ExSil® 100 - HIGH ELONGATION 2-COMPONENT ELASTOMER MOLDING GRADE; PART A (BASE)

Safety Data Sheet EM2-EX100A

Issue date: 01/19/2016 Revision date: 07/20/2023 Version: 2.2

SECTION 1: Identification

1.1. Identification

Product name	:	ExSil® 100 - HIGH ELONGATION 2-COMPONENT ELASTOMER MOLDING GRADE; PART A (BASE)
Product code	:	EM2-EX100A
Product form	:	Mixture
Physical state	:	Liquid
Synonyms	:	2-COMPONENT SILICONE RTV; VINYL, METHYL MODIFIED SILICA IN POLY(DIMETHYLSILOXANE), MONOHYDRIDE, MONOVINYL TERMINATED; 2-part REPROGRAPHIC SILICONE ELASTOMER
Chemical family	:	SILICONE

1.2. Recommended use and restrictions on use

Recommended use	:	Chemical intermediate

1.3. Supplier

GELEST, INC.
11 East Steel Road
Morrisville, PA 19067
USA
T 215-547-1015 - F 215-547-2484 - (M-F): 8:00 AM - 5:30 PM EST
info@gelest.com - www.gelest.com

1.4. Emergency telephone number

Emergency number	:	CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Not classified

2.2. GHS Label elements, including precautionary statements

GHS US labeling

No labeling applicable

2.3. Hazards not otherwise classified (HNOC)

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Comments : The formulated product is not considered to be hazardous when this raw material is compounded into the formulation.

This mixture does not contain any substances to be mentioned according to the criteria of section 3.2 of HazCom 2012

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : Remove contaminated clothing and shoes. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). If possible show this sheet; if not available show packaging or label.

First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell, seek medical advice.

First-aid measures after skin contact : Wash with plenty of soap and water. Get medical advice/attention.

First-aid measures after eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.

First-aid measures after ingestion : Never give anything by mouth to an unconscious person. Get medical advice/attention.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects : May cause damage to organs.

Symptoms/effects after inhalation : No information available.

Symptoms/effects after skin contact : May cause mild skin irritation.

Symptoms/effects after eye contact : May cause mild eye irritation.

Symptoms/effects after ingestion : No information available.

4.3. Immediate medical attention and special treatment, if necessary

No additional information available

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Water fog. Foam. Carbon dioxide. Dry chemical.

Unsuitable extinguishing media : None known.

5.2. Specific hazards arising from the chemical

Fire hazard : Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Exercise caution when fighting any chemical fire. Use water spray or fog for cooling exposed containers.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Avoid all eye and skin contact and do not breathe vapor and mist.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment : Wear protective equipment as described in Section 8.

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment	:	Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment	:	Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
Methods for cleaning up	:	Clean up any spills as soon as possible, using an absorbent material to collect it. Sweep or shovel spills into appropriate container for disposal.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	:	Avoid all eye and skin contact and do not breathe vapor and mist. Use only outdoors or in a well-ventilated area.
Hygiene measures	:	Wash contaminated clothing before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	:	Keep container tightly closed.
Incompatible materials	:	Alkalis. Metal salts. Oxidizing agent. Precious metals.
Storage area	:	Store in a well-ventilated place. Store away from heat.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls	:	Provide local exhaust or general room ventilation.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:
Avoid all unnecessary exposure. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Hand protection:
Neoprene or nitrile rubber gloves

Eye protection:
Chemical goggles. Contact lenses should not be worn

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. NIOSH-certified organic vapor (black cartridge) respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	Clear liquid. Viscous.
Molecular mass	:	(mixture)
Color	:	Translucent.
Odor	:	No data available
Odor threshold	:	No data available
pH	:	No data available
Relative evaporation rate (butyl acetate=1)	:	No data available
Melting point	:	< -60 °C
Freezing point	:	No data available
Boiling point	:	> 205 °C
Flash point	:	> 121 °C
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	No data available
Vapor pressure	:	< 1 mm Hg @ 20°C
Relative vapor density at 20°C	:	No data available
Relative density	:	1.12
Solubility	:	Insoluble in water.
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Partition coefficient n-octanol/water (Log Kow)	:	No data available
Viscosity, kinematic	:	A:10,000-15,000 cSt
Viscosity, dynamic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available
Explosion limits	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable in sealed containers stored under a dry inert atmosphere.

