SAFETY DATA SHEET

1. Identification

Product identifier KE-3421
Other means of identification
Sales Code GDUNS0
Recommended use RTV rubbers
RTV rubber for electrical, electronic and general industry (coating)
Recommended restrictions Industrial use only.
Manufacturer/Importer/Supplier/Distributor information
Name Shin-Etsu Silicones of America, Inc.
Address 1150 Damar Drive, Akron, OH 44305 USA
Contact Regulation compliance group
Telephone Number +1-330-630-9860
Fax Number +1-330-630-9855
Emergency Phone Number Chemtrec: +1-800-424-9300 (Within US)
Chemtrec: +1-703-527-3887 (Outside US)

2. Hazard(s) identification

Physical hazards Flammable liquids Category 2
Health hazards Skin corrosion/irritation Category 2
Serious eye damage/eye irritation Category 2A
Reproductive toxicity (the unborn child, fertility) Category 2
Environmental hazards Not classified.
OSHA defined hazards Not classified.

*Hazards not stated here are "Not classified", "Not applicable" or "Classification not possible".

Label elements

Signal word Danger

Precautionary statement
Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling.
Response In case of fire: Use water fog, foam, dry chemical powder or carbon dioxide(CO2) to extinguish. IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. If exposed or concerned: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.
Storage Store in a well-ventilated place. Keep cool. Store locked up.
Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.
Supplemental information None.
**Substance(s) formed under the condition of use**
This product reacts with water, moisture or humid air to evolve following compounds:
- Acetone

**HMIS® ratings**
- Health: 2*
- Flammability: 3
- Physical hazard: 0

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### 3. Composition/information on ingredients

#### Mixtures

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alkenoxysilane*</td>
<td>Proprietary*</td>
<td>5 - &lt; 10</td>
<td></td>
</tr>
<tr>
<td>Organosilane*</td>
<td>Proprietary*</td>
<td>&lt; 1</td>
<td></td>
</tr>
<tr>
<td>Alkoxysilane(A)*</td>
<td>Proprietary*</td>
<td>&lt; 1</td>
<td></td>
</tr>
<tr>
<td>Alkoxysilane(B)*</td>
<td>Proprietary*</td>
<td>&lt; 1</td>
<td></td>
</tr>
<tr>
<td>Toluene</td>
<td></td>
<td>108-88-3</td>
<td>&lt; 1</td>
</tr>
<tr>
<td>Octamethylcyclotetrasiloxane</td>
<td></td>
<td>556-67-2</td>
<td>1 - &lt; 3</td>
</tr>
</tbody>
</table>

#### Decomposition

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone</td>
<td>67-64-1</td>
<td></td>
</tr>
</tbody>
</table>

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

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### 4. First-aid measures

#### Inhalation
Move to fresh air. Call a physician if symptoms develop or persist.

#### Skin contact
Remove contaminated clothing immediately and wash skin with soap and water. For minor skin contact, avoid spreading material on unaffected skin. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

#### Eye contact
Rinse immediately with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

#### Ingestion
Rinse mouth. Get medical attention immediately.

#### Most important symptoms/effects, acute and delayed
Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.

#### Indication of immediate medical attention and special treatment needed
Treat symptomatically.

#### General information
Take off all contaminated clothing immediately. IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

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### 5. Fire-fighting measures

#### Suitable extinguishing media
Water fog. Dry chemical powder. Carbon dioxide (CO2).

#### Unsuitable extinguishing media
Do not use a solid water stream as it may scatter and spread fire.

#### Specific hazards arising from the chemical
By heating and fire, harmful vapors/gases may be formed. Nitrogen oxides. (corrosive)

#### Special protective equipment and precautions for firefighters
Firefighters must use standard protective equipment including flame retardant coat, helmet, gloves, rubber boots, and self-contained breathing apparatus.

