



## 2,4-DICHLOROBENZOYL PEROXIDE, 50% in polydimethylsiloxane

Safety Data Sheet SID3352.0

Issue date: 10/26/2015

Revision date: 03/07/2023

Version: 2.0

### SECTION 1: Identification

#### 1.1. Identification

Product name	: 2,4-DICHLOROBENZOYL PEROXIDE, 50% in polydimethylsiloxane
Product code	: SID3352.0
Product form	: Mixture
Physical state	: Solid
Formula	: C <sub>14</sub> H <sub>6</sub> Cl <sub>4</sub> O <sub>4</sub>
Synonyms	: PEROXIDE CURING AGENT; 2,4,2',4'-TETRACHLOROBENZOYL PEROXIDE; BIS(2,4-DICHLOROBENZOYL) PEROXIDE
Chemical family	: PEROXIDE

#### 1.2. Recommended use and restrictions on use

Recommended use	: Chemical intermediate
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#### 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](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)
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### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS US classification

Organic Peroxide Category D	H242	Heating may cause a fire.
Skin corrosion/irritation Category 2	H315	Causes skin irritation
Serious eye damage/eye irritation Category 2A	H319	Causes serious eye irritation
Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation	H335	May cause respiratory irritation
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)

: 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.

# 2,4-DICHLOROBENZOYL PEROXIDE, 50% in polydimethylsiloxane

## Safety Data Sheet

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).  
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. 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
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

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.

# 2,4-DICHLOROBENZOYL PEROXIDE, 50% in polydimethylsiloxane

## Safety Data Sheet

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

Symptoms/effects after inhalation	: May cause respiratory irritation.
Symptoms/effects after skin contact	: Causes skin irritation.
Symptoms/effects after eye contact	: Causes serious eye irritation.

### 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. Foam. Carbon dioxide. Dry chemical.
Unsuitable extinguishing media	: Do not use straight streams.

### 5.2. Specific hazards arising from the chemical

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. Special protective equipment and precautions for fire-fighters

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".
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### 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.

# 2,4-DICHLOROBENZOYL PEROXIDE, 50% in polydimethylsiloxane

## Safety Data Sheet

### 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.

### 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 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
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

# 2,4-DICHLOROBENZOYL PEROXIDE, 50% in polydimethylsiloxane

## Safety Data Sheet

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.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Partition coefficient n-octanol/water (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 (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

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

LD50 oral rat	> 2500 mg/kg body weight Animal: rat, Animal sex: female, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method), Guideline: EU Method B.1 tris (Acute Oral Toxicity - Acute Toxic Class Method)
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#### Poly(dimethylsiloxane) (63148-62-9)

LD50 oral rat	> 24 g/kg
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# 2,4-DICHLOROBENZOYL PEROXIDE, 50% in polydimethylsiloxane

## Safety Data Sheet

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
STOT-single exposure	: May cause respiratory irritation.
STOT-repeated exposure	: Not classified
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	: Causes serious eye irritation.
Reason for classification	: Expert judgment

## SECTION 12: Ecological information

### 12.1. Toxicity

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

LC50 - Fish [1]	> 1000 mg/l Test organisms (species): Poecilia reticulata
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### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

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

Partition coefficient n-octanol/water (Log Pow)	6.03
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### 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 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	: 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

