

SAFETY DATA SHEET

FOR INDUSTRIAL USE ONLY

RapidStrength RGS7700B 5GP

Section 1. Product and company identification

Product name : RapidStrength RGS7700B 5GP
Chemical name : Not available

**Manufacturer/Importer/
Distributor Information** : Momentive Amer Seal.
260 Hudson River Road
Waterford NY 12188

Contact person : 4information@momentive.com

Telephone : General information
+1-800-295-2392

**Emergency telephone number
Supplier** : CHEMTREC
1-800-424-9300

Section 2. Hazards identification

**Classification of the substance or
mixture** : SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
RESPIRATORY SENSITIZATION - Category 1
SKIN SENSITIZATION - Category 1
TOXIC TO REPRODUCTION - Category 1B
TOXIC TO REPRODUCTION - Category 1B

GHS label elements

Hazard pictograms :



Signal word :

Danger

Hazard statements :

H318 Causes serious eye damage.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317 May cause an allergic skin reaction.

H360F May damage fertility.

H360 May damage the unborn child.

Precautionary statements

General : Not applicable.

Prevention :

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Use personal protective equipment as required.

Wear protective gloves.
 Wear eye or face protection.
 In case of inadequate ventilation wear respiratory protection.
 Avoid breathing vapor.
 Wash hands thoroughly after handling.
 Contaminated work clothing should not be allowed out of the workplace.

- Response** : IF exposed or concerned:
 Get medical attention.
IF INHALED:
 If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
 If experiencing respiratory symptoms:
 Call a POISON CENTER or physician.
IF ON SKIN:
 Wash with plenty of soap and water.
 Wash contaminated clothing before reuse.
 If skin irritation or rash occurs:
 Get medical attention.
IF IN EYES:
 Rinse cautiously with water for several minutes.
 Remove contact lenses, if present and easy to do. Continue rinsing.
 Immediately call a POISON CENTER or physician.
- Storage** : Store locked up.
- Disposal** : P501 Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Other hazards which do not result in classification** : None known.

Section 3. Composition/information on ingredients

- Substance/mixture** : Mixture
Chemical name : Not available

| Hazardous ingredients | % by weight | CAS number |
|--|-------------|------------|
| Silicic acid (H ₄ SiO ₄), tetrapropyl ester | 10 - 30 | 682-01-9 |
| 1,2-Ethanediamine, N1-[3-(trimethoxysilyl)propyl]- | 10 - 30 | 1760-24-3 |
| Octamethylcyclotetrasiloxane | 0.1 - 1 | 556-67-2 |
| Methanol | 0.1 - 1 | 67-56-1 |
| Dibutyltin Dilaurate | 0.1 - 1 | 77-58-7 |
| 1,2-Ethylenediamine | 0.1 - 1 | 107-15-3 |

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally

- lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.
- Inhalation** : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In the event of any complaints or symptoms, avoid further exposure.
- Skin contact** : Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first aid personnel** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO₂, alcohol-resistant foam or water spray (fog).
- Unsuitable extinguishing media** : water jet
- Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst.
- Hazardous thermal** : Decomposition products may include the following materials:

| | |
|---|---|
| decomposition products | carbon dioxide carbon monoxide nitrogen oxides metal oxide/oxides Measurements at temperatures above 150°C in presence of air (oxygen) have shown that small amounts of formaldehyde are formed due to oxidative degradation. |
| Special protective actions for fire-fighters | : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Use water spray to keep fire-exposed containers cool. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. |
| Special protective equipment for fire-fighters | : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. |

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

| | |
|------------------------------------|---|
| For non-emergency personnel | : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. |
| For emergency responders | : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel". |
| Environmental precautions | : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). |

Methods and material for containment and cleaning up

| | |
|--------------------|--|
| Small spill | : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Note: see section 1 of SDS for emergency contact information and section 13 of SDS for waste disposal. |
| Large spill | : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13 of SDS). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 of SDS for emergency contact information and section 13 of SDS for waste disposal. |

