Keep containers cool by spraying with water if exposed to fire. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

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**Section 6: Accidental Release Measures**

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**Personal precautions, protective equipment, and emergency procedures:**

Clear area. Ensure adequate ventilation. Wear suitable personal protective clothing and equipment.



**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: Absorb isocyanate with suitable absorbent material (see § 40 CFR, sections 260, 264 and 265 for further information). Shovel into open container. Do not make container pressure tight. Move container to a well-ventilated area (outside). Spill area can be decontaminated with the following recommended decontamination solution: Mixture of 90 % water, 8 % concentrated ammonia, 2 % detergent. Add at a 10 to 1 ratio. Allow to stand for at least 48 hours to allow escape of evolved carbon dioxide.

For large amounts: If temporary control of isocyanate vapor is required, a blanket of protein foam or other suitable foam (available from most fire departments) may be placed over the spill. Transfer as much liquid as possible via pump or vacuum device into closed but not sealed containers for disposal.

For residues: The following measures should be taken for final cleanup: Wash down spill area with decontamination solution. Allow solution to stand for at least 10 minutes.

Dike spillage.

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**Section 7: Handling and Storage**

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**Precautions for safe handling**

Provide suitable exhaust ventilation at the processing machines. Ensure thorough ventilation of stores and work areas. Avoid aerosol formation. When handling heated product, vapours of the product should be ventilated, and respiratory protection used. Wear respiratory protection when spraying. Danger of bursting when sealed gastight. Protect against moisture. If bulging of drum occurs, transfer to well ventilated area, puncture to relieve pressure, open vent and let stand for 48 hours before resealing.

**Protection against fire and explosion:**

Keep away from sources of ignition - No smoking. The relevant fire protection measures should be noted.

**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, well-ventilated place. Protect from direct sunlight. Store protected against freezing.

**Storage stability:**

Storage temperature: 41°- 90°F (5°- 32°C)  
Protect from temperatures below 2°F (-17°C)  
Protect from temperatures above 118°F (48°C)

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**Section 8: Exposure Controls/Personal Protection**

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**Components with occupational exposure limits:**

calcium oxide	OSHA ACGIH TLV	PEL 5 mg/m <sup>3</sup> ; TWA value 5 mg/m <sup>3</sup> ; TWA value 2 mg/m <sup>3</sup>
Limestone	OSHA	PEL 5 mg/ m <sup>3</sup> Respirable fraction ; PEL 15 mg/ m <sup>3</sup> Total dust ; TWA value 15 mg/m <sup>3</sup> ; Total dust ; TWA value 5 mg/m <sup>3</sup> Respirable fraction
Titanium dioxide	OSHA PEL ACGIH TVL	PEL 15 mg/ m <sup>3</sup> Total dust ; TWA value 10 mg/m <sup>3</sup> Total dust ; TWA value 10 mg/m <sup>3</sup> ;
talc	OSHA PEL	TWA value 20 millions of particles per cubic foot of air TWA value 2.4 millions of particles per cubic foot of air Respirable ; The exposure limit is calculated from the equation, 250/(%SiO <sub>2</sub> +2). Using a value of 100% SiO <sub>2</sub> . Lower percentages of SiO <sub>2</sub> will yield higher exposure limits. TWA value 0.1 mg/m <sup>3</sup> Respirable ; The exposure limit is calculated from the equation, 10/(%SiO <sub>2</sub> +2). Using a value of 100% SiO <sub>2</sub> . Lower percentages of SiO <sub>2</sub> will yield higher exposure limits. TWA value 0.3 mg/ m <sup>3</sup> Total dust ; The exposure limit is calculated from the equation, 30/(%SiO <sub>2</sub> +2). Using a value of 100% SiO <sub>2</sub> . Lower percentages of SiO <sub>2</sub> will yield higher exposure limits. TWA value 2 mg/ m <sup>3</sup> Respirable dust ; TWA value 0.3 mg/m <sup>3</sup> Total dust;



The exposure limit is calculated from the equation,  $30/(\%SiO_2+2)$ . Using a value of 100% SiO<sub>2</sub>. Lower percentages of SiO<sub>2</sub> will yield higher exposure limits. TWA value 0.1 mg/ m<sup>3</sup> Respirable ;

The exposure limit is calculated from the equation,  $10/(\%SiO_2+2)$ . Using a value of 100% SiO<sub>2</sub>. Lower percentages of SiO<sub>2</sub> will yield higher exposure limits. TWA value 2.4 millions of particles per cubic foot of air Respirable;

The exposure limit is calculated from the equation,  $250/(\%SiO_2+2)$ . Using a value of 100% SiO<sub>2</sub>. Lower percentages of SiO<sub>2</sub> will yield higher exposure limits. TWA value 20 millions of particles per cubic foot of air;

ACGIH TLV TWA value 2 mg/ m<sup>3</sup> Respirable fraction ;  
The value is for particulate matter containing no asbestos and <1% crystalline silica

Stoddard solvent OSHA PEL PEL 500 ppm 2,900 mg/m<sup>3</sup> ;  
ACGIH TVL TWA value 100 ppm ;

**Advice on system design:**

Provide adequate exhaust ventilation to control work place concentrations.

**Personal protective equipment**

**Respiratory protection:**

When workers are facing concentrations above the occupational exposure limits they must use appropriate certified respirators. When atmospheric levels may exceed the occupational exposure limit (PEL or TLV) NIOSH-certified air-purifying respirators equipped with an organic vapor sorbent and particulate filter can be used as long as appropriate precautions and change out schedules are in place. For emergency or non-routine, high exposure situations, including confined space entry, use a NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions.

