



**GELEST® sPDMS SPIN-COATABLE REPROGRAPHIC SILICONE**

Safety Data Sheet PP2-RG08

Date of issue: 12/21/2015      Version: 1.0

**SECTION 1: Identification**

**1.1. Product identifier**

Product name : GELEST® sPDMS SPIN-COATABLE REPROGRAPHIC SILICONE  
 Product code : PP2-RG08  
 Product form : Mixture  
 Physical state : Liquid  
 Synonyms : 2-COMPONENT SILICONE RTV; VINYL, METHYL MODIFIED SILICA in POLY(DIMETHYLSILOXANE), VINYL TERMINATED with (part B) HYDRIDE FUNCTIONAL CROSSLINKER  
 Chemical family : ORGANOSILOXANE

**1.2. Recommended use of the chemical and restrictions on use**

Recommended use : Chemical intermediate  
 For research and industrial use only

**1.3. Details of the supplier of the safety data sheet**

**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](mailto:info@gelest.com) - [www.gelest.com](http://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**

Flammable liquids Category 2	H225
Skin corrosion/irritation Category 2	H315
Specific target organ toxicity (single exposure) Category 3	H336
Aspiration hazard Category 1	H304
Hazardous to the aquatic environment - Acute Hazard Category 1	H400
Hazardous to the aquatic environment - Chronic Hazard Category 1	H410

Full text of H statements : see section 16

**2.2. Label elements**

**GHS-US labeling**

Hazard pictograms (GHS-US) :

			
GHS02	GHS07	GHS08	GHS09

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) :

- H225 - Highly flammable liquid and vapor
- H304 - May be fatal if swallowed and enters airways
- H315 - Causes skin irritation
- H336 - May cause drowsiness or dizziness
- H400 - Very toxic to aquatic life
- H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements (GHS-US) :

- P280 - Wear protective gloves/protective clothing/eye protection/face protection
- P312 - Call a POISON CENTER if you feel unwell
- P210 - Keep away from heat, open flames, sparks. - No smoking
- P240 - Ground/Bond container and receiving equipment
- P241 - Use explosion-proof electrical equipment
- P242 - Use only non-sparking tools
- P243 - Take precautionary measures against static discharge
- P261 - Avoid breathing vapors
- P264 - Wash hands thoroughly after handling
- P271 - Use only outdoors or in a well-ventilated area
- P273 - Avoid release to the environment

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P331 - Do NOT induce vomiting  
P301+P310 - If swallowed: Immediately call a POISON CENTER  
P303+P361+P353 - If on skin (or hair): take off immediately all contaminated clothing. rinse skin with water/shower  
P332+P313 - If skin irritation occurs: Get medical advice/attention  
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing  
P321 - Specific treatment (see first aid instructions on this label)  
P362+P364 - Take off contaminated clothing and wash it before reuse  
P370+P378 - In case of fire: Use water spray or fog, foam, carbon dioxide, dry chemical to extinguish  
P391 - Collect spillage  
P403+P233 - Store in a well-ventilated place. Keep container tightly closed  
P403+P235 - Keep in a cool place  
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)

No data available

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%	GHS-US classification
Part A: Heptane	(CAS No) 142-82-5	88 - 92	Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Part B: Methylhydrosiloxane-dimethylsiloxane copolymer, trimethylsiloxane terminated	(CAS No) 68037-59-2	< 50	Not classified
Part A: Vinyl terminated polydimethylsiloxane	(CAS No) 68083-19-2	6 - 8	Not classified
Part A: Vinyl, methyl modified silica	(CAS No) 68988-89-6	2 - 4	Not classified

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 person to fresh air and keep 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. Immediately call a poison center or doctor/physician.

### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation : May cause drowsiness or dizziness. May cause irritation to the respiratory tract. Heptane can cause vertigo, incoordination and stupor at 5000ppm. Vapor inhalation of heptane may lead to impairment of coordination mental alertness, and reaction times, leading to accident proneness.

Symptoms/effects after skin contact : Causes skin irritation.

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

Symptoms/effects after ingestion : May be fatal if swallowed and enters airways.

### 4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

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

Unsuitable extinguishing media : Do not use straight streams.

### 5.2. Special hazards arising from the substance or mixture

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

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Explosion hazard : May form flammable/explosive vapor-air mixture.

### 5.3. Advice for firefighters

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

General measures : Eliminate every possible source of ignition. Use special care to avoid static electric charges.

