

Material Safety Data Sheet

Material: 60073018

ELASTOSIL® E60 N GREY

Version: 2.1 (US)

Date of print: 09/12/2013

Date of last alteration: 14/12/2012

1. Product and company identification

1.1 Identification of the substance or preparation:

Commercial product name: ELASTOSIL® E60 N GREY
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 and fillers and auxiliaries and acetoxysilane cross-linker

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
INHA	160738-91-0	Methyltriacetoxysilane oligomers and polymers	5.0	10.0	
NEBE	64-19-7	Acetic acid	varies	varies	

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.

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

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

Canadian WHMIS Classification: D2A

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3.2 Emergency overview and potential hazards

This material is not hazardous under OSHA criteria. This material is not hazardous under WHMIS criteria.

Physical Hazards:

No known physical hazards.

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

eyes , skin , inhalation (volatile by-products) , ingestion

Eye contact:

May cause eye irritation.

Skin contact:

May cause slight skin irritation.

Inhalation:

Not expected in industrial use due to high viscosity. See Sect. 3.2 "Additional information on acute health effects".

Ingestion:

Not expected in industrial use.

Additional information on acute health effects:

The toxicological evaluation is based on experience during manufacture and/or on analogy to a similar product which has been tested. This material releases acetic acid upon moisture curing. Upon completion of the curing process, acetic acid will no longer be released. Acetic acid is moderately toxic by ingestion and inhalation. Dilute acetic acid is however, approved for food use. Acetic acid is a severe skin, eye and mucous membrane irritant. Skin sensitization is rare but has been reported. Chronic exposure can cause bronchitis and pharyngeal edema. Acetic acid may cause burns upon prolonged or repeated contact.

3.3 Further information:

Chronic health effects:

This material contains Titanium dioxide. However, due to the physical nature of this material inhalation of TiO₂ dust is not possible. Impurity: 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

Target organs affected:

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 $\geq 0.1\%$ of a substance which significantly increased the incidence of benign tumors in animal experiments. This material contains between 0.1% and 1% of a known reproductive toxin. Investigations of the mechanism of tumor formation are ongoing to evaluate the relevance to humans. Although animal testing has indicated that there is some limited carcinogenic potential for decamethylcyclopentasiloxane (D5) in rats, D5 has not been classified by IARC, NTP or OSHA as a known or potential human carcinogen. Further studies are ongoing to clarify the carcinogenic potential of D5 and the relevance to humans.

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.

4.2 After inhalation

If inhaled, remove to fresh air.

4.3 After contact with the skin

For skin contact, immediately wipe away excess material. Wash with soap and water.

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.

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4.5 After swallowing

If swallowed, rinse mouth with water. Induce drinking plenty of water in small portions.

4.6 Advice for the physician

Treat symptomatically.

5. Fire-fighting measures**5.1 Flammable properties:**

Property:	Value:	Method:
Flash point.....	not applicable	
Boiling point / boiling range	not applicable	
Lower explosion limit (LEL)	not applicable	
Ignition temperature	> 400 °C (> 752 °F)	(DIN 51794)

5.2 Fire and explosion hazards:

This material will burn with a lazy smoldering flame. This material does not present any unusual fire or explosion hazards.

5.3 Recommended extinguishing media:

AFFF alcohol compatible foam. Carbon dioxide. Dry chemical. Water - Use Fine Spray or Fog. Water may be used to cool tanks and structures adjacent to the fire.

5.4 Unsuitable extinguishing media:

None.

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:

Full turn-out gear and Self Contained Breathing Apparatus (SCBA) should be worn when fighting large fires.

6. Accidental release measures**6.1 Precautions:**

Wear personal protection equipment (see section 8). Avoid contact with eyes and skin. Avoid inhaling mists and vapours.

HAZWOPER PPE Level: D

6.2 Containment:

Prevent material from entering sewers or surface waters. Contain any fluid that runs out using suitable material (e.g. earth).

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

Do not flush away with water. Take up mechanically and dispose of according to local/state/federal regulations. Absorb with liquid, mainly acid binding material and dispose of according to local/state/federal regulation. Clean any slippery coating that remains using a detergent / soap solution or another biodegradable cleaner.

