

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) :



GHS02

GHS07

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+P313 - 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)

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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

Name	Product identifier	%	GHS-US classification
2,4-Dichlorobenzoyl peroxide	(CAS No) 133-14-2	48 - 50	Org. Perox. D, H242 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335
Poly(dimethylsiloxane)	(CAS No) 63148-62-9	48 - 50	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 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

- Suitable extinguishing media : Water spray. 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 : 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.

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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

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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
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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 (2,4-DICHLOROBEZOYL PEROXIDE, 50% in polydimethylsiloxane)
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.
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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

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Air transport

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

DOT Quantity Limitations Cargo aircraft only (49 : 10 kg
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 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

2,4-DICHLOROBENZOYL PEROXIDE, 50% in polydimethylsiloxane(133-14-2)

U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No

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

U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)
No	No	No	No	

Poly(dimethylsiloxane) (63148-62-9)

U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)
No	No	No	No	

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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.

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.

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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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