

Material Safety Data Sheet

Material: 60003728

**ELASTOSIL® E43
TRANSPARENT**

Version: 1.5 (US)

Date of print: 12/10/2012

Date of last alteration: 04/04/2012

1. Product and company identification**1.1 Identification of the substance or preparation:****Commercial product name:** ELASTOSIL® E43
TRANSPARENTUse 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	4253-34-3	Triacetoxy methylsilane	1.0	5.0	
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.

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: 2

Fire: 1

Reactivity: 1

PPE: G

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Note: Respiratory protection is only recommended in the event that ventilation or engineering controls are unable to maintain exposures below recommended levels; or in the event of a spill or other emergency response situation. 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, D2B

3.2 Emergency overview and potential hazards

Signal Word:

WARNING

Physical Hazards:

No known physical hazards.

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

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

Eye contact:

Causes eye irritation.

Skin contact:

May cause skin irritation.

Inhalation:

Not expected in industrial use due to high viscosity.

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:

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 or other symptoms occur. Before seeking medical attention remove contaminated clothing and shoes. Take a copy of the Safety Data Sheet when going for medical treatment.

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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. Use a waterless hand cleaner to remove as much of the remaining material as possible. 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.

4.5 After swallowing

If swallowed, do not induce vomiting. Induce drinking plenty of water in small portions. Get medical attention immediately. Show label.

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	
Upper explosion limit (UEL).....	not applicable	
Ignition temperature	approx. 460 °C (860 °F)	

5.2 Fire and explosion hazards:

Consider possible formation of explosive mixtures with air, for example in uncleaned containers.

5.3 Recommended extinguishing media:

water-spray , carbon dioxide , 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 , acetic acid and incompletely burnt hydrocarbons .

5.6 Fire fighting procedures:

Cool endangered containers with water. Fire fighters should wear full protective clothing including a self-contained breathing apparatus.

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: C**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.

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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 10.2.

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)**8. Exposure controls and personal protection****8.1 Engineering controls****Ventilation:**

Use only with adequate ventilation.

Local exhaust:

Local exhaust ventilation which meets the requirements of ANSI Z9.2 is recommended to control airborne contaminants at the point of use.

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).

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

A NIOSH approved air purifying respirator equipped with universal multi-contaminant multi-gas/vapor cartridges is recommended if overexposure to chemical vapors could occur.

Hand protection:

protective gloves made of fluorinated rubber

Eye protection:

Safety glasses with side shields or chemical safety goggles.

Other protective clothing or equipment:

protective clothing to cover exposed areas of arms, legs and torso Provide eye bath and safety shower.

8.4 General hygiene and protection measures:

Avoid contact with eyes, skin and clothing. Do not breathe dust/vapor/mist/gas/aerosol. Do not eat, drink or smoke when handling. Wash thoroughly after handling.

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

Physical state / form: paste
Colour: transparent
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	approx. 460 °C (860 °F)	
Lower explosion limit (LEL)	not applicable	
Upper explosion limit (UEL).....	not applicable	
Vapour pressure.....	not applicable	
Density	1.09 g/cm ³ at 20 °C (68 °F)	(DIN 53217)
Water solubility / miscibility.....	virtually insoluble	
pH-Value	not applicable	
Viscosity (dynamic)	250000 mPa.s	(DIN EN ISO 3219)

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).

Thermal decomposition.....: No decomposition when used according to regulations.

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.

10.5 Further information:

Hazardous polymerization cannot occur.

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

Toxicological testing has not been conducted with this material.

11.1.1 Acute toxicity**Assessment:**

Based on the available data acute toxic effects are not expected after single oral exposure. 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
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oral	LD ₅₀ : > 2000 mg/kg	rat	Conclusion by analogy
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
no risk of serious eye damage	in vitro method; Bovine eye / bovine cornea	Conclusion by analogy OECD 437

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

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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: Irritating to eyes and skin. In contact with dampness product separates acetic acid (64-19-7) which irritates skin and mucous membranes.

12. Ecological information**12.1 Toxicity****Assessment:**

No expected damaging effects to aquatic organisms. According to current knowledge adverse effects on water purification plants are not expected.

Product details:

Result/Effect	Species/Test system	Source
ErC50: > 100 mg/l	static Desmodesmus subspicatus (72 h)	Conclusion by analogy OECD 201

12.2 Persistence and degradability**Assessment:**

Silicone content: Biologically not degradable. The product of hydrolysis (acetic acid) is readily biodegradable.

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.

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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:

Immediate (acute) health hazard. Delayed (chronic) health hazard.

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:**

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

California Proposition 65 Reproductive Toxins:

108-88-3 Toluene

Massachusetts Substance List:

This material contains no listed components.

New Jersey Right-to-Know Hazardous Substance List:

This material contains no listed components.

Pennsylvania Right-to-Know Hazardous Substance List:

This material contains no listed components.

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:

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D2A, D2B

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:

This material contains no listed components.

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
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S46	If swallowed, seek medical advice immediately and show this container or label.

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
DOT - Department of Transportation
hPa - Hectopascals
mPa*s - Milli Pascal-Seconds
OSHA - Occupational Safety and Health Administration
PEL - Permissible Exposure Limit

ppm - Parts per Million
SARA - Superfund Amendments and Reauthorization Act
STEL - Short Term Exposure Limit
TSCA - Toxic Substances Control Act
TWA - Time Weighted Average
WHMIS - Canadian Workplace Hazardous Materials Identification System

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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)