

Material Safety Data SheetMaterial: 60006606 ELASTOSIL® R 401/70
S

Version: 1.0 (US) Date of print: 11/02/2009 Date of last alteration: 12/08/2008

1 Product and company identification**1.1 Identification of the substance or preparation:**

Commercial product name: ELASTOSIL® R 401/70
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Use of substance / preparation: Industrial.
Raw material for: elastomer products .

1.2 Company/undertaking identification:

Manufacturer/distributor: Wacker Chemie AG
Hanns-Seidel-Platz 4
81737 München
Germany

Customer information: Wacker Chemical Corporation
3301 Sutton Road
Adrian, Michigan 49221-9397
USA
InfoLine:
Tel (517) 264-8240, Fax (517) 264-8740
Hours of operation:
Monday - Friday, 8 am to 5 pm (eastern standard time)
Corporate website: www.wacker.com

Emergency telephone no. (24h): (517) 264-8500
Transportation emergency: (800) 424-9300 (CHEMTREC, USA)
(703) 527-3887 (CHEMTREC, international)

This MSDS was prepared by the Regulatory Affairs and Product Safety Department (RAPS) of Wacker Chemical Corporation.

2 Composition/information on ingredients**2.1 Chemical characterization (preparation):**

Chemical characteristics
Polydimethylsiloxane with vinyl groups and filler

2.2 Information on ingredients:

Type	CAS No.	Substance	Content [wt. %]		Note
			Lower	Upper	
VERU	556-67-2	Octamethyl cyclotetrasiloxane	0.1	<1.0	R

Type: HYD - by-product upon hydrolysis, INHA - ingredient, NEBE - by-product, MONO - residual monomer, VERU - impurity, VUL - by-product upon vulcanization. *** **Note:** C1 - IARC carcinogen, C2 - NTP carcinogen, C3 - OSHA carcinogen, NH - non-hazardous, R - reproductive toxin.

This material does not contain any OSHA reportable hazardous ingredients. Due to the physical nature of this material (paste), exposure to dusts/particulates is not expected.

Substances listed in the Subsections "HAPS" and "California Proposition 65 Carcinogens / Reproductive Toxins" that are not listed in Section 2 are only present at quantities below 0.1% for California Proposition 65 listed toxins or below 1% for non-carcinogenic HAPS or they are inextricably bound in the product.

3 Hazards identification**3.1 Hazards classifications****HMIS® rating (product as packaged):**

Health: 1 Fire: 1 Reactivity: 0 PPE: B

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(HMIS codes are based on contact with the product as packaged and any hydrolysis by-products, if present.) Hazardous Materials Identification System and HMIS are registered trademarks of the National Paint and Coatings Association.

Canadian WHMIS Classification: D2A**3.2 Emergency overview and potential hazards**

This material is not hazardous under OSHA criteria.

Physical Hazards:

No known physical hazards.

Acute health effects**Route of entry or possible contact:**

eyes , skin , ingestion

Eye contact:

May cause slight eye irritation.

Skin contact:

No known skin hazards.

Inhalation:

See Sect. 3.3 "Chronic health effects". Inhalation caused reproductive effects in animals.

Ingestion:

Ingestion is not expected in industrial use.

Additional information on acute health effects:

The health hazard evaluation is based on test results and/or on known properties of ingredients.

3.3 Further information:**Chronic health effects:**

Prolonged or repeated inhalation of vapors may have adverse effects on the reproductive system, based on animal testing of a component of this material.

Medical conditions which may be aggravated by exposure:

unknown (not requested from vendor)

Target organs affected:

Liver and Female Reproductive System.

Signs and Symptoms of Exposure:

Refer to Acute Health Effects, listed above.

Carcinogens/Reproductive toxins:

Based on animal tests. This material contains between 0.1% and 1% of a known reproductive toxin. This material contains $\geq 0.1\%$ of a substance which may cause cancer. However, the relevance to humans has not been determined. Based on available data the carcinogenic potential of decamethylcyclopentasiloxane (D5) in animals can not be defined at this time.

See Section 11 for Toxicological Information, if any.

4 First-aid measures

4.1 General information:

Get medical attention if irritation occurs or if breathing becomes difficult. Remove contaminated clothing and shoes.

4.2 After inhalation:

No special measures required.

4.3 After contact with the skin:

Remove material with a waterless skin cleaner from skin and clothing. Wash then with plenty of water or water and soap.

