# Material Safety Data Sheet

## RTV 12 A
### SILICONE RUBBER

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### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th>Manufactured By:</th>
<th>Momentive performance material</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>260 Hudson River Rd</td>
</tr>
<tr>
<td></td>
<td>Waterford NY 12188</td>
</tr>
</tbody>
</table>

Revised: 10/14/2010  
Preparer: PRODUCT STEWARDSHIP COMPLIANCE AND STANDARDS  
CHEMTREC 1-800-424-9300

**Chemical Family/Use:** Silicone Elastomer  
**Formula:** Mixture of polydimethylsiloxane, filler and silicone resin.

**HMIS**  
Flammability: 1  
Reactivity: 0  
Health: 0

**NFPA**  
Flammability: 1  
Reactivity: 0  
Health: 1

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### 2. HAZARDS IDENTIFICATION

**EMERGENCY OVERVIEW**  
CAUTION! May cause skin, eye, and respiratory tract irritation. May generate formaldehyde at temperatures greater than 150 C (300 F). See Section 10 of MSDS for details. Attention: Not for injection into humans.  
**Form:** Liquid  
**Color:** clear  
**Odor:** None.

**POTENTIAL HEALTH EFFECTS**

**INGESTION**  
None known. Not an anticipated route of exposure.

**SKIN**  
Skin contact may cause irritation.

**INHALATION**  
Inhalation of vapors may cause irritation of the respiratory tract.

**EYES**  
May cause eye irritation.

**MEDICAL CONDITIONS AGGRAVATED**  
None known.

**SUBCHRONIC (TARGET ORGAN )**  
None known.

**CHRONIC EFFECTS / CARCINOGENICITY**  
No data available.
3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>PRODUCT COMPOSITION</th>
<th>CAS REG NO.</th>
<th>WGT. %</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. HAZARDOUS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Octamethylcyclotetrasiloxane</td>
<td>556-67-2</td>
<td>0.1 - 1 %</td>
</tr>
<tr>
<td>B. NON-HAZARDOUS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimethylpolysiloxane</td>
<td>70131-67-8</td>
<td>60 - 100 %</td>
</tr>
<tr>
<td>MQ Resin [DSL 68988-56-7]</td>
<td>56275-01-5</td>
<td>10 - 30 %</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

INGESTION
Do not induce vomiting. If victim is conscious, give 1-3 glasses of water to drink. Never give anything by mouth to an unconscious person. Get medical attention if irritation persists.

SKIN
Wash with soap and water. Get medical attention if irritation or symptoms from Section 3 develop.

INHALATION
If inhaled, remove to fresh air. If not breathing give artificial respiration using a barrier device. If breathing is difficult give oxygen. Get medical attention.

EYES
In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

NOTE TO PHYSICIAN
Treatment is symptomatic and supportive.

5. FIRE-FIGHTING MEASURES

FLASH POINT:  
> 148 °C; 298 °F
IGNITION TEMPERATURE: Not applicable
FLAMMABLE LIMITS IN AIR - LOWER (%): No data available.
FLAMMABLE LIMITS IN AIR - UPPER (%): No data available.

SENSITIVITY TO MECHANICAL IMPACT: No

SENSITIVITY TO STATIC DISCHARGE
Sensitivity to static discharge is not expected.

EXTINGUISHING MEDIA
All standard extinguishing agents are suitable.

SPECIAL FIRE FIGHTING PROCEDURES
Firefighters must wear NIOSH/MSHA approved positive pressure self-contained breathing apparatus with full face mask and full protective clothing.

FURTHER INFORMATION
Standard procedure for chemical fires.

6. ACCIDENTAL RELEASE MEASURES

ACTION TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED
Wipe, scrape or soak up in an inert material and put in a container for disposal. Wash walking surfaces with detergent and water to reduce slipping hazard. Wear proper protective equipment as specified in the protective equipment section.

7. HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE
Keep container closed when not in use. Avoid contact with skin, eyes and clothing. Keep away from children.

STORAGE
Keep container closed. Store away from heat, sources of ignition, and incompatibles.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS
Eyewash stations; Showers; Exhaust ventilation

RESPIRATORY PROTECTION
If exposure limits are exceeded or respiratory irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Supplied air respirators may be required for non-routine or
emergency situations. Respiratory protection must be provided in accordance with OSHA regulations (see 29CFR 1910.134).

PROTECTIVE GLOVES
Rubber gloves

EYE AND FACE PROTECTION
Safety glasses with side-shields

OTHER PROTECTIVE EQUIPMENT
Wear suitable protective clothing and eye/face protection.