#### Fire-fighting equipment/instructions
In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.

#### General fire hazards
Highly flammable liquid and vapor.

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### 6. Accidental release measures

#### Personal precautions, protective equipment and emergency procedures
Keep unnecessary personnel away. Local authorities should be advised if significant spillages cannot be contained. Do not touch or walk through spilled material. Ventilate closed spaces before entering them. Wear appropriate personal protective equipment.
Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal.

Small Spills: Clean surface thoroughly to remove residual contamination.

Environmental precautions

Never return spills in original containers for re-use.

Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Vapors may form explosive mixtures with air. Provide adequate ventilation.

DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Do not smoke. Take precautionary measures against static discharges. Use personal protective equipment as required. When using do not eat or drink. Wash hands thoroughly after handling.

Use care in handling/storage. Do not breathe mist or vapor. Avoid contact during pregnancy/while nursing. Avoid contact with skin. Avoid contact with eyes. Avoid prolonged exposure.

Conditions for safe storage, including any incompatibilities


8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

<table>
<thead>
<tr>
<th>Decomposition Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetone (CAS 67-64-1)</td>
<td>PEL 2400 mg/m3 1000 ppm</td>
</tr>
</tbody>
</table>

US. OSHA Table Z-2 (29 CFR 1910.1000) Components

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toluene (CAS 108-88-3)</td>
<td>Ceiling</td>
<td>300 ppm</td>
</tr>
<tr>
<td>Toluene (CAS 108-88-3)</td>
<td>TWA</td>
<td>200 ppm</td>
</tr>
</tbody>
</table>

US. ACGIH Threshold Limit Values Components

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toluene (CAS 108-88-3)</td>
<td>TWA</td>
<td>20 ppm</td>
</tr>
<tr>
<td>Acetone (CAS 67-64-1)</td>
<td>STEL</td>
<td>750 ppm</td>
</tr>
<tr>
<td>Acetone (CAS 67-64-1)</td>
<td>TWA</td>
<td>500 ppm</td>
</tr>
</tbody>
</table>

US. NIOSH: Pocket Guide to Chemical Hazards Components

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toluene (CAS 108-88-3)</td>
<td>STEL</td>
<td>560 mg/m3</td>
</tr>
<tr>
<td>Toluene (CAS 108-88-3)</td>
<td>TWA</td>
<td>375 mg/m3</td>
</tr>
<tr>
<td>Acetone (CAS 67-64-1)</td>
<td>TWA</td>
<td>590 mg/m3</td>
</tr>
</tbody>
</table>

Biological limit values

ACGIH Biological Exposure Indices Components

<table>
<thead>
<tr>
<th>Components</th>
<th>Value</th>
<th>Determinant</th>
<th>Specimen</th>
<th>Sampling Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toluene (CAS 108-88-3)</td>
<td>0.3 mg/g</td>
<td>o-Cresol, with hydrolysis</td>
<td>Creatinine in urine</td>
<td>*</td>
</tr>
<tr>
<td>Toluene (CAS 108-88-3)</td>
<td>0.03 mg/l</td>
<td>Toluene</td>
<td>Urine</td>
<td>*</td>
</tr>
<tr>
<td>Toluene (CAS 67-64-1)</td>
<td>0.02 mg/l</td>
<td>Toluene</td>
<td>Blood</td>
<td>*</td>
</tr>
<tr>
<td>ACGIH Biological Exposure Indices</td>
<td>Value</td>
<td>Determinant</td>
<td>Specimen</td>
<td>Sampling Time</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>-------</td>
<td>-------------</td>
<td>----------</td>
<td>---------------</td>
</tr>
<tr>
<td>Acetone (CAS 67-64-1)</td>
<td>50 mg/l</td>
<td>Acetone</td>
<td>Urine</td>
<td>*</td>
</tr>
</tbody>
</table>

* - For sampling details, please see the source document.

**Exposure guidelines**

**US. ACGIH Threshold Limit Values**

- Methanol (Impurity) (CAS 67-56-1) Can be absorbed through the skin.

**US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants**

- METHYL ALCOHOL; METHANOL (CAS 67-56-1) Can be absorbed through the skin.
- TOLUENE; TOLUOL (CAS 108-88-3) Can be absorbed through the skin.

