SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture
Physical state : Liquid
Product name : GELEST OPTICAL ENCAPSULANT 46
Product code : PP2-OE46
Synonyms : 2-PART SILICONE ELASTOMER
GELEST® OE 46 2-PART SILICONE OPTICAL ENCAPSULANT
VINYL MODIFIED POLY(DIMETHYLSILOXANE) COPOLYMER, with (part B) HYDRIDE
FUNCTIONAL CROSSSLINKER
Chemical family : SILICONE

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Use of the substance/mixture : Chemical intermediate

1.2.2. Uses advised against

No additional information available

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 - www.gelest.com

GELEST INC.
Fritz-Klatte-Strasse 8
65933 Frankfurt
Germany
T +49 (0) 69 3535106 - F +49 (0) 69 3535106-501 - (M-F): 8:00 AM - 4:00 PM
info@gelestde.com - www.gelestde.com

1.4. Emergency telephone number

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

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]
Not classified

Adverse physicochemical, human health and environmental effects
No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]
EUH-statements : EUH210 - Safety data sheet available on request.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures
GELEST OPTICAL ENCAPSULANT 46
Safety Data Sheet

Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP]
--- | --- | --- | ---
Part A: Phenyl(chlorophenyl)siloxane-dimethylsiloxane copolymer, vinyl(dimethyl)siloxane terminated | (CAS-No.) 1627113-90-9 | > 97 | Not classified
Part B contains the following additional component: Polyphenyl(dimethylhydrosiloxy)siloxane, hydride terminated | (CAS-No.) 68952-30-7/925454-54-2 | < 10 | Not classified

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 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, both acute and delayed
Symptoms/effects after inhalation: No information available.
Symptoms/effects after skin contact: May cause mild skin irritation.
Symptoms/effects after eye contact: May cause eye irritation.
Symptoms/effects after ingestion: No information available.

4.3. Indication of any immediate medical attention and special treatment needed
No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Unsuitable extinguishing media: None known.

5.2. Special hazards arising from the substance or mixture
Fire hazard: Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.

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 vapour 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.

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 vapour and mist. Use only in well ventilated areas.
- **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.
- **Storage area**: Store in a well-ventilated place. Store away from heat.

### 7.3. Specific end use(s)
No additional information available

**SECTION 8: Exposure controls/personal protection**

### 8.1. Control parameters
No additional information available

### 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.
- **Molecular mass**: (mixture)
- **Colour**: No data available
- **Odour**: No data available
- **Odour threshold**: No data available
- **Refractive index**: No additional information available
- **pH**: No data available
- **Relative evaporation rate (butylacetate=1)**: No data available
- **Melting point**: < -60 °C
- **Freezing point**: No data available
- **Boiling point**: > 205 °C
- **Flash point**: 220 °C
- **Auto-ignition temperature**: No data available
- **Decomposition temperature**: No data available
- **Flammability (solid, gas)**: No data available
- **Vapour pressure**: < 1 mm Hg @ 20°C
- **Relative vapour density at 20 °C**: No data available
- **Relative density**: 1.05
Solubility: Insoluble in water.
Log Pow: No data available
Log Kow: No data available
Viscosity, kinematic: 1000 - 4000 cSt
Viscosity, dynamic: No data available
Explosive properties: No data available
Oxidising properties: No data available
Explosive 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
No additional information available

10.4. Conditions to avoid
Heat. Open flame. Sparks.

10.5. Incompatible materials

10.6. Hazardous decomposition products
Organic acid vapors. Silicon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity: Not classified
Skin corrosion/irritation: Not classified
Serious eye damage/irritation: Not classified
Respiratory or skin sensitisation: 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 eye irritation.
Symptoms/effects after ingestion: No information available.

None of the components in this product at concentrations >0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

SECTION 12: Ecological information

12.1. Toxicity
Acute aquatic toxicity: Not classified
Chronic aquatic toxicity: Not classified

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. Results of PBT and vPvB assessment
No additional information available

### 12.6. Other adverse effects
No additional information available

## 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.
- **Ecology - waste materials**: Avoid release to the environment.