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see section 8 of SDS). Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures.
- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10 of SDS) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

| Ingredient name | Exposure limits |
|------------------------------|---|
| Octamethylcyclotetrasiloxane | () Recommended exposure limit (REL): 5 ppm |
| Methanol | <p>OSHA PEL 1989 Vacated (1989-03-01) Time Weighted Average (TWA) 260 mg/m³ 200 ppm Pollutant concentration that should not be exceeded during working hours and which workers are believed to be exposed during a period of 15 minutes maximum, without experiencing: a) irritation. b) chronic or irreversible tissue damage. c) dependent toxic effects of exposure rate. d) Narcosis of sufficient magnitude to increase susceptibility to accidents. e) The reduction of ability to get to safety by their own means. 325 mg/m³ 250 ppm</p> <p>OSHA PEL (1993-06-30) Time Weighted Average (TWA) 260 mg/m³ 200 ppm</p> <p>NIOSH REL (1994-06-01) Time Weighted Average (TWA) 260 mg/m³ 200 ppm Pollutant concentration that should not be exceeded during working hours and which workers are believed to be exposed during a period of 15 minutes maximum, without experiencing:</p> |

| | |
|----------------------|--|
| | <p>a) irritation. b) chronic or irreversible tissue damage. c) dependent toxic effects of exposure rate. d) Narcosis of sufficient magnitude to increase susceptibility to accidents. e) The reduction of ability to get to safety by their own means. 325 mg/m³ 250 ppm ACGIH TLV (1994-09-01) Time Weighted Average (TWA) 262 mg/m³ 200 ppm Short Term Exposure Limit (STEL) 328 mg/m³ 250 ppm</p> |
| Dibutyltin Dilaurate | <p>NIOSH REL (2005-09-30)</p> <p>OSHA PEL (1993-06-30) Calculated as Sn Time Weighted Average (TWA) 0.1 mg/m³ OSHA PEL 1989 Vacated (1989-03-01) Calculated as Sn Time Weighted Average (TWA) 0.1 mg/m³ Form: Organic ACGIH TLV (1996-05-18) Calculated as Sn Time Weighted Average (TWA) 0.1 mg/m³ ACGIH TLV (1994-09-01) Calculated as Sn Short Term Exposure Limit (STEL) 0.2 mg/m³</p> |
| 1,2-Ethylenediamine | <p>OSHA PEL 1989 Vacated (1989-03-01) Time Weighted Average (TWA) 25 mg/m³ 10 ppm OSHA PEL (1993-06-30) Time Weighted Average (TWA) 25 mg/m³ 10 ppm NIOSH REL (1994-06-01) Time Weighted Average (TWA) 25 mg/m³ 10 ppm ACGIH TLV (1996-05-18) Time Weighted Average (TWA) 10 ppm</p> |

- Appropriate engineering controls** : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Skin protection

- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical

products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

- Physical state** : Liquid
- Color** : Black.
- Odor** : Amine-like.
- Odor threshold** : Not available
- pH** : Not applicable.
- Melting point** : Not applicable.
- Boiling point** : Not applicable.
- Flash point** : 116 °C (240.80 °F) (Open cup)
- Burning time** : Not available
- Burning rate** : Not available
- Evaporation rate** : Not available
- Flammability (solid, gas)** : Not available
- Lower and upper explosive (flammable) limits** : **Lower:** Not applicable.
Upper: Not applicable.
- Vapor pressure** : Not applicable.
- Vapor density** : Not available
- Relative density** : 1.0
- Density** : 1 g/cm³
- Solubility** : partly soluble
- Solubility in water** : Insoluble
- Partition coefficient: n-octanol/water** : Not available
- Auto-ignition temperature** : Not available
- Decomposition temperature** : Not available
- SADT** : Not available

| | | |
|---------------------------------|---|--|
| Viscosity | : | Dynamic: Not available Kinematic: Not available |
| Volatile organic content | : | 14 % (w/w) 145 g/l |

Other information

No additional information.