10.3. Possibility of hazardous reactions

B-part is reactive with metal salts and precious metals.

10.4. Conditions to avoid

Heat. Open flame. Sparks.

10.5. Incompatible materials

Alkalis. Metal salts. Oxidizing agent. Precious metals.

10.6. Hazardous decomposition products

Formaldehyde. Organic acid vapors. Silicon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	:	Not classified
Acute toxicity (dermal)	:	Not classified
Acute toxicity (inhalation)	:	Not classified
Skin corrosion/irritation	:	Not classified
Serious eye damage/irritation	:	Not classified
Respiratory or skin sensitization	:	Not classified
Germ cell mutagenicity	:	Not classified
Carcinogenicity	:	Not classified
Reproductive toxicity	:	Not classified
STOT-single exposure	:	Not classified
STOT-repeated exposure	:	Not classified
Aspiration hazard	:	Not classified
Symptoms/effects after inhalation	:	No information available.
Symptoms/effects after skin contact	:	May cause mild skin irritation.
Symptoms/effects after eye contact	:	May cause mild eye irritation.
Symptoms/effects after ingestion	:	No information available.

SECTION 12: Ecological information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on the ozone layer : No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Sewage disposal recommendations	:	Do not dispose of waste into sewer.
Product/Packaging disposal recommendations	:	Incinerate. Dispose in a safe manner in accordance with local/national regulations.
Ecology - waste materials	:	Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

DOT	TDG	IMDG	IATA
14.1. UN number			
Not regulated for transport			

DOT	TDG	IMDG	IATA
14.2. Proper Shipping Name			
Not applicable	Not applicable	Not applicable	Not applicable
Transport document description			
Not applicable	Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)			
Not applicable	Not applicable	Not applicable	Not applicable
14.4. Packing group			
Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards			
Dangerous for the environment: No	Dangerous for the environment: No	Not applicable	Not applicable
No supplementary information available			

14.6. Special precautions for user

DOT
No data available

TDG
No data available

IMDG
No data available

IATA
No data available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

Name	CAS-No.	Listing	Commercial status	Flags

15.2. International regulations

CANADA

No additional information available

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

Abbreviations and acronyms	:	Abbreviations: ND: Not Determined, No Data; NA: Not Applicable; LD: Lethal Dose; LC: Lethal Concentration; ATE: Acute Toxicity Estimates; H: hour; °: °C unless otherwise stated; mm: millimeters Hg, torr; PEL: permissible exposure level; TWA: time weighted average; TLV: threshold limit value; TG: Test Guideline; NIOSH: National Institute for Occupational Safety and Health; IARC: International Agency for Research on Cancer; NTP: National Toxicology Program; HMIS: Hazardous Material Information System; CAS No.: Chemcial Abstract Service Registration Number; EC No.: European Commission Registration Number; EC Index No.: European Commission Index Number; OECD: The Organisation for Economic Co-operation and Development; GHS: The Globally Harmonized System of Classification and Labelling; APF: Assigned Protection Factor.
Hazard Rating		
Health	:	1 Slight Hazard - Irritation or minor reversible injury possible
Flammability	:	1 Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 F. (Class IIIB)
Physical	:	0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Prepared by safety and environmental affairs.

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SDS US (GHS HazCom 2012) - Custom

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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ExSil® 100 - HIGH ELONGATION 2-COMPONENT ELASTOMER MOLDING GRADE; PART B (CATALYST)

Safety Data Sheet EM2-EX100B

Issue date: 01/19/2016 Revision date: 07/20/2023 Version: 3.0

SECTION 1: Identification

1.1. Identification

Product name	:	ExSil® 100 - HIGH ELONGATION 2-COMPONENT ELASTOMER MOLDING GRADE; PART B (CATALYST)
Product code	:	EM2-EX100B
Product form	:	Mixture
Physical state	:	Liquid
Synonyms	:	2-COMPONENT SILICONE RTV; VINYL, METHYL MODIFIED SILICA IN POLY(DIMETHYLSILOXANE), MONOHYDRIDE, MONOVINYL TERMINATED; 2-part REPROGRAPHIC SILICONE ELASTOMER
Chemical family	:	SILICONE