6.4 Further information:

Eliminate all sources of ignition.

7. Handling and storage**7.1 Handling****Precautions for safe handling:**

Ensure adequate ventilation. Keep away from incompatible substances in accordance with section 10.

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Precautions against fire and explosion:

Flammable vapors may accumulate and form explosive mixtures with air in containers, process vessels, including partial, empty and uncleaned containers and vessels, or other enclosed spaces. Keep away from sources of ignition and do not smoke. Take precautionary measures against electrostatic charging. Cool endangered containers with water.

7.2 Storage**Conditions for storage rooms and vessels:**

none known

Advice for storage of incompatible materials:

not applicable

Further information for storage:

Protect against moisture. Keep container tightly closed and store in a cool, well ventilated place. Do not store in open air.

Minimum temperature allowed during storage and transportation: 0 °C (32 °F)**Maximum temperature allowed during storage and transportation:** 35 °C (95 °F)**8. Exposure controls and personal protection****8.1 Engineering controls****Ventilation:**

No special ventilation required.

Local exhaust:

No special ventilation required.

8.2 Associate substances with specific control parameters such as limit values**Maximum airborne concentrations at the workplace:**

CAS No.	Material	Type	mg/m ³	ppm	Dust fract.
64-19-7	Acetic acid	OSHA PEL	25.0	10.0	
64-19-7	Acetic acid	ACGIH TWA		10.0	

Re Acetic acid (CAS-no. 64-19-7): STEL is 15 ppm (ACGIH).

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:**

Respiratory protection is not normally required.

Hand protection:

Any liquid-tight rubber or vinyl gloves.

Eye protection:

Safety glasses with side shields.

Other protective clothing or equipment:

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

9. Physical and chemical properties**9.1 Appearance**

Physical state / form: liquid
Colour: grey
Odour: pungent

9.2 Safety parameters**Property:****Value:****Method:**

Melting point / melting range: not applicable
Boiling point / boiling range: not applicable
Flash point.....: not applicable
Ignition temperature: > 400 °C (> 752 °F)

(DIN 51794)

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Lower explosion limit (LEL)	not applicable	
Vapour pressure.....	not applicable	
Density	1.05 g/cm ³ at 23 °C (73 °F), at 1013 hPa	(ISO 2811 (pycnometer))
Water solubility / miscibility.....	insoluble	
pH-Value	not applicable	
Viscosity (dynamic)	80000 mPa.s at 25 °C (77 °F)	(BROOKFIELD)

9.3 Further information

Re 9.2 solubility in water: Hydrolytic decomposition occurs. Re 9.2 pH Value: Product displays acidic reaction with water. Explosion limits for released acetic acid: 4 - 17%(V).

10. Stability and reactivity**10.1 General information:**

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

10.2 Conditions to avoid

moisture .

10.3 Materials to avoid

Reacts with: water , basic substances and alcohols . Reaction causes the formation of: acetic acid .

10.4 Hazardous decomposition products

By hydrolysis: acetic acid . Measurements have shown the formation of small amounts of formaldehyde at temperatures above about 150 °C (302 °F) through oxidation.

11. Toxicological information**11.1 Information on toxicological effects**

Toxicological testing has been conducted with similar product(s).

11.1.1 Acute toxicity**Assessment:**

Based on the available data acute toxic effects are not expected after single dermal exposure.

Product details:

Route of exposure	Result/Effect	Species/Test system	Source
dermal	LD ₅₀ : > 2009 mg/kg	rabbit	Conclusion by analogy

11.1.2 Skin corrosion/irritation**Assessment:**

After contact to the skin irritation of the skin are to be expected.

Product details:

Result/Effect	Species/Test system	Source
irritating	rabbit	Conclusion by analogy

11.1.3 Serious eye damage / eye irritation**Assessment:**

After contact to the eyes irritation of the eye must be expected.

Product details:

Result/Effect	Species/Test system	Source
irritating	rabbit	Conclusion by analogy

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11.1.4 Respiratory or skin sensitization**Assessment:**

For this endpoint no toxicological test data is available for the whole product.

11.1.5 Germ cell mutagenicity**Assessment:**

For this endpoint no toxicological test data is available for the whole product.