Section 10. Stability and reactivity

| | | |
|---|---|--|
| Reactivity | : | Stable under normal conditions. |
| Chemical stability | : | The product is stable. |
| Possibility of hazardous reactions | : | Under normal conditions of storage and use, hazardous reactions will not occur. |
| Conditions to avoid | : | No specific data. |
| Incompatible materials | : | No specific data. |
| Hazardous decomposition products | : | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |

Section 11. Toxicological information

Information on toxicological effects**Acute toxicity**

| Product/ingredient name | Result | Species | Dose | Exposure |
|--|-----------------|---------|---|----------|
| 1,2-Ethanediamine, N1-[3-(trimethoxysilyl)propyl]- | | | | |
| | LD50 Oral | Rat | 2,995 mg/kg | - |
| | LC50 Inhalation | Rat | 1.49 - 2.44 mg/l | - |
| | LD50 Dermal | Rabbit | 2,000 mg/kg | - |
| Octamethylcyclotetrasiloxane | | | | |
| | LD50 Oral | Rat | 4,800 mg/kg OECD-Guideline 401 (Acute Oral Toxicity) | - |
| | LC50 Inhalation | Rat | > 12.1 mg/l | 4 h |
| | LC50 Inhalation | Rat | 36 mg/l OECD Test Guideline 403 | 4 h |
| | LD50 Dermal | Rat | > 2,400 mg/kg OECD Test Guideline 402 | - |
| Methanol | | | | |
| | LD50 Oral | Rat | 5,628 mg/kg | - |
| | LC50 Inhalation | Rat | 6,400 mg/l | 4 h |
| | LD50 Dermal | Rabbit | 15,800 mg/kg | - |
| Dibutyltin Dilaurate | | | | |
| | LD50 Oral | Rat | 2,071 mg/kg | - |
| | LC50 | Rat | 10 mg/l | 2.00 h |

| | | | | |
|---------------------|-------------|-----|-------------|---|
| | Inhalation | | | |
| | LD50 Dermal | Rat | 750 mg/kg | - |
| 1,2-Ethylenediamine | | | | |
| | LD50 Oral | Rat | 1,200 mg/kg | - |

Conclusion/Summary : Not determined

Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|--|---|---------|-------|----------|-------------|
| 1,2-Ethanediamine, N1-[3-(trimethoxysilyl)propyl]- | Skin - Mild irritant | Rabbit | | | - |
| | eyes - Severe irritant | Rabbit | | | - |
| Octamethylcyclotetrasiloxane | Skin OECD-Guideline 404 (Acute Dermal Irritation/Corrosion) | Rat | | | - |
| Remarks: | Non-irritating to the skin. | | | | |
| | eyes OECD-Guideline 405 (Acute Eye Irritation/Corrosion) | Rabbit | | | - |
| Remarks: | Non-irritating to the eyes. | | | | |
| Methanol | eyes - Moderate irritant | Rabbit | | | - |
| | Skin - Moderate irritant | Rabbit | | 24 hrs | - |
| 1,2-Ethylenediamine | eyes - Severe irritant | Rabbit | | 24 hrs | - |
| | Skin - Moderate irritant | Rabbit | | | - |
| | Skin - Severe irritant | Rabbit | | 24 hrs | - |

Conclusion/Summary

Skin : Not determined
eyes : Not determined
Respiratory : Not determined

Sensitization

| Product/ingredient name | Route of exposure | Species | Result |
|------------------------------|-------------------|------------|---|
| Octamethylcyclotetrasiloxane | - | Guinea pig | Not sensitizing OECD-Guideline 406 (Skin Sensitisation) |