1.2. Recommended use and restrictions on use

Recommended use	:	Chemical intermediate

1.3. Supplier

GELEST, INC.
11 East Steel Road
Morrisville, PA 19067
USA
T 215-547-1015 - F 215-547-2484 - (M-F): 8:00 AM - 5:30 PM EST
info@gelest.com - www.gelest.com

1.4. Emergency telephone number

Emergency number	:	CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Skin corrosion/irritation Category 2	H315	Causes skin irritation
Reproductive toxicity Category 1B	H360	May damage fertility or the unborn child
Specific target organ toxicity (repeated exposure) Category 2	H373	May cause damage to organs through prolonged or repeated exposure

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :

Signal word (GHS US)	:	Danger
Hazard statements (GHS US)	:	H315 - Causes skin irritation H360 - May damage fertility or the unborn child H373 - May cause damage to organs through prolonged or repeated exposure
Precautionary statements (GHS US)	:	P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P260 - Do not breathe vapors.

P264 - Wash hands thoroughly after handling.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 - If on skin: Wash with plenty of soap and water.
P308+P313 - If exposed or concerned: Get medical advice/attention.
P314 - Get medical advice/attention if you feel unwell.
P321 - Specific treatment (see supplemental first aid instruction on this label).
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P405 - Store locked up.
P501 - Dispose of contents/container to licensed waste disposal facility..

2.3. Hazards not otherwise classified (HNOC)

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
Polydimethylsiloxane	CAS-No.: 63148-62-9	70 – 80	Not classified
1,3,5,7-Tetravinyl-1,3,5,7-tetramethylcyclotetrasiloxane	CAS-No.: 2554-06-5	10 – 15	Repr. 1B, H360
Xylene	CAS-No.: 1330-20-7	9 – 15	Flam. Liq. 3, H226 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304
Platinum, 1,3-diethenyl-1,1,3,3-tetramethyldisiloxane complexes	CAS-No.: 68478-92-2	< 1.5	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Eye Irrit. 2A, H319

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : Remove contaminated clothing and shoes. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). If possible show this sheet; if not available show packaging or label.

First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell, seek medical advice.

First-aid measures after skin contact : Wash with plenty of soap and water. Get medical advice/attention.

First-aid measures after eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.

First-aid measures after ingestion : Never give anything by mouth to an unconscious person. Get medical advice/attention.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects	:	May cause damage to organs.
Symptoms/effects after inhalation	:	May cause respiratory irritation.
Symptoms/effects after skin contact	:	Causes skin irritation.
Symptoms/effects after eye contact	:	May cause eye irritation.
Symptoms/effects after ingestion	:	May be harmful if swallowed.

4.3. Immediate medical attention and special treatment, if necessary

No additional information available

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	:	Water spray. Water fog. Foam. Carbon dioxide. Dry chemical.
Unsuitable extinguishing media	:	None known.

5.2. Specific hazards arising from the chemical

Fire hazard	:	Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	:	Exercise caution when fighting any chemical fire. Use water spray or fog for cooling exposed containers.
Protection during firefighting	:	Do not enter fire area without proper protective equipment, including respiratory protection. Avoid all eye and skin contact and do not breathe vapor and mist.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment	:	Wear protective equipment as described in Section 8.
Emergency procedures	:	Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment	:	Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment	:	Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
Methods for cleaning up	:	Clean up any spills as soon as possible, using an absorbent material to collect it. Sweep or shovel spills into appropriate container for disposal.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid all eye and skin contact and do not breathe vapor and mist. Use only outdoors or in a well-ventilated area.

Hygiene measures : Wash contaminated clothing before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep container tightly closed.

Incompatible materials : Alkalis. Metal salts. Oxidizing agent. Precious metals.