**US. Minnesota Hazardous Substances List (Minn. Rules 5206.0400).**

- Methanol (Impurity) (CAS 67-56-1) Skin designation applies.
- Toluene (CAS 108-88-3) Skin designation applies.

**US. NIOSH: Pocket Guide to Chemical Hazards**

- Methanol (Impurity) (CAS 67-56-1) Can be absorbed through the skin.

**US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A**

- Methanol (Impurity) (CAS 67-56-1) Can be absorbed through the skin.

**Appropriate engineering controls**

- Explosion-proof general and local exhaust ventilation. Provide eyewash station.
- Pay attention to ventilation such as local exhaust, mechanical and/or door open for at least 24 hours after application.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**

- Tightly sealed safety glasses according to EN 166.

**Skin protection**

- Wear protective gloves.

**Hand protection**

- Wear suitable protective clothing.

**Respiratory protection**

- If airborne concentrations are above the applicable exposure limits, use NIOSH approved respiratory protection.

**Thermal hazards**

- Wear appropriate thermal protective clothing, when necessary.

**General hygiene considerations**

- Avoid contact with skin. Avoid contact with eyes. Wash hands before breaks and immediately after handling the product. Contaminated work clothing should not be allowed out of the workplace. Handle in accordance with good industrial hygiene and safety practice.

### 9. Physical and chemical properties

**Appearance**

- **Form**: Liquid.
- **Color**: Light yellow. Clear.
- **Odor**: Acetone odor
- **Odor threshold**: Not available.
- **pH**: Not available.
- **Melting point/freezing point**: No data
- **Initial boiling point and boiling range**: Not applicable.
- **Flash point**: 33.8 °F (1 °C) Closed Cup
- **Evaporation rate**: < 1 (Butyl Acetate=1)
- **Flammability (solid, gas)**: Not applicable.
- **Upper/lower flammability or explosive limits**
  - Flammability limit - lower (%): 2.1 % v/v [Acetone]
  - Flammability limit - upper (%): 13.0 % v/v [Acetone]
  - Explosive limit - lower (%): Not available.
  - Explosive limit - upper (%): Not available.
- **Vapor pressure**: Negligible (25 °C)
Vapor density > 1 (air=1)
Relative density 0.98 (25°C)
Solubility(ies)
  Solubility (water) Not soluble
Partition coefficient (n-octanol/water) Not applicable
Auto-ignition temperature Not available.
 Decomposition temperature Not available.
Viscosity 300 mm²/s (25°C)
Other information
  Molecular weight Not applicable.

10. Stability and reactivity
Reactivity No hazardous reaction known under normal conditions of use, storage and transport.
Chemical stability Stable at normal conditions.
Possibility of hazardous reactions Hazardous polymerization does not occur.
Conditions to avoid None known.
Hazardous decomposition products This product reacts with water, moisture or humid air to evolve following compounds:
  Acetone.
  Thermal breakdown of this product during fire or very high heat condition may evolve the following hazardous decomposition product:

11. Toxicological information
Information on likely routes of exposure
Ingestion Expected to be a low ingestion hazard.
Inhalation Prolonged inhalation may be harmful.
Skin contact Causes skin irritation.
Eye contact Causes serious eye irritation.
Symptoms related to the physical, chemical and toxicological characteristics Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.

Information on toxicological effects
Acute toxicity

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alkenoxysilane (CAS Proprietary)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rat</td>
<td>&gt; 20 ml/kg</td>
</tr>
<tr>
<td>Alkoxysilane(A) (CAS Proprietary)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rabbit</td>
<td>4290 mg/kg</td>
</tr>
<tr>
<td>Oral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rat</td>
<td>1570 - 3650 mg/kg</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1780 mg/kg</td>
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<tr>
<td>Alkoxysilane(B) (CAS Proprietary)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rabbit</td>
<td>&gt; 2000 mg/kg</td>
</tr>
</tbody>
</table>