In accordance with DOT / TDG / IMDG / IATA

DOT	TDG	IMDG	IATA
<b>14.1. UN number</b>			
3106	Not applicable	3106	3106

# 2,4-DICHLOROBEZOYL PEROXIDE, 50% in polydimethylsiloxane

## Safety Data Sheet

DOT	TDG	IMDG	IATA
<b>14.2. Proper Shipping Name</b>			
Organic peroxide type D, solid ((2,4-DICHLOROBEZOYL PEROXIDE, 50% in polydimethylsiloxane))	Not applicable	ORGANIC PEROXIDE TYPE D, SOLID (2,4-DICHLOROBEZOYL PEROXIDE, 50% in polydimethylsiloxane)	Organic peroxide type D, solid (2,4-DICHLOROBEZOYL PEROXIDE, 50% in polydimethylsiloxane)
<b>Transport document description</b>			
UN3106 Organic peroxide type D, solid (2,4-DICHLOROBEZOYL PEROXIDE, 50% in polydimethylsiloxane), 5.2	Not applicable	UN 3106 ORGANIC PEROXIDE TYPE D, SOLID (2,4-DICHLOROBEZOYL PEROXIDE, 50% in polydimethylsiloxane), 5.2	UN 3106 Organic peroxide type D, solid (2,4-DICHLOROBEZOYL PEROXIDE, 50% in polydimethylsiloxane), 5.2
<b>14.3. Transport hazard class(es)</b>			
5.2	Not applicable	5.2	5.2
 Not applicable	Not applicable		
<b>14.4. Packing group</b>			
Not applicable	Not applicable	Not applicable	Not applicable
<b>14.5. Environmental hazards</b>			
Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No
No supplementary information available			

### 14.6. Special precautions for user

#### DOT

UN-No.(DOT)	: UN3106
DOT Packaging Exceptions (49 CFR 173.xxx)	: 152
DOT Packaging Non Bulk (49 CFR 173.xxx)	: 225
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 5 kg
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 10 kg
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, 25 - Protected from sources of heat, 52 - Stow "separated from" acids, 53 - Stow "separated from" alkaline compounds

#### TDG

Emergency Response Guide (ERG) Number : 145

#### IMDG

Special provision (IMDG)	: 122, 274
Limited quantities (IMDG)	: 500 g
Excepted quantities (IMDG)	: E0
Packing instructions (IMDG)	: P520

# 2,4-DICHLOROBEZOYL PEROXIDE, 50% in polydimethylsiloxane

## Safety Data Sheet

EmS-No. (Fire)	: F-J - FIRE SCHEDULE Juliet - NON-TEMPERATURE-CONTROLLED SELF-REACTIVES AND ORGANIC PEROXIDES
EmS-No. (Spillage)	: S-R - SPILLAGE SCHEDULE Romeo - ORGANIC PEROXIDES
Stowage category (IMDG)	: D
Stowage and handling (IMDG)	: SW1
Segregation (IMDG)	: SG35, SG36, SG72
Properties and observations (IMDG)	: Decomposes at elevated temperatures or in a fire. Burns vigorously. Insoluble in water except for 3-chloroperoxybenzoic acid. Contact with the eyes and skin should be avoided. May evolve irritant or toxic fumes.

### IATA

PCA Excepted quantities (IATA)	: E0
PCA Limited quantities (IATA)	: Forbidden
PCA limited quantity max net quantity (IATA)	: Forbidden
PCA packing instructions (IATA)	: 570
PCA max net quantity (IATA)	: 5kg
CAO packing instructions (IATA)	: 570
CAO max net quantity (IATA)	: 10kg
Special provision (IATA)	: A20, A802
ERG code (IATA)	: 5L

### 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
2,4-Dichlorobenzoyl peroxide	133-14-2	Present	Active	
Poly(dimethylsiloxane)	63148-62-9	Present	Active	

### 15.2. International regulations

#### CANADA

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

Listed on the Canadian DSL (Domestic Substances List)

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

Listed on the Canadian DSL (Domestic Substances List)

#### EU-Regulations

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

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



# 2,4-DICHLOROBENZOYL PEROXIDE, 50% in polydimethylsiloxane

## Safety Data Sheet

### National regulations

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

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 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)

#### Poly(dimethylsiloxane) (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)

### 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

Full text of H-phrases:.

H242	Heating may cause a fire.
H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation

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.

Hazard Rating

Health : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

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 : 1 Slight Hazard - Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors.

Prepared by safety and environmental affairs.

Issue date: 10/26/2015

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# 2,4-DICHLOROBENZOYL PEROXIDE, 50% in polydimethylsiloxane

## Safety Data Sheet

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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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