Storage area : Store in a well-ventilated place. Store away from heat.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Xylene (1330-20-7)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Xylene, mixed isomers (Dimethylbenzene)
ACGIH OEL TWA [ppm]	100 ppm
ACGIH OEL STEL [ppm]	150 ppm
Remark (ACGIH)	TLV® Basis: URT & eye irr; hematologic eff; ototoxycity (for mixtures containing p-xylene); CNS impair. Notations: OTO (for mixtures containing p-xylene); A4 (Not classifiable as a Human Carcinogen); BEI
ACGIH chemical category	Not Classifiable as a Human Carcinogen
Regulatory reference	ACGIH 2023
USA - ACGIH - Biological Exposure Indices	
Local name	XYLENES (Technical or commercial grade)
BEI (BLV)	1.5 g/g Kreatinin (Medium: urine - Time: end of shift - Parameter: Methylhippuric acids)
Regulatory reference	ACGIH 2023
USA - OSHA - Occupational Exposure Limits	
Local name	Xylenes (o-, m-, p-isomers)
OSHA PEL (TWA) [1]	435 mg/m³
OSHA PEL (TWA) [2]	100 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

8.2. Appropriate engineering controls

Appropriate engineering controls : Provide local exhaust or general room ventilation.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:
Avoid all unnecessary exposure. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Hand protection:
Neoprene or nitrile rubber gloves

Eye protection:
Chemical goggles. Contact lenses should not be worn

Skin and body protection:
Wear suitable protective clothing

Respiratory protection:
Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. NIOSH-certified organic vapor (black cartridge) respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	Clear liquid. Viscous.
Molecular mass	:	(mixture)
Color	:	Translucent.
Odor	:	No data available
Odor threshold	:	No data available
pH	:	No data available
Relative evaporation rate (butyl acetate=1)	:	No data available
Melting point	:	< -60 °C
Freezing point	:	No data available
Boiling point	:	> 205 °C
Flash point	:	> 121 °C
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	No data available
Vapor pressure	:	< 1 mm Hg @ 20°C
Relative vapor density at 20°C	:	No data available
Relative density	:	1.12
Solubility	:	Insoluble in water.
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Partition coefficient n-octanol/water (Log Kow)	:	No data available
Viscosity, kinematic	:	A:10,000-15,000 cSt; B:500-1500 cSt
Viscosity, dynamic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available
Explosion limits	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable in sealed containers stored under a dry inert atmosphere.

10.3. Possibility of hazardous reactions

B-part is reactive with metal salts and precious metals.

10.4. Conditions to avoid

Heat. Open flame. Sparks.

10.5. Incompatible materials

Alkalis. Metal salts. Oxidizing agent. Precious metals.

10.6. Hazardous decomposition products

Formaldehyde. Organic acid vapors. Silicon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

1,3,5,7-Tetravinyl-1,3,5,7-tetramethylcyclotetrasiloxane (2554-06-5)	
LD50 oral rat	> 15 mg/kg Source: TOMES
LD50 dermal rabbit	> 2000 mg/kg body weight Animal: rabbit, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LC50 Inhalation - Rat	> 1.32 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity)

Polydimethylsiloxane (63148-62-9)	
LD50 oral rat	> 17000 mg/kg Source: National Library of Medicine
LD50 dermal rabbit	> 2000 mg/kg Source: National Library of Medicine
LC50 inhalation rat	> 535 mg/l

Xylene (1330-20-7)	
LD50 oral rat	3523 mg/kg Source: ECHA
LD50 dermal rabbit	1700 mg/kg
LD50 dermal guinea pig	<
LC50 Inhalation - Rat	29.08 mg/l/4h
LC50 Inhalation - Rat [ppm]	5922 ppm
Additional data	LCLo Inhalation man: 10,000ppm/6H

Platinum, 1,3-diethenyl-1,1,3,3-tetramethyldisiloxane complexes (68478-92-2)	
LD50 oral rat	> 5000 mg/kg Source: ECHA

Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Not classified
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

Xylene (1330-20-7)	
IARC group	3 - Not classifiable

Reproductive toxicity : May damage fertility or the unborn child.
STOT-single exposure : Not classified

STOT-repeated exposure	:	May cause damage to organs through prolonged or repeated exposure.