**Exposure Guidelines**

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS RN</th>
<th>Source</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toluene</td>
<td>108-88-3</td>
<td>ACGIH, TWA</td>
<td>20 ppm</td>
</tr>
<tr>
<td>Toluene</td>
<td>108-88-3</td>
<td>OSHA Z2, TWA</td>
<td>200 ppm</td>
</tr>
<tr>
<td>Toluene</td>
<td>108-88-3</td>
<td>OSHA Z2, Ceiling</td>
<td>300 ppm</td>
</tr>
<tr>
<td>Toluene</td>
<td>108-88-3</td>
<td>OSHA Z2, MAX. CONC</td>
<td>500 ppm</td>
</tr>
<tr>
<td>Toluene</td>
<td>108-88-3</td>
<td>ACGIH, Listed.</td>
<td></td>
</tr>
<tr>
<td>Toluene</td>
<td>108-88-3</td>
<td>OSHA Z2, Listed.</td>
<td></td>
</tr>
</tbody>
</table>

Absence of values indicates none found

PEL - OSHA Permissible Exposure Limit; TLV - ACGIH Threshold Limit Value; TWA - Time Weighted Average; INTL REL - Internal Recommended Exposure Limit


**9. PHYSICAL AND CHEMICAL PROPERTIES**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOILING POINT - C &amp; F:</td>
<td>&gt;260 °C; 500 °F</td>
</tr>
<tr>
<td>VAPOR PRESSURE (20 C) (MM HG):</td>
<td>negligible</td>
</tr>
<tr>
<td>VAPOR DENSITY (AIR=1):</td>
<td>1.0</td>
</tr>
<tr>
<td>FREEZING POINT:</td>
<td>Not applicable</td>
</tr>
<tr>
<td>PHYSICAL STATE:</td>
<td>Liquid</td>
</tr>
<tr>
<td>ODOR:</td>
<td>None.</td>
</tr>
<tr>
<td>COLOR:</td>
<td>clear</td>
</tr>
<tr>
<td>EVAPORATION RATE (BUTYL ACETATE=1):</td>
<td>&lt; 1</td>
</tr>
<tr>
<td>SPECIFIC GRAVITY (WATER=1):</td>
<td>1.02</td>
</tr>
<tr>
<td>DENSITY:</td>
<td>ca. 1.020 g/cm3</td>
</tr>
<tr>
<td>ACID / ALKALINITY (MEQ/G):</td>
<td>No data available.</td>
</tr>
<tr>
<td>pH:</td>
<td>No data available.</td>
</tr>
<tr>
<td>SOLUBILITY IN WATER (20 C):</td>
<td>negligible</td>
</tr>
<tr>
<td>SOLUBILITY IN ORGANIC SOLVENT (STATE SOLVENT):</td>
<td>Toluene</td>
</tr>
<tr>
<td>VOC EXCL. H2O &amp; EXEMPTS (G/L):</td>
<td>1.5 g/l</td>
</tr>
</tbody>
</table>
10. STABILITY AND REACTIVITY

STABILITY
Stable

HAZARDOUS POLYMERIZATION
Hazardous polymerisation does not occur.

HAZARDOUS THERMAL DECOMPOSITION / COMBUSTION PRODUCTS
Carbon monoxide; Carbon dioxide (CO2); Silicon dioxide.; formaldehyde; This product contains methylpolysiloxanes which can generate formaldehyde at approximately 300 degrees Fahrenheit (150°C) and above, in atmospheres which contain oxygen. Formaldehyde is a skin and respiratory sensitizer, eye and throat irritant, acute toxicant, and potential cancer hazard. A MSDS for formaldehyde is available from Momentive.

INCOMPATIBILITY (MATERIALS TO AVOID)
None known.

CONDITIONS TO AVOID
None known.

11. TOXICOLOGICAL INFORMATION

ACUTE ORAL
Remarks: No data available.

ACUTE DERMAL
Remarks: No data available.

ACUTE INHALATION
Remarks: No data available.

OTHER
Octamethylcyclotetrasiloxane Ingestion: Rodents given large doses via oral gavage of octamethylcyclotetrasiloxane (1600 mg/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, liverweights returned to normal. Microscopic examination of the liver cells did not show any evidence of pathology. Inhalationstudies utilizing laboratory rabbits and guinea pigs showed no effects on liver weights. Inhalation exposures typical ofindustrial 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, gestationand lactation) with octamethylcyclotetrasiloxane (D4). Rats were exposed to 70 and 700 ppm. In the 700 ppm group, there wasa 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. Interim results from a two generation reproductive study in rats exposed to 500 and 700 ppm D4 (whole body inhalation, 70 days prior to mating, through mating, gestation and lactation) resulted in a statistically significant decrease in live mean litter size as well as extended periods of off-spring delivery (dystocia). These results were not observed at the 70 and 300 ppm dosing levels. Preliminary results from an ongoing 24-month combined chronic/oncogenicity study in rats exposed to 10, 30, 150, or 700 ppm D4 showed test-article related effects in the kidney (male and female) and uterus of rats exposed for 12 to 24 months. These effects include increased kidney weight and severity of chronic nephropathy, increased uterine weight, increased incidence of endometrial cell hyperplasia, and an increased incidence of endometrial adenomas. All of these effects are limited to the 700 ppm exposure group. These results have been shown to be rat-specific. Further studies are ongoing. In developmental toxicity studies, rats and rabbits were exposed to octamethylcyclotetrasiloxane at concentrations up to 700 ppm and 500 ppm respectively. No teratogenic effects (birth defects) were observed in either study.