**Hand protection:**

Chemical resistant protective gloves should be worn to prevent all skin contact., Suitable materials may include, chloroprene rubber (Neoprene), nitrile rubber (Buna N), chlorinated polyethylene, polyvinylchloride (Pylox), butyl rubber, depending upon conditions of use.

**Eye protection:**



Tightly fitting safety goggles (chemical goggles). Wear face shield if splashing hazard exists.

**Body protection:**

Cover as much of the exposed skin as possible to prevent all skin contact. Suitable materials may include, saran-coated material, depending upon conditions of use.

**General safety and hygiene measures:**

Wear protective clothing as necessary to prevent contact. Eye wash fountains and safety showers must be easily accessible. Observe the appropriate PEL value. Wash soiled clothing immediately. Contaminated equipment or clothing should be cleaned after each use or disposed of.

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**Section 9: Physical and Chemical Properties**

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<b>Form:</b>	paste
<b>Odor:</b>	mild
<b>Odor threshold:</b>	No applicable information available.
<b>Color:</b>	Light gray
<b>pH value:</b>	neutral
<b>Melting Point:</b>	No applicable information available.
<b>Boiling Point:</b>	No applicable information available.
<b>Sublimation point:</b>	No applicable information available.
<b>Flash point:</b>	Non-flammable.
<b>Flammability:</b>	not flammable (UN Test N1 (ready combustible solids))
<b>Lower explosion limit:</b>	No applicable information available.
<b>Upper explosion limit:</b>	No applicable information available.
<b>Autoignition:</b>	No applicable information available.
<b>Vapor pressure:</b>	No applicable information available.
<b>Density:</b>	9.6 lb/USg (25°C)
<b>Relative density:</b>	No applicable information available.
<b>Vapor density:</b>	No applicable information available.
<b>Partitioning coefficient n-Octanol/water (lo Pow):</b>	No applicable information available.
<b>Self-ignition temperature:</b>	not self-igniting
<b>Thermal decomposition:</b>	No decomposition if stored and handled as prescribed/indicated.
<b>Viscosity, dynamic:</b>	No applicable information available.
<b>Viscosity, kinematic:</b>	No applicable information available.
<b>Solubility in water:</b>	(15° C) insoluble
<b>Miscibility with water:</b>	not (e.g. <10%)
<b>Solubility (quantitative):</b>	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.

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### Section 10: Stability and Reactivity

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**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:**

Reacts with water, with formation of carbon dioxide. Risk of bursting. Reacts with alcohols. Reacts with acids. Reacts with alkalis. Reacts with amines. Risk of exothermic reaction. Risk of polymerization. Contact with certain rubbers and plastics can cause brittleness of the substance/product with subsequent loss in strength.

**Conditions to avoid:**

Avoid moisture.

**Incompatible materials:**

Acids, amines, alcohols, water, Alkalines, strong bases, Substances/products that react with isocyanates.

**Hazardous decomposition products:**

**Decomposition products:**

Hazardous decomposition products: carbon monoxide, carbon dioxide, nitrogen oxide, hydrogen cyanide, nitrogen oxides, aromatic isocyanates, gases/vapors

**Thermal decomposition:**

No decomposition if stored and handled as prescribed/indicated.

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### Section 11: Toxicological Information

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**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: Harmful by inhalation.
- Oral:** No information available.
- Inhalation:** Type of value: ATE  
Value: 14.8 mg/l  
Determined for vapor
- Dermal:** No applicable information available.
- Assessment other acute effects:** No applicable information available.
- Irritation / corrosion:** Assessment of irritating effects: Eye contact causes irritation.
- 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: 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).*

*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.*



**Reproductive toxicity:**

Assessment of reproduction toxicity: The results of animal studies gave no indication of 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.

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**Section 12: Ecological Information**

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**Toxicity**

**Aquatic toxicity**

Assessment of aquatic toxicity: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. May cause long-term adverse effects in the aquatic environment.

**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.

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**Section 13: Disposal Considerations**

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**Waste disposal of substance:**

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

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**Section 14: Transportation**

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**Land transport**

US DOT Not classified as a dangerous good under transport regulations.

**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.

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**Section 15: Regulatory Information**

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**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>
1000 LBS	108-88-3	Toluene
100 LBS	108-90-7; 584-84-9; 91-08-7, 75-28-5	chlorobenzene; toluene-2,4-diisocyanate; toluene-2,6-diisocyanate; Propane, 2-methyl-

**State regulations**

<u>State RTK</u>	<u>CAS Number</u>	<u>Chemical name</u>
NJ	1305-78-8	calcium oxide
	1317-65-3	Limestone
	13463-67-7	Titanium dioxide
	14807-96-6	talc
	8052-41-3	Stoddard solvent
	91-08-7	toluene-2,6-diisocyanate
PA	1305-78-8	calcium oxide
	1317-65-3	Limestone
	13463-67-7	Titanium dioxide
	14807-96-6	talc
	8052-41-3	Stoddard solvent
	584-84-9	toluene-2,4-diisocyanate

**CA Prop. 65:**

THIS PRODUCT CONTAINS A CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER AND BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.

**NFPA Hazard codes:**

Health: 2    Fire: 0    Reactivity: 0    Special:

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**Section 16: Other Information**

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Additional information on the product is available at: [www.tccmaterials.com](http://www.tccmaterials.com)



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**Akonaseal™ Polyurethane Masonry / Joint**  
**Sealant**  
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