Platinum, 1,3-diethenyl-1,1,3,3-tetramethyldisiloxane complexes (68478-92-2)	
NOAEL (oral,rat,90 days)	125 mg/kg body weight Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

Aspiration hazard	:	Not classified
Symptoms/effects after inhalation	:	May cause respiratory irritation.
Symptoms/effects after skin contact	:	Causes skin irritation.
Symptoms/effects after eye contact	:	May cause eye irritation.
Symptoms/effects after ingestion	:	May be harmful if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

Polydimethylsiloxane (63148-62-9)	
LC50 - Fish [1]	> 10000 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
LC50 - Fish [2]	> 10000 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])

Xylene (1330-20-7)	
LC50 - Fish [1]	13.4 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 - Crustacea [1]	3.82 mg/l (Exposure time: 48 h - Species: water flea)
LC50 - Fish [2]	2.661 – 4.093 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
EC50 - Crustacea [2]	0.6 mg/l (Exposure time: 48 h - Species: Gammarus lacustris)
LOEC (chronic)	3.16 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	> 1.3 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri) Duration: '56 d'

Platinum, 1,3-diethenyl-1,1,3,3-tetramethyldisiloxane complexes (68478-92-2)	
LC50 - Fish [1]	≥ 10 mg/l Source: ECHA

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

Xylene (1330-20-7)	
BCF - Fish [1]	0.6 – 15
Partition coefficient n-octanol/water (Log Pow)	2.77 – 3.15

Platinum, 1,3-diethenyl-1,1,3,3-tetramethyldisiloxane complexes (68478-92-2)	
Partition coefficient n-octanol/water (Log Pow)	5.958 Source: ECHA

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other adverse effects	:	May be hazardous to aquatic life if released to open waters.
Effect on the ozone layer	:	No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Sewage disposal recommendations : Do not dispose of waste into sewer.
Product/Packaging disposal recommendations : Incinerate. Dispose in a safe manner in accordance with local/national regulations.
Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

DOT	TDG	IMDG	IATA
14.1. UN number			
Not regulated for transport			
14.2. Proper Shipping Name			
Not applicable	Not applicable	Not applicable	Not applicable
Transport document description			
Not applicable	Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)			
Not applicable	Not applicable	Not applicable	Not applicable
14.4. Packing group			
Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards			
Dangerous for the environment: No	Dangerous for the environment: No	Not applicable	Not applicable
No supplementary information available			

14.6. Special precautions for user

DOT
No data available

TDG
No data available

IMDG
No data available

IATA
No data available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

Name	CAS-No.	Listing	Commercial status	Flags
1,3,5,7-Tetravinyl-1,3,5,7-tetramethylcyclotetrasiloxane	2554-06-5	Present	Active	
Polydimethylsiloxane	63148-62-9	Present	Active	XU
Xylene	1330-20-7	Present	Active	
Platinum, 1,3-diethenyl-1,1,3,3-tetramethyldisiloxane complexes	68478-92-2	Present	Active	

Xylene (1330-20-7)	
Subject to reporting requirements of United States SARA Section 313 Listed on EPA Hazardous Air Pollutant (HAPS)	
CERCLA RQ	100 lb

15.2. International regulations

CANADA

1,3,5,7-Tetravinyl-1,3,5,7-tetramethylcyclotetrasiloxane (2554-06-5)

Listed on the Canadian DSL (Domestic Substances List)

Polydimethylsiloxane (63148-62-9)

Listed on the Canadian DSL (Domestic Substances List)

Xylene (1330-20-7)

Listed on the Canadian DSL (Domestic Substances List)

Platinum, 1,3-diethenyl-1,1,3,3-tetramethyldisiloxane complexes (68478-92-2)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

1,3,5,7-Tetravinyl-1,3,5,7-tetramethylcyclotetrasiloxane (2554-06-5)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Xylene (1330-20-7)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Platinum, 1,3-diethenyl-1,1,3,3-tetramethyldisiloxane complexes (68478-92-2)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

1,3,5,7-Tetravinyl-1,3,5,7-tetramethylcyclotetrasiloxane (2554-06-5)

Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing New Chemical Substances) inventory
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the NCI (Vietnam - National Chemical Inventory)
Listed on the TCSI (Taiwan Chemical Substance Inventory)

Polydimethylsiloxane (63148-62-9)

Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing New Chemical Substances) inventory
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on the TCSI (Taiwan Chemical Substance Inventory)
Listed on the NCI (Vietnam - National Chemical Inventory)
Listed on TECI (Thailand Existing Chemicals Inventory)

Xylene (1330-20-7)

Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing New Chemical Substances) inventory
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Japanese Poisonous and Deleterious Substances Control Law
Japanese Pollutant Release and Transfer Register Law (PRTR Law)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on CICR (Turkish Inventory and Control of Chemicals)
Listed on the TCSI (Taiwan Chemical Substance Inventory)
Listed on TECI (Thailand Existing Chemicals Inventory)
Listed on the NCI (Vietnam - National Chemical Inventory)

Platinum, 1,3-diethenyl-1,1,3,3-tetramethyldisiloxane complexes (68478-92-2)

Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on KECL/KECI (Korean Existing Chemicals Inventory)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on INSQ (Mexican National Inventory of Chemical Substances)
Listed on the TCSI (Taiwan Chemical Substance Inventory)
Listed on TECI (Thailand Existing Chemicals Inventory)
Listed on the NCI (Vietnam - National Chemical Inventory)

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

Xylene (1330-20-7)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

Full text of H-phrases::

H226	Flammable liquid and vapor
H304	May be fatal if swallowed and enters airways
H312	Harmful in contact with skin
H315	Causes skin irritation
H319	Causes serious eye irritation
H332	Harmful if inhaled
H336	May cause drowsiness or dizziness
H360	May damage fertility or the unborn child
H373	May cause damage to organs through prolonged or repeated exposure

Abbreviations and acronyms : Abbreviations: ND: Not Determined, No Data; NA: Not Applicable; LD: Lethal Dose; LC: Lethal Concentration; ATE: Acute Toxicity Estimates; H: hour; °: °C unless otherwise stated; mm: millimeters Hg, torr; PEL: permissible exposure level; TWA: time weighted average; TLV: threshold limit value; TG: Test Guideline; NIOSH: National Institute for Occupational Safety and Health; IARC: International Agency for Research on Cancer; NTP: National Toxicology Program; HMIS: Hazardous Material Information System; CAS No.: Chemcial Abstract Service Registration Number; EC No.: European Commission Registration Number; EC Index No.: European Commission Index Number; OECD: The Organisation for Economic Co-operation and Development; GHS: The Globally Harmonized System of Classification and Labelling; APF: Assigned Protection Factor.

Hazard Rating

Health : 1 Slight Hazard - Irritation or minor reversible injury possible

Flammability : 1 Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 F. (Class IIIB)

Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Prepared by safety and environmental affairs.

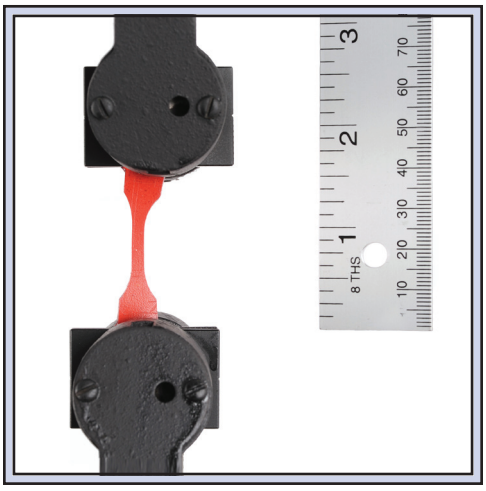
Issue date: 01/19/2016 Revision date: 07/20/2023 Version: 3.0

