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

1.1. Product identifier

Product form : Mixture
Physical state : Solid
Product name : 2,4-DICHLOROBENZOYL PEROXIDE, 50% in polydimethylsiloxane
Product code : SID3352.0
Formula : C14H6Cl4O4
Synonyms : PEROXIDE CURING AGENT; 2,4,2',4'-TETRACHLOROBENZOYL PEROXIDE; BIS(2,4-DICHLOROBENZOYL) PEROXIDE
Chemical family : PEROXIDE

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

Use of the substance/mixture : 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 - www.gelest.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

GHS-US classification
Org. Perox. D H242
Skin Irrit. 2 H315
Eye Irrit. 2A H319
STOT SE 3 H335

Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labeling
Hazard pictograms (GHS-US) : 

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : H242 - Heating may cause a fire
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation

Precautionary statements (GHS-US) : P280 - Wear protective gloves/protective clothing/eye protection/face protection
P312 - Call a doctor if you feel unwell
P210 - Keep away from heat, open flames, sparks, - No smoking
P220 - Keep/Store away from flammable or combustible materials, oxidizer
P234 - Keep only in original container
P261 - Avoid breathing mist, dust
P264 - Wash hands thoroughly after handling
P271 - Use only outdoors or in a well-ventilated area
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P302+P352 - If on skin: Wash with plenty of soap and water
P332+P337 - If skin irritation occurs: Get medical advice/attention
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337+P313 - If eye irritation persists: Get medical advice/attention
P321 - Specific treatment (see first aid instructions on this label)
**2,4-DICHLOROBENZOYL PEROXIDE, 50% in polydimethylsiloxane**

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P362+P364 - Take off contaminated clothing and wash it before reuse
P403+P233 - Store in a well-ventilated place. Keep container tightly closed
P405 - Store locked up
P410 - Protect from sunlight
P411+P235 - Store at temperatures not exceeding 30°C (86°F). Keep cool
P420 - Store away from other materials
P501 - Dispose of contents/container to licensed waste disposal facility.

**2.3. Other hazards**

No additional information available

**2.4. Unknown acute toxicity (GHS US)**

No data available

**SECTION 3: Composition/Information on ingredients**

**3.1. Substance**

Not applicable

**3.2. Mixture**

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,4-Dichlorobenzoyl peroxide</td>
<td>(CAS No) 133-14-2</td>
<td>48 - 50</td>
<td>Org. Perox. D, H242 Eye Irrit. 2, H315 STOT SE 3, H335</td>
</tr>
<tr>
<td>Poly(dimethylsiloxane)</td>
<td>(CAS No) 63148-62-9</td>
<td>48 - 50</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

**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, both acute and delayed**

**Symptoms/injuries after inhalation:** May cause respiratory irritation.

**Symptoms/injuries after skin contact:** Causes skin irritation.

**Symptoms/injuries after eye contact:** Causes serious eye irritation.

**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: Do not use straight streams.

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

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

**Explosion hazard:** Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.

**Reactivity:** Self-accelerating decomposition temperature is 60°C. Violent reaction or explosion can result if bulk material is heated above SADT (60°C). Typical safe processing temperature for elastomer compounding is 75°C.

**5.3. Advice for firefighters**

**Firefighting instructions:** Exercise caution when fighting any chemical fire. Use water spray to cool exposed surfaces.

**Protection during firefighting:** Do not enter fire area without proper protective equipment, including respiratory protection. Do not breathe dust or spray mist.

**SECTION 6: Accidental release measures**

**6.1. Personal precautions, protective equipment and emergency procedures**

**General measures:** Eliminate ignition sources. Use special care to avoid static electric charges.
2,4-DICHLOROBENZOYL PEROXIDE, 50% in polydimethylsiloxane
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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 product 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: Cover spill with non combustible material, e.g.: sand, earth, vermiculite. 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
Additional hazards when processed: Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Hazardous waste due to potential risk of explosion.
Precautions for safe handling: Avoid contact with skin and eyes. Do not breathe dust or spray 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
Technical measures: Proper grounding procedures to avoid static electricity should be followed.
Storage conditions: Store in sealed containers below 30°C. Keep container tightly closed. Keep only in original container. Protect from sunlight. Store locked up. Store away from other materials.
Incompatible materials: Flammable or combustible materials. Oxidizing agent.
Storage area: Store in a well-ventilated place. Store away from heat.
Special rules on packaging: Keep only in original container.

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 combination organic vapor/acid gas (yellow cartridge) respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties
Physical state: Solid
Appearance: Thick paste.
Molecular mass: 380 g/mol
Color: Off-white.
Odor: Slight.
Odor threshold: No data available
Refractive index: No data available
2,4-DICHLOROBENZOYL PEROXIDE, 50% in polydimethylsiloxane
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pH : No data available
Relative evaporation rate (butyl acetate=1) : No data available
Melting point : No data available
Freezing point : No data available
Boiling point : No data available
Flash point : No data available
Auto-ignition temperature : > 380 °C
Decomposition temperature : Self-accelerating decomposition temperature (SADT): - estimated 60°C
Flammability (solid, gas) : Heating may cause a fire
Vapor pressure : No data available
Relative vapor density at 20 °C : > 1
Relative density : 1.26
Solubility : Insoluble in water.
Log Pow : No data available
Log Kow : No data available
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available
Explosive properties : Heating may cause a fire.
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
Self-accelerating decomposition temperature is 60°C. Violent reaction or explosion can result if bulk material is heated above SADT (60°C). Typical safe processing temperature for elastomer compounding is 75°C.

