

PRODUCT NAME: SIL-BOND RTV 4500
COLOR: TRANS BROWN

REVISION DATE: May 31st 2015

1. PRODUCT AND COMPANY IDENTIFICATION

Commercial Product Name: SIL-BOND RTV 4500

Product Classification: Silicone Sealant

Manufacturer:

Silco Inc.

7635 St. Clair Avenue

Mentor, OH 44060

PHONE: 440-975-8886 FAX: 440-975-8887

General Description: Silicone elastomer

Physical Form: Paste

Color: Trans Brown

Odor: Acetic acid odor

NFPA PROFILE: Health – 1 Flammability – 1 Instability/Reactivity - 0

Note: NFPA = National Fire Protection Association

2. HAZARDS IDENTIFICATION

Physical Hazards: Not classified

Health Hazards: Reproductive toxicity (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".

GHS Label Elements

Signal Word:

Warning



Hazard Statement:

Suspected of damaging fertility. May cause eye/lung/skin irritation.

Precautionary Statement:

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves / protective clothing / eye protection / face protection. Wash well after handling. Contaminated work clothing should not be allowed out of work place.

Prevention:



SAFETY DATA SHEET

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|---|--|
| Response: | <p>SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical attention / advice. Get medical attention / advice if you feel unwell.</p> <p>EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritant persists get medical attention / advice.</p> <p>If exposed or concerned: get medical attention or advice. Take off contaminated clothing and wash it before reuse.</p> |
| Storage: | Store locked up. |
| Disposal: | Disposal of contents / container in accordance with local / regional / state / federal and international regulations. |
| Hazard(S) not Otherwise classified (HNOC): | None known. |
| Supplemental Information: | None known. |
| Substance(s) formed under the conditions of use: | <p>This product reacts with water, moisture or humid air to evolve following compounds: Acetic acid</p> <p>The following material is embedded in the product and not available as respirable dusts. When used as intended or as supplied, the product will not pose hazards. Titanium oxide.</p> |
| HMIS (Ratings): | <p>Health: 1</p> <p>Flammability: 1</p> <p>Physical hazard: 0</p> |

3. COMPOSITION/ INGREDIENTS

Mixtures

Hazardous Ingredients

| Chemical Name | CAS Number | % |
|--|------------|-------|
| Ethyltriacetoxysilane | 17689-77-9 | 1 – 5 |
| Methylacetoxysilane | 4253-34-3 | 1 – 5 |
| Titanium oxide | 13463-67-7 | < 1 |
| Distillates (petroleum), hydrotreated middle | 64742-46-7 | 1 – 7 |
| Octamethylcyclotetrasiloxane (impurity) | 556-67-2 | < 1 |

4. FIRST AID MEASURES

| | |
|--|---|
| Inhalation: | Remove to fresh air. Call a physician if symptoms develop or persist. |
| Skin Contact: | Wash off with soap and plenty of water. For minor skin contact, avoid spreading material on unaffected skin. If skin irritation or rash occurs: get medical attention / advice. Take off contaminated clothing and wash before use. |
| Eyes Contact: | Immediately flush 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 developed or persists. |
| Ingestion: | Wash out mouth. Get medical attention immediately. |
| Most Important symptoms / effects, acute and delayed: | Direct contact with eyes may cause temporary irritation. |
| Indication of immediate Medical attention and Special treatment Needed: | Treat Symptomatically. |
| General Information: | If exposed or concerned: Get medical advice / attention. Ensure that medical personnel are aware materials involved and take precautions to protect themselves. Wash contaminated clothing before reuse. |

5. FIRE FIGHTING MEASURES

| | |
|--|--|
| Suitable extinguishing media: | Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2) |
| Unsuitable extinguishing media: | None known. |
| Specific hazards arising from the chemical: | By heating and fire, harmful vapors / gases may be formed. |
| Specific 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: | Move containers from fire area if you can do so without risk. |
| General fire hazards: | No unusual fire or explosion hazards noted. |

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. Ensure adequate ventilation. Wear appropriate personal protective equipment.

Methods and materials for containment and cleaning up:

Eliminate sources of ignition.
Large Spills: 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 product and place into a container for later disposal.
Small Spills: Wipe up with absorbent material (e.g. cloth). Clean surface thoroughly to remove residual contamination. Never return spills in original containers for reuse.

Environmental precautions:

Prevent further leakage or spillage if safe to do so.

7. HANDLING AND STORAGE

Precaution for safe handling:

Provide adequate ventilation. Use care in handling/storage. Obtain special instructions before use. Wash hands thoroughly after handling. Do not handle until all safety precautions have been read and understood. Pregnant and breastfeeding women must not handle this product. Do not breathe mist or vapor. Avoid contact with eyes. Avoid contact with skin. Avoid long term exposure.