Material name: KE-3421
Version #: 01 Issue date: 09-02-2015
<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inhalation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LC50</td>
<td>Rat</td>
<td>16 ml/kg</td>
</tr>
<tr>
<td>Oral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rat</td>
<td>1.49 - 2.44 mg/l/4h</td>
</tr>
<tr>
<td><strong>Oral</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rat</td>
<td>2995 mg/kg</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2400 mg/kg</td>
</tr>
<tr>
<td><strong>Octamethylcyclotetrasiloxane (Impurity) (CAS 556-67-2)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Inhalation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LC50</td>
<td>Rat</td>
<td>&gt; 5000 mg/m3, 4 hours</td>
</tr>
<tr>
<td><strong>Oral</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rat</td>
<td>&gt; 5000 mg/kg</td>
</tr>
<tr>
<td><strong>Organosilane (CAS Proprietary)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td>Rat</td>
<td>3.67 ml/kg</td>
</tr>
<tr>
<td><strong>Toluene (CAS 108-88-3)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rabbit</td>
<td>12124 mg/kg</td>
</tr>
<tr>
<td></td>
<td></td>
<td>14.1 ml/kg</td>
</tr>
<tr>
<td><strong>Inhalation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LC50</td>
<td>Mouse</td>
<td>400 ppm, 24 hours</td>
</tr>
<tr>
<td>Oral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rat</td>
<td>5000 mg/kg</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.6 g/kg</td>
</tr>
<tr>
<td><strong>Decomposition</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Species</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Test Results</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acetone (CAS 67-64-1)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Inhalation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LC50</td>
<td>Rat</td>
<td>50.1 mg/l, 8 Hours</td>
</tr>
<tr>
<td>Oral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Mouse</td>
<td>3000 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Rabbit</td>
<td>5340 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Rat</td>
<td>5800 mg/kg</td>
</tr>
<tr>
<td><strong>Skin corrosion/irritation</strong></td>
<td></td>
<td>Causes visible necrosis of the skin tissue (Rabbit/60 Minutes) [Organosilane]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SKIN-RABBIT : 5mg/24Hr SEVERE [Alkoxysilane(A)]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SKIN-RABBIT : Moderately irritating [Alkoxysilane(B)]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Causes skin irritation. [Toluene]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SKIN-RABBIT : 500mg MILD [Octamethylcyclotetrasiloxane]</td>
</tr>
<tr>
<td><strong>Serious eye damage/eye irritation</strong></td>
<td></td>
<td>Causes serious eye damage. [Organosilane]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EYE-RABBIT : 0.75mg/24Hr SEVERE [Alkoxysilane(A)]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EYE-RABBIT : 15mg SEVERE [Alkoxysilane(B)]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EYE-RABBIT : MILD [Octamethylcyclotetrasiloxane]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Causes eye irritation. [Toluene]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Causes serious eye irritation. [Acetone]</td>
</tr>
<tr>
<td><strong>Respiratory or skin sensitization</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Respiratory sensitization</strong></td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td><strong>Skin sensitization</strong></td>
<td>May cause an allergic skin reaction. [Alkoxysilane(A)]</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Positive (Guinea pig) [Alkoxysilane(B)]</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No evidence of sensitization [Octamethylcyclotetrasiloxane]</td>
<td></td>
</tr>
</tbody>
</table>
Germ cell mutagenicity
Negative (Ames Test) [Alkoxysilane (A)]
Negative (Ames test, Chromosome analysis, Micronucleus test) [Alkoxysilane (B)]
Negative (Bacteria) [Octamethylcyclotetrasiloxane]

Carcinogenicity
This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity
Toluene (CAS 108-88-3) 3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
Not listed.