11.1.6 Carcinogenicity**Assessment:**

For this endpoint no toxicological test data is available for the whole product.

11.1.7 Reproductive toxicity**Assessment:**

For this endpoint no toxicological test data is available for the whole product.

11.1.8 Specific target organ toxicity (single exposure)**Assessment:**

For this endpoint no toxicological test data is available for the whole product.

11.1.9 Specific target organ toxicity (repeated exposure)**Assessment:**

For this endpoint no toxicological test data is available for the whole product.

11.1.10 Aspiration hazard**Assessment:**

Based on the physical-chemical properties of the product no aspiration hazard must be expected.

11.1.11 Further toxicological information

Toxicity to reproduction/fertility: Impurity: In a two generation reproductive study via inhalation with OMCTS/D4 rats, decreased mean live litter size and prolonged labor (dystocia) were observed at the 500 ppm and 700 ppm exposure levels. The relevance 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. Based on animal experiments there is no indication of developmental effects.

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.

Other information: In contact with dampness product separates a small quantity of acetic acid (64-19-7) which irritates skin and mucous membranes.

12. Ecological information

12.1 Toxicity**Assessment:**

Evaluation on basis of physical-chemical properties: No expected damaging effects to aquatic organisms. According to current knowledge adverse effects on water purification plants are not expected.

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12.2 Persistence and degradability**Assessment:**

Contact with water liberates: acetic acid . Silicone content: Biologically not degradable.

12.3 Bioaccumulative potential**Assessment:**

Bioaccumulation is not expected to occur.

12.4 Mobility in soil**Assessment:**

Polymer component: Insoluble in water.

12.5 Other adverse effects

none known

12.6 Additional information

In cross-linked state not soluble in water. Easily separable from water by filtration.

13. Disposal considerations**13.1 Product disposal****Recommendation:**

Dispose of according to regulations by incineration in a special waste incinerator. Small quantities may be disposed of by incineration in an approved facility. Observe local/state/federal regulations.

13.2 Packaging disposal**Recommendation:**

Completely discharge containers (no tear drops, no powder rest, scraped carefully). Containers may be recycled or re-used. Observe local/state/federal regulations.

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.

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:

not determined

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SARA 313 Chemicals:

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

HAPS (Hazardous Air Pollutants):

108-88-3 Toluene

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

1333-86-4 Carbon black

13463-67-7 Titanium dioxide

California Proposition 65 Reproductive Toxins:

108-88-3 Toluene

Massachusetts Substance List:

112945-52-5 Silica, amorphous, fumed

1333-86-4 Carbon black

13463-67-7 Titanium dioxide

New Jersey Right-to-Know Hazardous Substance List:

112945-52-5 Silica, amorphous, fumed

1333-86-4 Carbon black

13463-67-7 Titanium dioxide

Pennsylvania Right-to-Know Hazardous Substance List:

112945-52-5 Silica, amorphous, fumed

1333-86-4 Carbon black

13463-67-7 Titanium dioxide

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 one or more of its components is not listed on the Canadian Domestic Substances List.

Non-DSL Chemicals:


CAS No.	Chemical	Upper limit wt. %
160738-91-0	Silanetriol, methyl-, triacetate, hydrolyzed	5.5449

Canadian Ingredient Disclosure List:

112945-52-5 Silica, amorphous, fumed

1333-86-4 Carbon black

15.4 Other international regulations**EU Hazard Symbols:**

	Xi	Irritant
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EU Risk Phrases:

R-Phrase	Description
R36/38	Irritating to eyes and skin.

EU Safety Phrases:

S-Phrase	Description
S39	Wear eye/face protection.

Details of international registration status

Listed on or in accordance with the following inventories:

EINECS - Europe

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ECL - Korea
ENCS - Japan
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.

All deliveries are subject to the WACKER SILICONES Health Care Policy, which is available at www.wacker.com.

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 methods	Common name
ASTM D56	Tagliabue (Tag) closed cup
ASTM D92, DIN 51376, ISO 2592	Cleveland open cup
ASTM D93, DIN 51758, ISO 2719	Pensky-Martens closed cup
ASTM D3278, DIN 55680, ISO 3679	Setaflash or Rapid closed cup
DIN 51755	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)