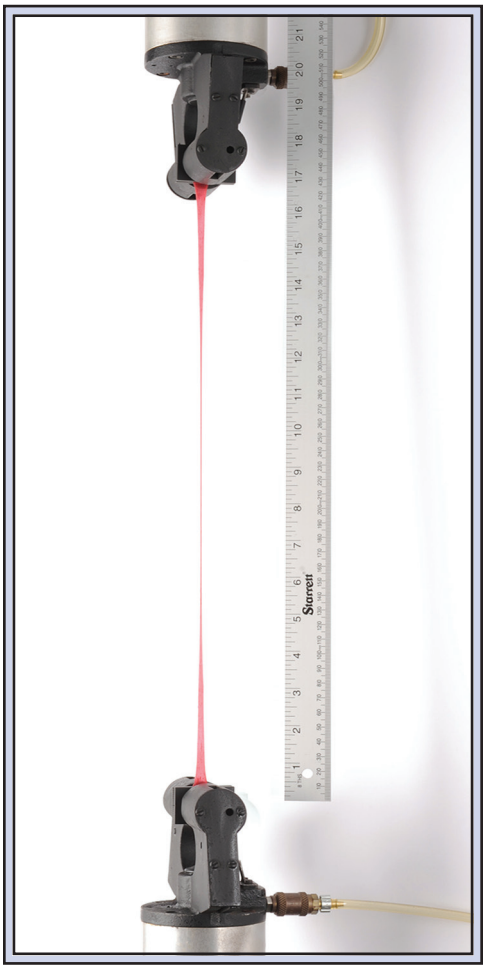
SDS US (GHS HazCom 2012) - Custom

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Gelest® ExSil® 100

High Elongation Elastomer – Molding Grade





Gelest® ExSil® 100 is a two-component ultra high elongation silicone elastomer with tear resistant properties.

Typical Properties

Note: The values below are typical and are not intended for use in preparing specifications. Please contact a Gelest representative when writing specifications.

Cured Properties	Units	Value
Elongation	%	5000
Tensile Strength	**MPa**	**6-7**
Tear Strength	**kN/m**	**42**
Elongation @ Tear Failure	%	2000
Durometer	Shore A	15
Specific Gravity (Part A)	g/mL	1.12
Refractive Index (n_D^{25})		1.41
Volatiles (4 hours/150°C)	wt%	≤ 0.1
Critical Surface Tension	mN/m	23 - 24
Contact Angle, Water	°	105 - 100
Volume Resistivity	ohm*cm	2.90E+14

Features & Benefits

- Self-sealing
- High elongation
- High recovery
- Low extractables
- High tear strength
- Flowable and moldable
- High oxygen permeability
- Long-term thermal stability

Applications

- Diaphragms
- Microfluidics
- Vibration damping
- High performance seals
- Septa with easy penetration and good resealability
- Optical and electrical interconnects

Gelest, Inc.
11 East Steel Road
Morrisville, PA 19067
(215) 547-1015

ExSil® 100
5 June 2018
Rev. 2.0

ExSil® 100 Part	Viscosity (cSt)	Silicone Elastomer	Extractables (wt%)
Base (Part A)	12,000 - 14,000	Resin Reinforced Silicone	4.2
Activator (Part B)	800 - 1,000	Silicone - 100°C Strip	3.1
Activated Mix	12,000 - 14,000	Gelest® ExSil® 100	0.2

Figure 1. Stress Strain Curves of ExSil® 100 (blue) compared to resin reinforced silicone (black)

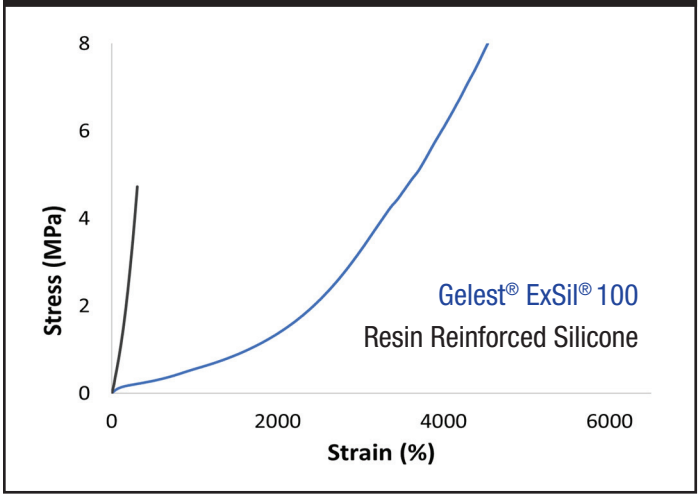


Figure 2. TGA thermograms of ExSil® 100 (blue) compared to resin reinforced silicone (black)