Conditions for safe storage, including any incompatibilities

Stored locked up. Keep container tightly closed. Keep out of reach of children. Store in a cool dry place out of direct sunlight. Keep in original container.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits

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

| Components | CAS # | Type | Value |
|---|------------|------------|--------------------------------|
| Titanium oxide | 13463-67-7 | PEL | 15 mg/m ³ |
| Decomposition | | | |
| Distillates (petroleum) hydrotreated middle | 64742-46-7 | TWA (Mist) | 5 mg/m ³ |
| Acetic acid | 64-19-7 | PEL | 25 mg/m ³ 10 ppm |



SAFETY DATA SHEET

| US. ACGIH Threshold Limit Values | | | |
|--|------------|---|----------------------|
| Components | | | |
| Titanium dioxide | 13463-67-7 | TWA | 10 mg/m ³ |
| Decomposition | | | |
| Acetic acid | 64-19-7 | STEL | 15 ppm |
| | | TWA | 10 ppm |
| US. NIOSH: Pocket Guide to Chemical Hazards | | | |
| Decomposition | | | |
| Acetic acid | 64-19-7 | STEL | 37 mg/m ³ |
| | | | 15 ppm |
| | | TWA | 25 mg/m ³ |
| | | | 10 ppm |
| Distillates (petroleum) hydrotreated middle | 64742-46-7 | TWA (Mist) | 5mg/m ³ |
| | | ST (Mist) | 10mg/m ³ |
| Biological limit values: | | No biological exposure limits for the ingredient(s). | |
| Appropriate engineering controls: | | Provide adequate general and local exhaust. Provide eyewash station. Pay attention to ventilation such as local exhaust, mechanical and or / door open for at least 24 hours after applications. | |
| Individual protection measures such as personal protective equipment. | | | |
| Eye / Face protection: | | Tightly sealed safety glasses according to EN 166. | |
| Skin / Hand protection: | | Wear protective gloves. | |
| Other: | | 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 eyes. Avoid contact with skin. When using, do not eat, drink or smoke. Keep away from food or drink. Wash hands before breaks and immediately after handling the product. Contaminated work clothing should not be allowed out of the work place. Handle in accordance with good industrial hygiene and safety practice. | |

| 9. PHYSICAL/CHEMICAL CHARACTERISTICS | |
|---|------------------|
| Appearance | |
| Form: | Paste |
| Color: | Trans Brown |
| Odor: | Acetic acid odor |

| | |
|--|--------------------------------|
| Odor Threshold: | Not available |
| pH: | Not available |
| Melting point / freezing point: | Not available |
| Initial boiling point and boiling range: | Not available |
| Flash Point: | 141.8 °F (> 96 °C) Closed cup |
| Evaporative rate: | < 1 (Butyl Acetate = 1) |
| Flammability (solid, gas): | Not applicable |
| Upper / Lower flammability or explosive limits: | |
| Flammability limit – lower (%): | No data |
| Flammability limit – upper (%): | No data |
| Explosive limit – Lower (%): | Not available |
| Explosive limit – Upper (%): | Not available |
| Vapor pressure: | Negligible (25 ⁰ C) |
| Vapor density: | > 1 (air=1) |
| Relative density: | 1.04 (25 °C) |
| Solubility (water): | Not soluble |
| VOC Content: | 30 grams per liter |
| Partition coefficient: (n-octanol / water) | Not applicable |
| Auto-ignition temperature: | No data |
| Decomposition temperature: | Not available |
| Viscosity: | Not applicable |
| 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. |
| Incompatible materials | Strong oxidizing agents. Water and moisture. |
| Hazardous decomposition products: | This product reacts with water, moisture, or humid air to evolve following compounds. Acetic acid. Thermal breakdown of this product during fire or very high heat condition may evolve the following hazardous decomposition product: Carbon dioxides and traces of incompletely burned carbon compounds. Silicon dioxide. Formaldehyde. |

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

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| Ingestion: | Expected to be a low ingestion hazard. |
| Inhalation: | Prolonged inhalation may be harmful. |
| Skin contact: | No adverse effects due to skin contact are expected. |
| Eye contact: | Direct contact with eyes may cause temporary irritation. |

Symptoms related to the physical, chemical, and toxicological characteristics: Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity

Toxicological data

Decomposition

| | CAS # | Species | Test Results |
|-------------------------|---------|---------|--------------------|
| Acetic acid | 64-19-7 | | |
| Acute | | | |
| Dermal | | | |
| LD50 | | Rabbit | 1060 mg/kg |
| Inhalation | | | |
| LC 50 | | Guinea | 5000 ppm, 1 hours |
| | | Pig | |
| | | Mouse | 5620 ppm, 1 hours |
| | | Rat | 11.4 mg/l, 4hours |
| Oral | | | |
| LD50 | | Mouse | 4960 mg/kg |
| | | Rabbit | 1200 mg/kg |
| | | Rat | 3.31 g/kg |
| Distillates (petroleum) | | | |
| hydrotreated middle | | | |
| Oral | | Rat | > 5,000 mg/kg |
| Inhalation | | | |
| LC 50 | | Rat | 1.78 mg/l, 4 hours |
| Dermal | | | |
| | | Rat | > 2,000 mg/kg |

Skin corrosion / irritation: Causes severe skin burns and eye damage. (Acetic acid)
Skin-Rabbit: 500 mg/24hr.MILD (Octamethylcyclotetrasiloxane)

Serious eye damage/eye irritation: Causes serious eye damage. (Acetic acid)
Eye – Rabbit: MILD (Octamethylcycotetrasiloxane)

Respiratory Sensitization: Not available.