SENSITIZATION
No data available.

SKIN IRRITATION
No data available.

EYE IRRITATION
No data available.

MUTAGENICITY
No data available.

OTHER EFFECTS OF OVEREXPOSURE
This product contains methylpolysiloxanes which can generate formaldehyde at approximately 300 degrees Fahrenheit (150°C) and above, in atmospheres which contain oxygen. Formaldehyde is a skin and respiratory sensitizer, eye and throat irritant, acute toxicant, and potential cancer hazard. A MSDS for formaldehyde is available from Momentive. Attention: Not for injection into humans. Octamethylcyclotetrasiloxane Ingestion: Rodents given large doses via oral gavage of octamethylcyclotetrasiloxane (1600 mg/kg day, 14 days) developed liver weights relative to unexposed control animals due to hepatocellular hyperplasia (increased number of liver cells which appeared 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. 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 octamethylcyclotetrasiloxane (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. Interim results from a two generation reproductive study in rats exposed to 500 and 700 ppm D4 (whole body inhalation, 70 days prior to mating through mating, gestation and lactation) resulted in a statistically significant decrease in live mean litter size as well as extended period of off-spring delivery (dystocia). These results were not observed at the 70 and 300 ppm dosing levels. Preliminary results from an ongoing 24-month combined chronic/oncogenicity study in rats exposed to 10, 30, 150 or 700 ppm D4 showed test-article related effects in the kidney (male and
female) and uterus of rats exposed for 12 to 24 months. These effects include increased kidney weight and severity of chronic nephropathy, increased uterine weight, increased incidence of endometrial cell hyperplasia, and an increased incidence of endometrial adenomas. All of these effects were limited to the 700 ppm exposure group. The relevance of this data to humans is unclear. Further studies are ongoing. In developmental toxicity studies, rats and rabbits were exposed to octamethyicyclotetrasiloxane at concentrations up to 700 ppm and 500 ppm, respectively. No teratogenic effects (birth defects) were observed in either study.

12. ECOLOGICAL INFORMATION

ECOTOXICITY

No data available.

DISTRIBUTION

No data available.

CHEMICAL FATE

No data available.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD

Disposal should be made in accordance with federal, state and local regulations.

14. TRANSPORT INFORMATION

Further Information: This product is not regarded as dangerous goods according to the national and international regulations on the transport of dangerous goods.

15. REGULATORY INFORMATION

Inventories

Australia Inventory of Chemical Substances (AICS) y (positive listing)
EU list of existing chemical substances y (positive listing)
Japan Inventory of Existing & New Chemical Substances (ENCS) y (positive listing)
China Inventory of Existing Chemical Substances y (positive listing)
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Korea Existing Chemicals Inventory (KECI) y (positive listing)
Canada DSL Inventory y (positive listing)
Canada NDSL Inventory n (Negative listing)
Philippines Inventory of Chemicals and Chemical Substances (PICCS) y (positive listing)
TSCA list y (positive listing) On TSCA Inventory

For inventories that are marked as quantity restricted or special cases, please contact Momentive.

US Regulatory Information

CERCLA
Reportable quantity: 11510 lbs

PRODUCT COMPOSITION
Chemical CERCLA Reportable Quantity
Toluene 108-88-3 Reportable quantity: 1,000 LBS

SARA (311,312) HAZARD CLASS
Acute Health Hazard; Chronic Health Hazard

SARA (313) CHEMICALS
108-88-3, Toluene.

CALIFORNIA PROPOSITION 65
Warning! This product contains a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

Canadian Regulatory Information

WHMIS HAZARD CLASS
D2A - Very Toxic Material Causing Other Toxic Effects

16. OTHER INFORMATION

OTHER
These data are offered in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is 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. C = ceiling limit NEGL = negligible EST = estimated NF = none found NA = not applicable UNKN = unknown NE = none established REC = recommended ND = none determined V = recommended by vendor SKN = skin TS = trade secret R = recommended MST = mist NT = not tested STEL = short term exposure limit ppm = parts per million ppb = parts per billion By-product= reaction by-product, TSCA inventory status not required under 40 CFR part 720.30(h-2).