## SECTION 14: Transport information

### 14.1. UN number
In accordance with ADR / RID / IMDG / IATA / ADN

| UN-No. (ADR) | Not applicable |
| UN-No. (IMDG) | Not applicable |
| UN-No. (IATA) | Not applicable |
| UN-No. (ADN) | Not applicable |
| UN-No. (RID) | Not applicable |

### 14.2. UN proper shipping name

- **Proper Shipping Name (ADR)**: Not applicable
- **Proper Shipping Name (IMDG)**: Not applicable
- **Proper Shipping Name (IATA)**: Not applicable
- **Proper Shipping Name (ADN)**: Not applicable
- **Proper Shipping Name (RID)**: Not applicable

### 14.3. Transport hazard class(es)

- **ADR**
  - Transport hazard class(es) (ADR): Not applicable

- **IMDG**
  - Transport hazard class(es) (IMDG): Not applicable

- **IATA**
  - Transport hazard class(es) (IATA): Not applicable

- **ADN**
  - Transport hazard class(es) (ADN): Not applicable

- **RID**
  - Transport hazard class(es) (RID): Not applicable

### 14.4. Packing group

| Packing group (ADR) | Not applicable |
| Packing group (IMDG) | Not applicable |
| Packing group (IATA) | Not applicable |
| Packing group (ADN) | Not applicable |
| Packing group (RID) | Not applicable |

### 14.5. Environmental hazards

- **Dangerous for the environment**: No
- **Marine pollutant**: No
- **Other information**: No supplementary information available

### 14.6. Special precautions for user

- **Overland transport**: Not applicable
- **Transport by sea**
  Not applicable

- **Air transport**
  Not applicable

- **Inland waterway transport**
  Not applicable

- **Rail transport**
  Not applicable

**14.7.** Transport in bulk according to Annex II of Marpol and the IBC Code
Not applicable

### SECTION 15: Regulatory information

#### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

**15.1.1. EU-Regulations**

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances


Contains no REACH Annex XIV substances

**15.1.2. National regulations**

**Germany**
Reference to AwSV
Water hazard class (WGK) 3, Highly hazardous to water (Classification according to AwSV, Annex 1)

12th Ordinance Implementing the Federal Immission Control Act - 12.BlmSchV
Is not subject of the 12. BlmSchV (Hazardous Incident Ordinance)

**Netherlands**

SZW-lijst van kankerverwekkende stoffen
None of the components are listed

SZW-lijst van mutagene stoffen
None of the components are listed

NIET-uitstekende lijst van voor de voortplanting giftige stoffen – Borstvoeding
None of the components are listed

NIET-uitstekende lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid
None of the components are listed

NIET-uitstekende lijst van voor de voortplanting giftige stoffen – Ontwikkeling
None of the components are listed

#### 15.2. Chemical safety assessment

No additional information available

### 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.: 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

**Other information:**

Prepared by safety and environmental affairs.

**Full text of H- and EUH-statements:**

- **EUH210**
  Safety data sheet available on request.

Print date: 10/04/2019  EN (English)  SDS ID: PP2-OE46
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Gelest® OE 46 1.46 Refractive Index 2-Part Silicone RTV Encapsulant (1:1 kit)

Description
Gelest® OE 46 is a flexible, optically clear molding, encapsulation and coating compound. Refractive index of Gelest® OE 46 matches glass, allowing for fabrication with 'invisible' joints. The low viscosity of the catalyzed mix, long pot-life at room temperature and moderate cure temperature make this extremely useful in laboratory, prototype and small production run applications.

Cured Properties
- Refractive Index (25°C) 1.46
- Tensile Strength 0.25 MPa
- Elongation 50%
- Durometer, Shore A 10-20
- Specific Gravity 1.05

Uncured Properties of Gelest® OE 46
Viscosity (1:1) catalyzed: 1500-2500 cSt

Application Methods
Thoroughly mix Part A with Part B in a 1:1 ratio. De-air mix under vacuum for about 20 minutes. The pot-life is 18 hours at 25°C. Pot-life may be extended by storing at 5°C. Pour into mold or apply to substrate. Avoid entrapping air. Cure at 55°C for 4 hours or at room temperature for 72 hours.

Standard Packaging
- PP2-OE46 Gelest® OE 46
- 200 g kit (100g OE46-A, 100g OE46-B)
- 1 kg kit (500g OE46-A, 500g OE46-B)