Conclusion/Summary

Skin : Not determined

Respiratory : Not determined

Mutagenicity

| Product/ingredient name | Test | Experiment | Result |
|------------------------------|---|------------|----------|
| Octamethylcyclotetrasiloxane | OECD-Guideline 471 (Genetic Toxicology: Salmonella typhimurium, Reverse Mutation Assay) | In vitro | Negative |
| | Mouse Lymphoma Assay (OECD Guideline 476) | In vitro | Negative |
| | OECD-Guideline 474 (Genetic Toxicology: Micronucleus Test) | In vivo | Negative |

Conclusion/Summary : Not determined

Carcinogenicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|------------------------------|-----------------------|--------------|-------------|-----------|
| Octamethylcyclotetrasiloxane | Inhalation - OECD 453 | Rat - Female | 150 mg/kg | 24 months |
| Remarks: | NOAEC | | | |
| | Inhalation - OECD 453 | Rat - Male | > 700 mg/kg | 24 months |
| Remarks: | NOAEC | | | |

Conclusion/Summary : Not determined

Reproductive toxicity

| Product/ingredient name | Maternal toxicity | Fertility | Development toxin | Species | Dose | Exposure |
|------------------------------|-------------------|-----------|-------------------|---------|-----------------------------------|----------|
| Octamethylcyclotetrasiloxane | - | - | - | Rat | Inhalation: 300 mg/kg OECD 416 | - |
| Remarks: | NOAEL parents | | | | | |
| | - | - | - | Rat | Inhalation: 300 mg/kg OECD 416 | - |
| Remarks: | NOAEL F1 | | | | | |

Conclusion/Summary : Not determined

Teratogenicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|------------------------------|--------------------------------------|---------|-----------|----------|
| Octamethylcyclotetrasiloxane | - Inhalation OECD Test Guideline 414 | Rabbit | 500 mg/kg | 18 days |
| Remarks: | NOAEL | | | |
| | - Inhalation OECD Test Guideline 414 | Rabbit | 300 mg/kg | 18 days |
| Remarks: | NOAEL maternity | | | |

Conclusion/Summary : Not determined

Specific target organ toxicity (single exposure)

| Product/ingredient name | Category | Route of exposure | Target organs |
|--|------------|-------------------|------------------------------|
| Silicic acid (H ₄ SiO ₄), tetrapropyl ester | Category 3 | | Respiratory tract irritation |
| Methanol | Category 3 | | Respiratory tract irritation |

| | | | |
|----------------------|--------------------------|--|---|
| | Category 1 Category 2 | | central nervous system (CNS) optic nerve |
| Dibutyltin Dilaurate | Category 3 | | Respiratory tract irritation |

Specific target organ toxicity (repeated exposure)

| Product/ingredient name | Category | Route of exposure | Target organs |
|--------------------------------|-----------------|--------------------------|---|
| Methanol | Category 2 | | kidneys liver gastrointestinal tract skin respiratory tract |
| Dibutyltin Dilaurate | Category 1 | | immune system |
| 1,2-Ethylenediamine | Category 2 | | liver kidneys |

Aspiration hazard

Not available

Information on the likely routes of exposure : Not available

Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Skin contact** : May cause an allergic skin reaction.
- Ingestion** : May cause burns to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:
pain
watering
redness
- Inhalation** : Adverse symptoms may include the following:
wheezing and breathing difficulties
asthma
reduced fetal weight
increase in fetal deaths
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
reduced fetal weight
increase in fetal deaths
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:
stomach pains
reduced fetal weight

increase in fetal deaths
skeletal malformations

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available
Potential delayed effects : Not available

Long term exposure

Potential immediate effects : Not available
Potential delayed effects : Not available

Potential chronic health effects

| Product/ingredient name | Result | Species | Dose | Exposure |
|------------------------------|---------------------|---------|-----------------------|-----------|
| Octamethylcyclotetrasiloxane | NOAEC Inhalation | Rat | 150 mg/kg OECD 453 | 24 months |
| Remarks: | NOAEC | | | |
| | NOAEL Dermal | Rabbit | > 1 mg/kg OECD 410 | 3 weeks |
| Remarks: | NOAEL | | | |

Conclusion/Summary : Not determined

General : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : May damage the unborn child.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : May damage fertility.