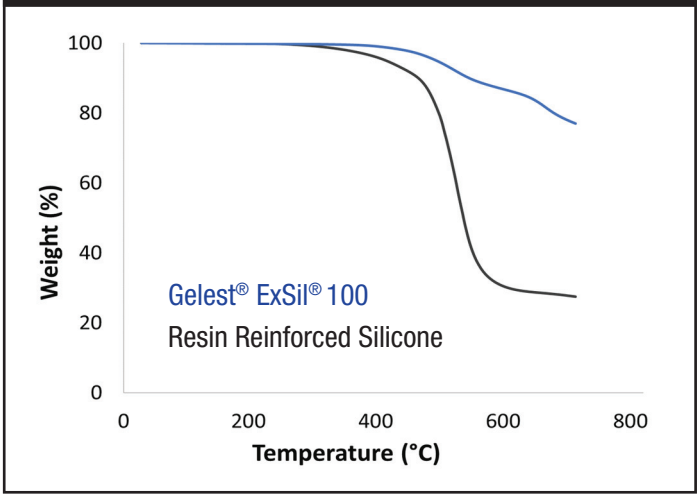
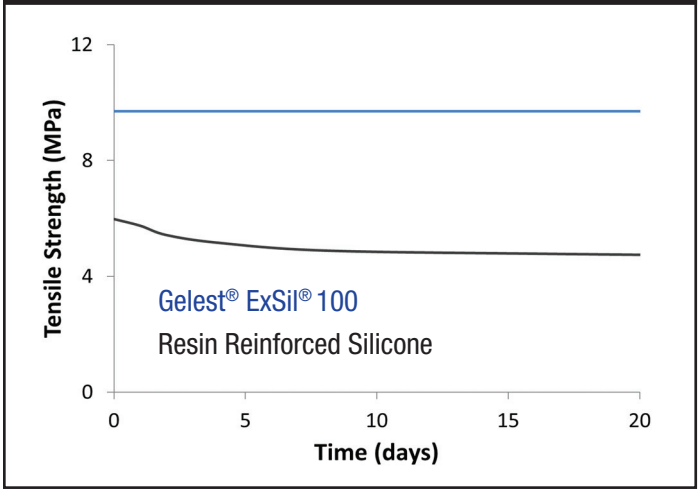
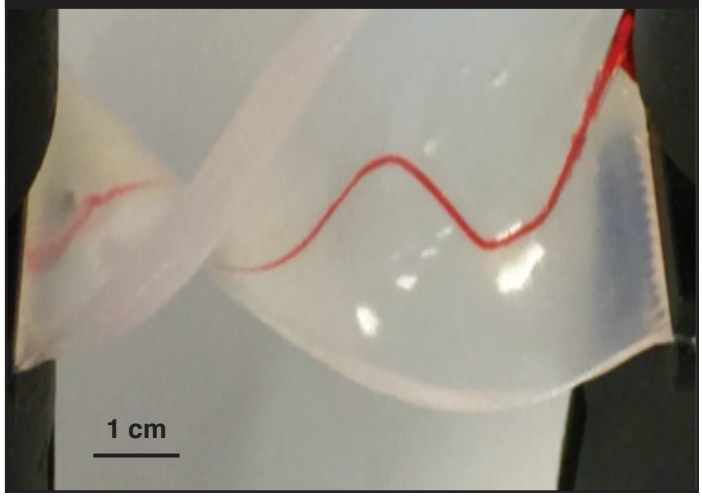


Figure 3. Heat Aging ExSil® 100 (blue) vs. conventional resin reinforced silicone (black)



ExSil® 100 microfluidic device with filled channels showed no device failure during tortuous extension



Processing & Fabrication:

Thoroughly mix Part A and Part B in a 100:1 ratio. Try to avoid introducing bubbles. For critical applications, de-air mix under vacuum. The pot-life is **24 hours at 25°C**. Avoid entrapping air during transfer and casting. Cure at **100°C for 8 hours** or **at room temperature for 72 hours**. ExSil® 100 can be self-bonded by exposure to oxygen plasma and pressing surfaces together in a dry atmosphere.

Gelest, Inc.
11 East Steel Road
Morrisville, PA 19067
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