4.4 After contact with the eyes:

If contact with eyes, immediately hold eyelids apart and flush with plenty of water for at least 15 min.

4.5 After swallowing:

No special measures required. Show label if possible.

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5 Fire-fighting measures

- 5.1 Flammable properties:** **Method**
Flash point.....: > 200 °C (> 392 °F) (DIN 51376)
Boiling point / boiling range.....: not applicable
Lower explosion limit (LEL).....: not applicable
Upper explosion limit (UEL).....: not applicable
Ignition temperature: > 400 °C (> 752 °F) (DIN 51794)
- 5.2 Fire and explosion hazards:**
This material does not present any unusual fire or explosion hazards.
- 5.3 Recommended extinguishing media:**
water-spray , carbon dioxide , sand , dry chemical or alcohol-resistant foam .
- 5.4 Unsuitable extinguishing media:**
sharp water jet
- 5.5 Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases:**
Hazardous decomposition products: carbon dioxide , carbon monoxide , formaldehyde , silicon dioxide and incompletely burnt hydrocarbons .
- 5.6 Fire fighting procedures:**
Fire fighters should wear full protective clothing including a self-contained breathing apparatus.

6 Accidental release measures

- 6.1 Precautions:**
No special measures required.
HAZWOPER PPE Level: D
- 6.2 Containment:**
Prevent material from entering sewers or surface waters.
Spills of material which could reach surface waters must be reported to the United States Coast Guard National Response Center's toll free phone number (800) 424-8802.
- 6.3 Methods for cleaning up:**
Scoop up large quantities after dusting surfaces with sand or Fuller's earth to prevent sticking. Sweep or scrape up the spilled material and place in an appropriate chemical waste container. Clean any slippery coating that remains using a detergent / soap solution or another biodegradable cleaner. Apply sand or other inert granular material to improve traction.

7 Handling and storage

- 7.1 Handling**
Precautions for safe handling:
No special protective measures required.
Precautions against fire and explosion:
No special precautions against fire and explosion required.
- 7.2 Storage**
Conditions for storage rooms and vessels:
none known
Advice for storage of incompatible materials:
not applicable
Further information for storage:
Keep container tightly closed. Store in a dry and cool place.

8 Exposure controls and personal protection

- 8.1 Engineering controls**
Ventilation:
Use with adequate ventilation.
Local exhaust:
not necessary

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8.2 Associate substances with specific control parameters such as limit values**Further information:**

Maximum concentration at workplace recommended by producer: octamethylcyclotetrasiloxane (D4, CAS no. 556-67-2) = 10 ppm (123 mg/m3) .

8.3 Personal protection equipment (PPE)**Respiratory protection:**

not necessary

Hand protection:

Any standard canvas, cloth, or leather work gloves.

Eye protection:

Recommendation: chemical safety goggles .

Other protective clothing or equipment:

Additional protective clothing or equipment is not normally required. Provide eye bath and safety shower.

8.4 General hygiene and protection measures:

Do not eat or drink when handling. Wash thoroughly after handling. Avoid contact with eyes, skin and clothing.

9 Physical and chemical properties**9.1 Appearance**Physical state / form.....: paste
Colour.....: transparent
Odour.....: slight**9.2 Safety parameters**

	Method
Melting point / melting range.....	not determined
Boiling point / boiling range.....	not applicable
Flash point.....	> 200 °C (> 392 °F) (DIN 51376)
Ignition temperature	> 400 °C (> 752 °F) (DIN 51794)
Lower explosion limit (LEL).....	not applicable
Upper explosion limit (UEL).....	not applicable
Vapour pressure.....	not applicable
Density.....	approx. 1.18 g/cm ³ at 20 °C (68 °F) (ISO 1183-1 A)
Water solubility / miscibility.....	virtually insoluble
pH-Value.....	not applicable
Viscosity (dynamic).....	not applicable

9.3 Further information

Thermal decomposition.....: > 250 °C (> 482 °F)

10 Stability and reactivity**10.0 General information:**

If stored and handled in accordance with standard industrial practices no hazardous reactions are known.

10.1 Conditions to avoid:

none known

10.2 Materials to avoid:

none known

10.3 Hazardous decomposition products:

If stored and handled in accordance with standard industrial practices and local regulations where applicable: none known . Measurements have shown the formation of small amounts of formaldehyde at temperatures above about 150 °C (302 °F) through oxidation.