Numerical measures of toxicity

Acute toxicity estimates

| Route | ATE value |
|---------------------|----------------|
| Oral | 18,678.1 mg/kg |
| Route | ATE value |
| Inhalation (vapors) | 100.1 mg/l |

Other information

Octamethylcyclotetrasiloxane (D4) Ingestion: Rodents given large doses via oral gavage of Octamethylcyclotetrasiloxane (1600mg/kg/day,14 days), developed increased liver weights relative to unexposed control animals due to hepatocellular hyperplasia (increased number of liver cells which appear normal) as well as hypertrophy (increased cell size). Inhalation: In inhalation studies, laboratory rodents exposed to Octamethylcyclotetrasiloxane (300 ppm five days/week, 90 days) developed increased liver weights in female animals relative to unexposed control animals. When the exposure was stopped, liver weights returned to normal. Microscopic examination of the liver cells did not show any evidence of pathology. This response in rats, which does not affect the animal's health, is well-documented and widely recognized. It is related to an increase of liver enzymes that metabolize and eliminate a material from the body. The increased liver weight reverses even while the D4 exposure continues. The finding is not adverse, but is considered a natural adaptive change in rats, and does not represent a hazard to humans. Inhalation studies utilizing laboratory rabbits and guinea pigs showed no effects on liver weights. Inhalation exposures typical of industrial usage (5-10 ppm) showed no toxic effects in rodents. Range finding reproductive studies were conducted

(whole body inhalation, 70 days prior to mating, through mating, gestation and lactation), with D4. Rats were exposed to 70 and 700 ppm. In the 700 ppm group, there was a statistically significant reduction in mean litter size and in implantation sites. No D4 related clinical signs were observed in the pups and no exposure related pathological findings were found. A two-year, combined chronic/carcinogenicity study, during which rats were exposed to D4 by inhalation, data showed a statistically significant increase in a benign uterine tumor in female rats exposed at the highest level--a level much higher than the low levels that consumers or workers may encounter. An expert panel of independent scientists who have reviewed the results of this research concur that the finding seen in the two-year study occurred through a biological pathway that is specific to the rat and is not relevant to humans. Therefore, this observed effect does not indicate a potential health hazard to humans. In developmental toxicity studies, rats and rabbits were exposed to D4 at concentrations up to 700 ppm and 500 ppm, respectively. No teratogenic effects (birth defects) were observed in either study.

Section 12. Ecological information

Ecotoxicity

| Product/ingredient name | Result | Species | Exposure |
|--|-------------------------------------|--------------------------------------|----------|
| N-(3-(trimethoxysilyl)propyl)ethylenediamine | | | |
| | Acute EC50 87.4 mg/l Fresh water | Aquatic invertebrates. Water flea | 48 h |
| | Acute IC50 30.7 mg/l Fresh water | Aquatic plants - Algae | - |
| methanol | | | |
| | Acute LC50 10,000 mg/l Fresh water | Aquatic invertebrates. Water flea | 4 h |
| | Acute EC50 10,000 mg/l Fresh water | Aquatic plants - Diatom | 96 h |
| ethylenediamine | | | |
| | Acute LC50 26,500 µg/l Fresh water | Aquatic invertebrates. Water flea | 48 h |
| | Acute EC50 100,000 µg/l Fresh water | Aquatic plants - Green algae | 96 h |

Conclusion/Summary : Not available

Persistence/degradability

| Product/ingredient name | Test | Result | Dose | Inoculum |
|------------------------------|---|--------------|------|------------------|
| octamethylcyclotetrasiloxane | 310 Ready Biodegradability - CO ₂ in Sealed Vessels (Headspace Test) | 3.7 % - 29 d | | Activated sludge |
| Remarks: | Not readily biodegradable. | | | |