Reproductive toxicity
Developmental toxicity: NOAEL 500mg/kg/day (Rat), Maternal toxicity: NOAEL 500mg/kg/day (Rat) [Alkoxysilane (B)]
Suspected of damaging the unborn child. [Toluene]
Suspected of damaging fertility. Octamethylcyclotetrasiloxane administered to rats by whole body inhalation at concentrations of 500 and 700 ppm for 70 days prior to mating, through mating, gestation and lactation resulted in decreases in live litter size. Additionally, increases in the incidence of deliveries of offspring extending over an unusually long time period (dystocia) were observed at these concentrations. Statistically significant alterations in these parameters were not observed in the lower concentrations evaluated (300 and 70 ppm). In a previous range-finding study, rats exposed to vapor concentrations of 700 ppm had decreases in the number of implantation sites and live litter size. The significance of these findings to humans is not known. [Octamethylcyclotetrasiloxane]

Specific target organ toxicity - single exposure
May cause damage to the following organs.
- Narcotic effects. [Toluene]
- Narcotic effects. [Acetone]

Specific target organ toxicity - repeated exposure
May cause damage to the following organs through prolonged or repeated exposure:
- Central nervous system. [Toluene]
A two year combined chronic and carcinogenicity assy was conducted on octamethylcyclotetrasiloxane. Rats were exposed by whole-body vapor inhalation 6hrs/day, 5days/week for up to 104weeks to 0, 10, 30, 150 or 700ppm of octamethylcyclotetrasiloxane. The increase in incidence of (uterine)endometrial cell hyperplasia and uterine adenomas (benign tumors) were observed in female rats at 700ppm. Since these effects only occurred at 700ppm, a level that greatly exceeds typical workplace or consumer exposure, it is unlikely that industrial, commercial or consumer uses of products containing octamethylcyclotetrasiloxane would result in a significant risk to humans. Repeated inhalation or oral exposure of mice and rats to octamethylcyclotetrasiloxane produced an increase in liver size. No gross histopathological or significant clinical chemistry effects were observed. An increase in liver metabolizing enzymes, as well as a transient increase in the number of normal cells (hyperplasia) followed by an increase in cell size (hypertrophy) were determined to be the underlying causes of the liver enlargement. The biochemical mechanisms producing these effects are highly sensitive in rodents, while similar mechanisms in humans are insensitive. [Octamethylcyclotetrasiloxane]

Aspiration hazard
May be fatal if swallowed and enters airways. [Toluene]

Further information
This product reacts with water, moisture or humid air to evolve following compounds: Acetone

12. Ecological information

Ecotoxicity
Toxic to aquatic life. [Alkoxysilane(B)] [Toluene]
Harmful to aquatic life with long lasting effects. [Toluene]
Toxic to aquatic life with long lasting effects. [Octamethylcyclotetrasiloxane]

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alkoxysilane(A) (CAS Proprietary)</td>
<td>Aquatic Fish</td>
<td>LC50</td>
</tr>
<tr>
<td>Alkoxysilane(B) (CAS Proprietary)</td>
<td>Aquatic Algae</td>
<td>EbC50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ErC50</td>
</tr>
<tr>
<td></td>
<td>Aquatic Crustacea</td>
<td>EC50</td>
</tr>
</tbody>
</table>
Components Test Results

Species | Test Results
--------|------------------
NOEC    | Daphnia magna    | 81 mg/l, 48 hr
Fish    | Brachydanio rerio| > 1 mg/l, 21 day

Toluene (CAS 108-88-3)

Aquatic
Crustacea EC50  | Water flea (Daphnia magna) | 5.46 - 9.83 mg/l, 48 hours
Fish      LC50  | Coho salmon, silver salmon (Oncorhynchus kisutch) | 5.5 mg/l, 96 hours

Decomposition
Species | Test Results
--------|------------------

Acetone (CAS 67-64-1)

Aquatic
Crustacea EC50  | Water flea (Daphnia magna) | 21.6 - 23.9 mg/l, 48 hours
Fish      LC50  | Fathead minnow (Pimephales promelas) | > 100 mg/l, 96 hours

Persistence and degradability
Causes easily hydrolysis in water or atmosphere. [Alkoxysilane]

Bioaccumulative potential
Bio concentration Factor (BCF) / (Fathead minnows) : 12400 [Octamethylcyclotetrasiloxane]

Mobility in soil
Not available.

Other adverse effects
Not available.