SAFETY DATA SHEET

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| Skin Sensitization: | No evidence of sensitization (Octamethylcyclotetrasiloxane) |
| Germ Cell Mutagenicity: | Negative (Bacteria) (Octamethylcyclotetrasiloxane) |
| Carcinogenicity: | The following material is embedded in the product and not available as respirable dusts. When used as intended or as supplied, the product will not pose hazards. Titanium oxide. Titanium oxide (CAS 13463-67-7) |
| IARC Monographs, Overall Evaluation of Carcinogenicity. | 2B Possibly carcinogenic to humans. |
| OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050): | Not listed |
| Reproductive Toxicity: | 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: | Not available |
| Specific target organ toxicity – repeated exposure: | 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. A two year combined chronic and carcinogenicity assay was conducted on Octamethylcyclotetrasiloxane. Rats were exposed by whole-body vapor inhalation 6hrs /day, 5 days a week for up to 104 weeks to 0, 10, 30, 150 or 700 ppm of Octamethylcyclotetrasiloxane. The increase in incidence of (uterine) endometrial cell hyperplasia and uterine adenomas |

| | |
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| Aspiration hazard: | (benign tumors) were observed in female rats at 700 ppm. Since these effects only occurred at 700 ppm, 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. (Octamethylcyclotetrasiloxane) The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard. Distillates (petroleum), hydrotreated middle |
| Chronic effects: | Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects. |
| Further Information: | This product reacts with water, moisture or humid air to evolve following compounds: Acetic acid. |

12. ECOLOGICAL CONSIDERATIONS

Ecotoxicity

- Octamethylcyclotetrasiloxane: May cause long lasting harmful effects to aquatic life.

Components

Titanium oxide
(CAS 13463-67-7)

Aquatic

| Components | Species | Test Results |
|------------|--|-----------------------|
| Crustacea | EC50 Water Flea (Daphnia magna) | > 1000 mg/l, 48 hours |
| Fish | LC50 Mummichog (Fundulus Heteroclitus) | > 1000 mg/l, 96 hours |

Decomposition

Acetic acid
(CAS 64-19-7)

Aquatic

| | | |
|-----------|-------------------------------------|-------------------|
| Crustacea | EC50 Water flea (Daphnia Magna) | 65 mg/l, 48 hours |
| Fish | LC50 Bluegill (Leponis Macrochirus) | 75mg/l, 96 hours |

Persistence and degradability: Not available.

Bioaccumulative potential: Bio concentration Factor (BCF) / (Flathead minnow): 12400

Octamethylcyclotetrasiloxane.

Mobility in Soil: Not available.

Other adverse effects: Not available

13. DISPOSAL CONSIDERATIONS

Can be land-filled for cured product or burned in a chemical incinerator equipped with an afterburner and scrubber. Do not dispose the emptied container unlawfully. Observe all federal, state & local laws.

14. TRANSPORT INFORMATION

DOT: Not regulated as dangerous good.

IATA: Not regulated as dangerous good.

IMDG: Not regulated as dangerous good.

Transport in bulk according to This product is not intended to be transported in bulk.

Annex II of MARPDL 73/78 and

The IBC Code:

15. REGULATORY INFORMATION

US federal regulations: This product is a “Hazardous Chemical” as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

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

- **Massachusetts: Substance List:**
Titanium oxide (CAS 13463-67-7)
- **New Jersey Worker and Community Right to Know Act:**
Titanium oxide (CAS 13463-67-7)
- **Pennsylvania Worker and Community Right to Know Act:**
Titanium oxide (CAS 13463-67-7)
- **Rhode Island RTK:** Not regulated.
- **California Proposition 65:** The following material is embedded in the product and not available as respirable dusts. When used as intended or as supplied, the product will not pose hazards.
- **US California Proposition 65 – CRT: Listed date / Carcinogenic substance**
Titanium oxide (CAS 13463-67-7) Listed: September 2, 2011

International Inventories

| Country(s) or region | Inventory Name | On Inventory (yes/no)* |
|-----------------------------|--|-------------------------------|
| Australia | Australian Inventory of Chemical Substances (AICS) | Yes |
| Canada | Domestic Substances List (DSL) | Yes |
| Canada | Non Domestic Substances (NDSL) | No |
| China | Inventory of Existing Chemical Substances in China (IECSC) | Yes |
| Europe | European Inventory of Existing Commercial Chemicals | Yes |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | Yes |
| Korea | Existing Chemicals List (ECL) | Yes |
| New Zealand | New Zealand Inventory | Yes |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances | Yes |
| Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |
| United States | Toxic Substances Control Act (TSCA) Inventory | Yes |

16. OTHER INFORMATION

Prepared by: Silco Inc.

These data are offered in good faith as typical values and not as product specifications. No warranty, either 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.

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