#### 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. Avoid release to the environment.

### 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. Collect spillage. Use only non-sparking tools.

### 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

Additional hazards when processed : Handle empty containers with care because residual vapors are flammable. Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Precautions for safe handling : Avoid all eye and skin contact and do not breathe vapor and mist. Ground/bond container and receiving equipment. Take precautionary measures against static discharge. Use only outdoors or in a well-ventilated area. Use only non-sparking tools.

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

Technical measures : Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof electrical equipment.

Storage conditions : Keep container tightly closed. Keep in a cool place. Store locked up.

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

Part A: Heptane (142-82-5)		
ACGIH	ACGIH TWA (ppm)	400 ppm
ACGIH	ACGIH STEL (ppm)	500 ppm
OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	2000 mg/m <sup>3</sup>
OSHA	OSHA PEL (TWA) (ppm)	500 ppm
IDLH	US IDLH (ppm)	750 ppm
NIOSH	NIOSH REL (TWA) (mg/m <sup>3</sup> )	350 mg/m <sup>3</sup>
NIOSH	NIOSH REL (TWA) (ppm)	85 ppm
NIOSH	NIOSH REL (ceiling) (mg/m <sup>3</sup> )	1800 mg/m <sup>3</sup>
NIOSH	NIOSH REL (ceiling) (ppm)	440 ppm

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### 8.2. Exposure controls

Appropriate engineering controls	: Provide local exhaust or general room ventilation.
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
Refractive index	: 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	: 98 °C - initial (heptane)
Flash point	: 0 °C
Auto-ignition temperature	: 204 °C (heptane)
Decomposition temperature	: No data available
Flammability (solid, gas)	: Highly flammable liquid and vapor
Vapor pressure	: 40 mm Hg @ 22°C (heptane)
Relative vapor density at 20 °C	: 3.45 (heptane)
Relative density	: 0.98
VOC content	: > 85 %
Solubility	: Insoluble in water.
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: 1 - 2 cSt A: 800-1200 cSt; B: 150-300 cSt
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosion limits	: 1 - 6.7 vol % (lower; upper: heptane)

### 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 under 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.

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### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity : Not classified

Part A: Heptane (142-82-5)	
LD50 oral mouse	5000 mg/kg
LD50 dermal rabbit	3000 mg/kg
LC50 inhalation rat (mg/l)	103 g/m <sup>3</sup> (Exposure time: 4 h)
ATE US (dermal)	3000 mg/kg body weight
ATE US (vapors)	103 mg/l/4h
ATE US (dust, mist)	103 mg/l/4h
Toxicity information	1000 ppm Inhalation (heptane)-human, TCLo

Part A: Vinyl terminated polydimethylsiloxane (68083-19-2)	
LD50 oral rat	> 16 ml/kg
LD50 dermal rabbit	> 16 ml/kg

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

Reproductive toxicity : Not classified

Specific target organ toxicity – single exposure : May cause drowsiness or dizziness.

Specific target organ toxicity – repeated exposure : Not classified

Aspiration hazard : May be fatal if swallowed and enters airways.

Symptoms/effects after inhalation : May cause drowsiness or dizziness. May cause irritation to the respiratory tract. Heptane can cause vertigo, incoordination and stupor at 5000ppm. Vapor inhalation of heptane may lead to impairment of coordination mental alertness, and reaction times, leading to accident proneness.

Symptoms/effects after skin contact : Causes skin irritation.

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

Symptoms/effects after ingestion : May be fatal if swallowed and enters airways.

Reason for classification : Expert judgment

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general : Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

Part A: Heptane (142-82-5)	
LC50 fish 1	375 mg/l (Exposure time: 96 h - Species: Cichlid fish)

#### 12.2. Persistence and degradability

No additional information available

#### 12.3. Bioaccumulative potential

Part A: Heptane (142-82-5)	
Log Pow	4.66

#### 12.4. Mobility in soil

No additional information available

#### 12.5. Other adverse effects

Effect on ozone layer : No additional information available

Effect on the global warming : No known effects from this product.

GWPmix comment : No known effects from this product.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment 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. Dispose of contents/container to licensed waste disposal facility.

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Additional information : Handle empty containers with care because residual vapors are flammable.  
Ecology - waste materials : Avoid release to the environment.