10.2. Chemical stability
Stable in sealed containers stored below 30°C (86°F). Never allow temperature to exceed 50°C (122°F) during storage.

10.3. Possibility of hazardous reactions
Non-hazardous polymerization can occur at elevated temperature.

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

10.5. Incompatible materials
Flammable or combustible materials. Oxidizing agent.

10.6. Hazardous decomposition products
Organic acid vapors. Polychlorinated biphenyls.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity : Not classified

2,4-Dichlorobenzoyl peroxide (133-14-2)
LD50 oral rat : 12918 mg/kg
ATE US (oral) : 12918.000 mg/kg body weight

Poly(dimethylsiloxane) (63148-62-9)
LD50 oral rat : > 24 g/kg
Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Causes serious eye irritation.
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 respiratory irritation.
Specific target organ toxicity (repeated exposure) : Not classified
Aspiration hazard : Not classified
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Symptoms/injuries after inhalation: May cause respiratory irritation.
Symptoms/injuries after skin contact: Causes skin irritation.
Symptoms/injuries after eye contact: Causes serious eye irritation.
Reason for classification: Expert judgment

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
Other adverse effects: This substance may be hazardous to the environment.
Effect on ozone layer: No additional information available
Effect on the global warming: No known ecological damage caused by this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Sewage disposal recommendations: Do not dispose of waste into sewer.
Waste disposal recommendations: Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to licensed waste disposal facility.
Additional information: Hazardous waste due to potential risk of explosion.
Ecology - waste materials: Avoid release to the environment.

SECTION 14: Transport information

14.1. UN number
UN-No. (DOT): 3106
DOT NA no.: UN3106

14.2. UN proper shipping name
Proper Shipping Name (DOT): Organic peroxide type D, solid
Transport hazard class(es) (DOT): 5.2 - Class 5.2 - Organic Peroxide 49 CFR 173.128
Hazard labels (DOT): 5.2 - Organic peroxide

DOT Symbols: G - Identifies PSN requiring a technical name
Packing group (DOT): II - Medium Danger
DOT Packaging Exceptions (49 CFR 173.xxx): 152
DOT Packaging Non Bulk (49 CFR 173.xxx): 225
DOT Packaging Bulk (49 CFR 173.xxx): None

14.3. Additional information
Other information: No supplementary information available.

Transport by sea
DOT Vessel Stowage Location: D - The material must be stowed “on deck only” 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, but the material is prohibited on passenger vessels in which the limiting number of passengers is exceeded.
DOT Vessel Stowage Other: 12 - Keep as cool as reasonably practicable, 40 - Stow “clear of living quarters”, 52 - Stow “separated from” acids, 53 - Stow “separated from” alkaline compounds.
# 2,4-DICHLOROBENZOYL PEROXIDE, 50% in polydimethylsiloxane

**Safety Data Sheet**

**Air transport**

DOT Quantity Limitations Passenger aircraft/rail: 5 kg (49 CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)

**SECTION 15: Regulatory information**

## 15.1. US Federal regulations

### 2,4-Dichlorobenzoyl peroxide (133-14-2)

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

### Poly(dimethylsiloxane) (63148-62-9)

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

## 15.2. International regulations

### 2,4-Dichlorobenzoyl peroxide (133-14-2)

- Listed on the AICS (Australian Inventory of Chemical Substances)
- Listed on the Canadian DSL (Domestic Substances List)
- Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
- Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)
- 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)

### Poly(dimethylsiloxane) (63148-62-9)

- Listed on the AICS (Australian Inventory of Chemical Substances)
- Listed on the Canadian DSL (Domestic Substances List)
- 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 PICCS (Philippines Inventory of Chemicals and Chemical Substances)
- Listed on INSO (Mexican national Inventory of Chemical Substances)

## 15.3. US State regulations

### 2,4-DICHLO|ROBENZOL PEROX|IDE, 50% in polydimeth|ilsiloxane(133-14-2)

<table>
<thead>
<tr>
<th>State/Proposition</th>
<th>Carcinogens</th>
<th>Developmental Toxicity</th>
<th>Reproductive Toxicity - Female</th>
<th>Reproductive Toxicity - Male</th>
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</thead>
<tbody>
<tr>
<td>U.S. - California</td>
<td>No</td>
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### 2,|Dic|loro|benzo|yl| peroxide (133-14-2)

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<th>Developmental Toxicity</th>
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### Poly(dimethylsiloxane) (63148-62-9)

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</tbody>
</table>
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.

Full text of **H-phrases**:

**Eye Irrit. 2A**
Serious eye damage/eye irritation Category 2A

**Org. Perox. D**
Organic Peroxide Category D

**Skin Irrit. 2**
Skin corrosion/irritation Category 2

**STOT SE 3**
Specific target organ toxicity (single exposure) Category 3

**H242**
Heating may cause a fire

**H315**
Causes skin irritation

**H319**
Causes serious eye irritation

**H335**
May cause respiratory irritation

**HMIS III Rating**

- **Health**: 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given
- **Flammability**: 3 Serious Hazard
- **Physical**: 1 Slight Hazard

Prepared by safety and environmental affairs.

**Date of issue**: 10/26/2015  **Version**: 1.0

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

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