13. Disposal considerations

Disposal instructions
Follow applicable Federal, State and Local regulations.

14. Transport information

DOT

UN number          | UN1133
UN proper shipping name | Adhesives
Transport hazard class(es) :
  Class | 3
  Subsidiary risk | -
  Label(s) | 3
Packing group | II
Special precautions for user | Read safety instructions, SDS and emergency procedures before handling.
Special provisions | 149, B52, IB2, T4, TP1, TP8
Packaging exceptions | 150
Packaging non bulk | 173
Packaging bulk | 242

IATA

UN number          | UN1133
UN proper shipping name | Adhesives containing flammable liquid
Transport hazard class(es) :
  Class | 3
  Subsidiary risk | -
Packing group | II
Environmental hazards | No.
ERG Code | 3L
Special precautions for user | Read safety instructions, SDS and emergency procedures before handling.
Other information
  Passenger and cargo aircraft | Allowed.
  Cargo aircraft only | Allowed.

IMDG

UN number          | UN1133
UN proper shipping name | ADHESIVES containing flammable liquid
Transport hazard class(es) :
  Class | 3
  Subsidiary risk | -
Packing group II
Environmental hazards
Marine pollutant No.
EmS F-E, S-D

Special precautions for user
Read safety instructions, SDS and emergency procedures before handling.

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

This product is not intended to be transported in bulk.

15. Regulatory information

US federal regulations
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)
SARA 313 (TRI reporting)

US state regulations

US. Massachusetts RTK - Substance List
Methanol(Impurity) (CAS 67-56-1)
Toluene (CAS 108-88-3)

US. New Jersey Worker and Community Right-to-Know Act
Methanol(Impurity) (CAS 67-56-1)
Toluene (CAS 108-88-3)

US. Pennsylvanina Worker and Community Right-to-Know Law
Methanol(Impurity) (CAS 67-56-1)
Toluene (CAS 108-88-3)

US. Rhode Island RTK
Methanol(Impurity) (CAS 67-56-1)
Toluene (CAS 108-88-3)

US. California Proposition 65
WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.
**US - California Proposition 65 - CRT: Listed date/Developmental toxin**

Methanol (Impurity) (CAS 67-56-1) Listed: March 16, 2012

Toluene (CAS 108-88-3) Listed: January 1, 1991

**US - California Proposition 65 - CRT: Listed date/Female reproductive toxin**

Toluene (CAS 108-88-3) Listed: August 7, 2009

**International Inventories**

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>No</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>No</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>Yes</td>
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<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>Yes</td>
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<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>Yes</td>
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<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
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<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>Yes</td>
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<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
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<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>No</td>
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<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

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**16. Other information, including date of preparation or last revision**

<table>
<thead>
<tr>
<th>Issue date</th>
<th>09-02-2015</th>
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<tbody>
<tr>
<td>Version #</td>
<td>01</td>
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<tr>
<td>NFPA ratings</td>
<td>Health: 2</td>
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<tr>
<td></td>
<td>Flammability: 3</td>
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<tr>
<td></td>
<td>Instability: 0</td>
</tr>
</tbody>
</table>

**NFPA ratings**

- **2**
- **3**
- **0**

**Disclaimer**

This information is offered in good faith as typical values and not as a product specification. No warranty, expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

This product has been designed, manufactured and developed solely for general industrial use only. This product is not designed for, intended for use as, or suitable for, medical, surgical or other particular purposes. Users have the sole responsibility and obligation to determine the suitability of this product for any application, to make preliminary tests, and to confirm the safety of this product for their use. Users must never use this product for the purpose of implantation into the human body and/or injection into humans.

**Revision Information**

- Composition / Information on Ingredients: Additional Components
- Physical & Chemical Properties: Multiple Properties
- Toxicological Information: Toxicological Data
- Ecological Information: Ecotoxicity
- Transport Information: Proper Shipping Name/Packing Group
- Regulatory Information: Regulatory Information
- HazReg Data: Pacific Rim
- GHS: Classification