### SECTION 14: Transport information

#### 14.1. UN number

UN-No.(DOT) : 1139  
DOT NA no. UN1139

#### 14.2. UN proper shipping name

Transport document description : UN1139 Coating solution (sPDMS SPIN-COATABLE REPROGRAPHIC SILICONE in heptane), 3, II  
Proper Shipping Name (DOT) : Coating solution  
(sPDMS SPIN-COATABLE REPROGRAPHIC SILICONE in heptane)  
Class (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120  
Packing group (DOT) : II - Medium Danger  
Hazard labels (DOT) : 3 - Flammable liquid



Dangerous for the environment : Yes  
Marine pollutant : Yes



DOT Packaging Non Bulk (49 CFR 173.xxx) : 202  
DOT Packaging Bulk (49 CFR 173.xxx) : 242  
DOT Packaging Exceptions (49 CFR 173.xxx) : 150

#### 14.3. Additional information

Other information : No supplementary information available.

#### Transport by sea

DOT Vessel Stowage Location : B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.

#### Air transport

DOT Quantity Limitations Passenger aircraft/rail : 5 L  
(49 CFR 173.27)  
DOT Quantity Limitations Cargo aircraft only (49 : 60 L  
CFR 175.75)

### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

##### Part A: Heptane (142-82-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

EPA TSCA Regulatory Flag

T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA.

##### Part A: Vinyl terminated polydimethylsiloxane (68083-19-2)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

##### Part A: Vinyl, methyl modified silica (68988-89-6)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

##### Part B: Methylhydrosiloxane-dimethylsiloxane copolymer, trimethylsiloxane terminated (68037-59-2)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

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### 15.2. International regulations

#### CANADA

##### Part A: Heptane (142-82-5)

Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification	Class B Division 2 - Flammable Liquid Class D Division 2 Subdivision B - Toxic material causing other toxic effects
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##### Part A: Vinyl terminated polydimethylsiloxane (68083-19-2)

Listed on the Canadian DSL (Domestic Substances List)

##### Part A: Vinyl, methyl modified silica (68988-89-6)

Listed on the Canadian DSL (Domestic Substances List)

##### Part B: Methylhydrosiloxane-dimethylsiloxane copolymer, trimethylsiloxane terminated (68037-59-2)

Listed on the Canadian DSL (Domestic Substances List)

### EU-Regulations

##### Part A: Heptane (142-82-5)

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

### National regulations

##### Part A: Heptane (142-82-5)

Listed on the AICS (Australian Inventory of Chemical Substances)  
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 the Korean ECL (Existing Chemicals List)  
Listed on NZIoC (New Zealand Inventory of Chemicals)  
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)  
Listed on the Canadian IDL (Ingredient Disclosure List)  
Listed on INSQ (Mexican National Inventory of Chemical Substances)  
Listed on CICR (Turkish Inventory and Control of Chemicals)

##### Part A: Vinyl terminated polydimethylsiloxane (68083-19-2)

Listed on the AICS (Australian Inventory of Chemical Substances)  
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)  
Listed on the Korean ECL (Existing Chemicals List)  
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)

##### Part A: Vinyl, methyl modified silica (68988-89-6)

Listed on the AICS (Australian Inventory of Chemical Substances)  
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)  
Listed on the Korean ECL (Existing Chemicals List)  
Listed on NZIoC (New Zealand Inventory of Chemicals)  
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

##### Part B: Methylhydrosiloxane-dimethylsiloxane copolymer, trimethylsiloxane terminated (68037-59-2)

Listed on the AICS (Australian Inventory of Chemical Substances)  
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 the Korean ECL (Existing Chemicals List)  
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)

### 15.3. US State regulations

##### Part A: Heptane (142-82-5)

U.S. - Massachusetts - Right To Know List  
U.S. - New Jersey - Right to Know Hazardous Substance List  
U.S. - Pennsylvania - RTK (Right to Know) List

## SECTION 16: Other information

Full text of H-phrases::

H225	Highly flammable liquid and vapor
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H336	May cause drowsiness or dizziness
H400	Very toxic to aquatic life

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H410

Very toxic to aquatic life with long lasting effects

### 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.: Chemical 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.

### HMIS III Rating

#### Health

: 1 Slight Hazard - Irritation or minor reversible injury possible

#### Flammability

: 3 Serious Hazard - Materials capable of ignition under almost all normal temperature conditions. Includes flammable liquids with flash points below 73 F and boiling points above 100 F. as well as liquids with flash points between 73 F and 100 F. (Classes IB & IC)

#### 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.

Date of issue: 12/21/2015

Version: 1.0

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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