Conclusion/Summary : Not available

Bioaccumulative potential

| Product/ingredient name | Species | Exposure | LogPow | BCF | Potential |
|------------------------------|----------------|----------|--------|-------|-----------|
| Octamethylcyclotetrasiloxane | Fathead minnow | 28 d | | 12.40 | low |
| Methanol | | | -0.77 | 10.00 | low |
| 1,2-Ethylenediamine | | | -3.23- | - | low |

| | | | | | |
|--|--|--|----------------|--|--|
| | | | 1.62-7.02-4.42 | | |
|--|--|--|----------------|--|--|

Mobility in soil

- Soil/water partition coefficient (KOC)** : Not available
- Other adverse effects** : No known significant effects or critical hazards.

Other information

Octamethylcyclotetrasiloxane (D4) meets the current REACH Annex XIII criteria for PBT and vPvB. However, D4 does not behave similarly to known PBT/vPvB substances. The silicones industries interpretation of the available data is that the weight of scientific evidence from field studies shows that D4 is not biomagnifying in aquatic and terrestrial food webs. D4 in air will degrade by reaction with naturally occurring hydroxyl radicals in the atmosphere. Any D4 in air that does not degrade by reaction with hydroxyl radicals is not expected to deposit from the air to water, to land, or to living organisms.

Section 13. Disposal considerations

- Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

- Special precautions for user** : This product is not regarded as dangerous goods according to the national and international regulations on the transport of dangerous goods.

15.Regulatory information**United States**

- U.S. Federal regulations** : **United States - TSCA 12(b) - Chemical export notification:** None required.
United States - TSCA 5(a)2 - Final significant new use rules: Not listed
United States - TSCA 5(a)2 - Proposed significant new use rules: Not listed
United States - TSCA 5(e) - Substances consent order: Not listed

SARA 311/312

Classification : Immediate (acute) health hazard
 Delayed (chronic) health hazard

California Prop. 65: : WARNING: This product contains less than 1% of a chemical known to the State of California to cause birth defects or other reproductive harm.

Canada

WHMIS (Canada) : Class D-2A: Material causing other toxic effects (Very toxic).
 Class D-2B: Material causing other toxic effects (Toxic).

International regulations

International lists : **Australia inventory (AICS):** All components are listed or exempted.
Canada inventory: All components are listed or exempted.
Japan inventory: All components are listed or exempted.
Korea inventory: All components are listed or exempted.
New Zealand Inventory (NZIoC): All components are listed or exempted.
Philippines inventory (PICCS): All components are listed or exempted.
United States inventory (TSCA 8b): All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Taiwan inventory (CSNN): All components are listed or exempted.

Section 16. Other information

Hazardous Material Information System III (U.S.A.) :

| | |
|-------------------------|---|
| Health | 3 |
| Flammability | 1 |
| Physical hazards | 1 |
| | |

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868. The customer is responsible for determining the PPE code for this material.

Full text of abbreviated H statements : Not applicable.

History

Date of printing : 05/19/2015
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Date of previous issue : 04/03/2015
Version : 1.1
Prepared by : Product Safety Stewardship
Key to abbreviations : ATE = Acute Toxicity Estimate
 BCF = Bioconcentration Factor
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 IATA = International Air Transport Association
 IBC = Intermediate Bulk Container
 IMDG = International Maritime Dangerous Goods
 LogPow = logarithm of the octanol/water partition coefficient

MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
UN = United Nations

References

: Not available

Notice to reader

Unless otherwise specified in section 1, Momentive Products are intended for industrial application only. They are not intended for specific medical applications, neither for long-lasting (> 30 days) implantation into the human body, injected or directly ingested, nor for the manufacture of multiple usable contraceptives. Keep out of the reach of children.

Further Information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.