10.4 Further information:

Hazardous polymerization cannot occur.

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11 Toxicological information**11.1 General information:**

Toxicological testing has not been conducted with this material. The toxicology information listed below is based on the components of the material.

11.2 Toxicological data:**Additional information / remarks:**

Oral toxicity: Large oral doses (1600 mg/day for 14 days) of OMCTS/D4 caused an increase in the number of liver cells (hyperplasia) in laboratory rats. Ingestion of OMCTS/D4 is not expected in industrial use.

Inhalation toxicity: In a 90-day subchronic inhalation study with OMCTS/D4, female rats at the highest dose level of 300 ppm showed a reversible increase in liver and ovary weights. Rats exposed to inhalation concentrations of 5 ppm and 10 ppm, which are more typical of industrial exposure, did not show any toxic effects. Further studies in laboratory guinea pigs and rabbits have shown no liver effects due to D4 inhalation exposure.

Toxicity to reproduction/fertility: Impurity: In a female rat gender-specific range finding study (inhalation exposure) with octamethylcyclotetrasiloxane (OMCTS/D4), decreases in mean live litter size and in the number of implantation sites were seen at the 700 ppm exposure level. In a two generation reproductive study with rats, decreased mean live litter size and prolonged labor (dystocia) were observed at the 500 and 700 ppm exposure levels. These same effects were not seen at the lower dose levels of 70 and 300 ppm. Previous inhalation developmental studies did not show birth defects at doses ranging up to 700 ppm in rats and 500 ppm in rabbits. The significance of these effects in humans can not be determined at this time. However, because these effects are only seen at very high exposure levels, it is unlikely that industrial, commercial and consumer uses of products containing OMCTS/D4 would result in a significant risk to humans. In a two generation reproductive study via inhalation with OMCTS/D4 in rats, decreased mean live litter size and prolonged labor (dystocia) were observed at the 500 ppm and 700 ppm exposure levels. These same effects were not seen at the lower dose levels of 70 ppm and 300 ppm. Previous inhalation developmental studies did not show birth defects at doses ranging up to 700 ppm in rats and 500 ppm in rabbits. The significance of these effects in humans cannot be determined at this time. Because these effects are only seen at very high exposure levels, it is unlikely that industrial, commercial and/or consumer uses of products containing OMCTS/D4 would result in a significant risk to humans.

Chronic toxicity / carcinogenicity: Impurity: In a two year combined chronic toxicity and carcinogenicity inhalation study with octamethylcyclotetrasiloxane (OMCTS/D4) in rats, an increased incidence of (uterine) endometrial cell hyperplasia and endometrial adenomas were observed at the highest exposure level of 700 ppm in female rats. These same effects were not seen at the other dose levels of 10, 30, and 150 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 OMCTS/D4 would result in a significant risk to humans. In a two year combined chronic toxicity and carcinogenicity inhalation study with decamethylcyclopentasiloxane (D5) in rats, an increased incidence for (uterine) endometrial tumors was observed in the highest exposure level of 160 ppm in female rats. The same effects were not seen at the other dose levels of 10 and 40 ppm. Whether or not this increase in incidence is truly related to the exposure to D5 is questionable and yet to be determined. Based on our present knowledge it is unlikely that industrial, commercial or consumer uses of products containing D5 would result in a significant risk to humans.

Experience with man:-
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12 Ecological information**12.1 Information on elimination (persistence and degradability)****Biodegradation / further information:**
Biologically not degradable.**Further information:**
Separation by sedimentation.**12.2 Behaviour in environmental compartments****Mobility**
Insoluble in water.**Further information:**
Bioaccumulation is not expected to occur.**12.3 Ecotoxicological effects:**

Evaluation on basis of physical-chemical properties: No expected damaging effects to aquatic organisms.

Effects in sewage treatment plants (bacteria toxicity: respiration-/reproduction inhibition):
According to current knowledge adverse effects on water purification plants are not expected.**12.4 Additional information****Other harmful effects**
none known**General information:**
No environmental problems expected if handled and treated in accordance with standard industrial practices and local regulations where applicable.**13 Disposal considerations****13.1 Product disposal****Recommendation:**
Material that cannot be used or chemically reprocessed should be disposed of at an approved facility in accordance with any applicable governmental regulations.**13.2 Packaging disposal****Recommendation:**
Containers should be completely emptied before recycling as specified in government regulations. Empty containers should be sent to an approved recycling facility.**14 Transport information****14.1 US DOT & CANADA TDG SURFACE**

Valuation.....: Not regulated for transport

14.2 Transport by sea IMDG-Code

Valuation.....: Not regulated for transport

14.3 Air transport ICAO-TI/IATA-DGR

Valuation.....: Not regulated for transport

15 Regulatory information**15.1 U.S. Federal regulations****TSCA inventory status and TSCA information:**

This material or its components are listed on or are in compliance with the requirements of the TSCA Chemical Substance Inventory.

TSCA 12(b) Export Notification:

This material does not contain any TSCA 12(b) regulated chemicals.

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CERCLA Regulated Chemicals:

This material does not contain any CERCLA regulated chemicals.

SARA 302 EHS Chemicals:

This material does not contain any SARA extremely hazardous substances.

SARA 311/312 Hazard Class:

This product does not present any SARA 311/312 hazards.

SARA 313 Chemicals:

This material does not contain any SARA 313 chemicals above de minimus levels.

HAPS (Hazardous Air Pollutants):

This material does not contain any hazardous air pollutants.

15.2 U.S. State regulations**California Proposition 65 Carcinogens:**

This material does not contain any chemicals known to the state of California to cause cancer.

California Proposition 65 Reproductive Toxins:

This material does not contain any chemicals known to the state of California to cause reproductive effects.

Massachusetts Substance List:

112945-52-5 Silica, amorphous, fumed

New Jersey Right-to-Know Hazardous Substance List:

112945-52-5 Silica, amorphous, fumed

Pennsylvania Right-to-Know Hazardous Substance List:

112945-52-5 Silica, amorphous, fumed

15.3 Canadian regulations

This product has been classified in accordance with the Hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

WHMIS Hazard Classes:

D2A

DSL Status:

This material or its components are listed on the Canadian Domestic Substances List.

Non-DSL Chemicals:

This material does not contain any non-DSL chemicals.

Canadian Ingredient Disclosure List:

112945-52-5 Silica, amorphous, fumed

15.4 Other international regulations**EU Risk Phrases:**

R-Phrase	Description
R-	-

EU Safety Phrases:

S-Phrase	Description
S-	-

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Details of international registration status

Listed on or in accordance with the following inventories:

EINECS - Europe
ECL - Korea
ENCS - Japan
AICS - Australia
IECSC - China
DSL - Canada
PICCS - Philippines
TSCA - USA**16 Other information****16.1 Additional information:**

This Material Safety Data Sheet (MSDS) meets the requirements of the Federal OSHA Hazard Communication Standard (29 CFR 1910.1200). This product has been classified according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR. This information relates to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is to the best of our knowledge and belief accurate and reliable as of the date compiled. However, no representation, warranty or guarantee expressed or implied, is made as to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use. We do not accept liability for any loss or damage that may occur from the use of this information. Nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending a license under valid patents. This MSDS provides selected regulatory information on this product, including its components. This is not intended to include all regulations. It is the responsibility of the user to know and comply with all applicable rules, regulations and laws relating to the product being used.

Vertical lines in the left-hand margin indicate changes compared with the previous version.

16.2 Glossary of Terms:

ACGIH - American Conference of Governmental Industrial Hygienists	ppm - Parts per Million
DOT - Department of Transportation	SARA - Superfund Amendments and Reauthorization Act
hPa - Hectopascals	STEL - Short Term Exposure Limit
mPa*s - Milli Pascal-Seconds	TSCA - Toxic Substances Control Act
OSHA - Occupational Safety and Health Administration	TWA - Time Weighted Average
PEL - Permissible Exposure Limit	WHMIS - Canadian Workplace Hazardous Materials Identification System

Flash point determination methodsASTM D56
ASTM D92, DIN 51376, ISO 2592
ASTM D93, DIN 51758, ISO 2719
ASTM D3278, DIN 55680, ISO 3679
DIN 51755**Common name**Tagliabue (Tag) closed cup
Cleveland open cup
Pensky-Martens closed cup
Setaflash or Rapid closed cup
Abel-Pensky closed cup**16.3 Conversion table:**Pressure: 1 hPa * 0.75 = 1 mm Hg = 1 Torr; 1 bar = 1000 hPa
Viscosity: 1 mPa*s = 1 Centipoise (Cp)