



Preparing for the New Era of Laboratories

# MATERIAL SAFETY DATA SHEET (MSDS)

According to regulation (EU) no.1907/2006

## **BENZOYL PEROXIDE**

**(with 25% Water) Extrapure**

PRODUCT CODE : O-5234

CAS No : 94-36-0

FORMULA :  $C_{14}H_{10}O_4$

UN No : 3104

# MATERIAL SAFETY DATA SHEET (SDS/MSDS)

## BENZOYL PEROXIDE (with 25% Water) Extrapure



MSDS Number : 0426

Date : July 8, 2025

Version : 1.0

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

- 1.1 Product Name** : BENZOYL PEROXIDE (with 25% Water) Extrapure  
**Synonyms** : Dibenzoyl peroxide  
**CAS No.** : 94-36-0  
**HS Code** : 2916 3200  
**Chemical Formula** :  $C_{14}H_{10}O_4$   
**Molecular Weight** : 242.23 g/mol  
**Product Code** : O-5234  
**Brand** : Labotiq  
**1.2 Manufacturer** : Labotiq  
**Address** : Jl.Terapi Raya AD2-Bumi Menteng Asri Bogor, Jawa Barat Indonesia – 16111  
**Website** : [www.labotiq.net](http://www.labotiq.net)  
**Email** : [labotiq.id@gmail.com](mailto:labotiq.id@gmail.com)  
**For information** : Phone : (+62-251) 839110, 8311662, Fax : (+62-251) 83135710  
**Emergency number** : +6281316894650  
**1.3 Application** : Laboratory chemicals, Manufacture of substances, General Chemical reagent

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### Classification according to Regulation (EC) No 1272/2008

|                                                  |                                                             |
|--------------------------------------------------|-------------------------------------------------------------|
| Organic peroxides, (Type C)                      | H242: Heating may cause a fire.                             |
| Eye irritation, (Category 2)                     | H319: Causes serious eye irritation.                        |
| Skin sensitization, (Sub-category 1A)            | H317: May cause an allergic skin reaction.                  |
| Short-term (acute) aquatic hazard, (Category 1)  | H400: Very toxic to aquatic life.                           |
| Long-term (chronic) aquatic hazard, (Category 1) | H410: Very toxic to aquatic life with long lasting effects. |

For the full text of the H-Statements mentioned in this Section, see Section 16

#### 2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word

Danger

Hazard statement(s)

|      |                                                       |
|------|-------------------------------------------------------|
| H242 | Heating may cause a fire.                             |
| H317 | May cause an allergic skin reaction.                  |
| H319 | Causes serious eye irritation.                        |
| H410 | Very toxic to aquatic life with long lasting effects. |

Precautionary statement(s)

|      |                                                                                                |
|------|------------------------------------------------------------------------------------------------|
| P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| P235 | Keep cool.                                                                                     |
| P273 | Avoid release to the environment.                                                              |

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P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

P410 Protect from sunlight.

### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

#### Ecological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

#### Toxicological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Synonyms : Dibenzoyl peroxide  
 Formula :  $C_{14}H_{10}O_4$   
 Molecular weight : 242.23 g/mol  
 CAS-No. : 94-36-0  
 EC-No. : 202-327-6  
 Index-No. : 617-008-00-0

### 3.2 Mixture

#### Hazardous ingredients according to Regulation (EC) No 1272/2008

| Component                                                                         | Classification                                                                                                                                                  | Concentration       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| Benzoyl peroxide<br>CAS-No. 94-36-0<br>EC-No. 202-327-6<br>Index-No. 617-008-00-0 | Org. Perox. B; Eye Irrit. 2; Skin Sens. 1A; Aquatic Acute 1; Aquatic Chronic 1; H241, H319, H317, H400, H410 M-Factor - Aquatic Acute: 10 - Aquatic Chronic: 10 | $\geq 70 - < 100\%$ |

For the full text of the H-Statements mentioned in this Section, see Section 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General advice

Show this material safety data sheet to the doctor in attendance.

#### If inhaled

After inhalation: fresh air.

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### **In case of skin contact**

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower. Consult a physician

### **In case of eye contact**

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

### **If swallowed**

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

No data available

## **SECTION 5: Firefighting measures**

### **5.1 Extinguishing media**

#### **Suitable extinguishing media**

Water Foam Carbon dioxide (CO<sub>2</sub>) Dry powder

#### **Unsuitable extinguishing media**

For this substance/mixture no limitations of extinguishing agents are given.

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

Carbon oxides, combustible. Has a fire-promoting effect due to release of oxygen. Avoid shock and friction. In the event of decomposition: danger of explosion! Explosive decomposition possible on heating. Development of hazardous combustion gases or vapours possible in the event of fire.

### **5.3 Advice for firefighters**

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

### **5.4 Further information**

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

## **SECTION 6: Accidental release measures**

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

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

### **6.2 Environmental precautions**

Do not let product enter drains.

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**6.3 Methods and materials for containment and cleaning up**

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

**6.4 Reference to other sections**

For disposal see section 13

**SECTION 7: Handling and storage****7.1 Precautions for safe handling****Advice on protection against fire and explosion**

Keep away from open flames, hot surfaces and sources of ignition.

**Hygiene measures**

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2.

**7.2 Conditions for safe storage, including any incompatibilities****Storage conditions**

Tightly closed and away from sources of ignition and heat. Observe national regulations.

Recommended storage temperature see product label

**Storage class**

Storage class (TRGS 510): 4.1A: Other explosive hazardous materials

**7.3 Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

**SECTION 8: Exposure controls/personal protection****8.1 Control parameters**

Ingredients with workplace control parameters

**8.2 Exposure control****Appropriate engineering controls**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

**Personal protective equipment****Eye/face protection**

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

**Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

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**Full contact**

Material: Nitrile rubber  
 Minimum layer thickness: 0.11 mm  
 Break through time: 480 min  
 Material tested: Dermatril® (KCL 740, Size M)

**Splash contact**

Material: Nitrile rubber  
 Minimum layer thickness: 0.11 mm  
 Break through time: 480 min  
 Material tested: Dermatril® (KCL 740, Size M)

**Body Protection**

protective clothing.

**Respiratory protection**

required when dusts are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.  
 Recommended Filter type: Filter type P2

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

**Control of environmental exposure**

Do not let product enter drains.

### SECTION 9: Physical and chemical properties

**9.1 Information on basic physical and chemical properties**

|                                              |                                                          |
|----------------------------------------------|----------------------------------------------------------|
| Appearance                                   | Form: crystals                                           |
|                                              | Colour: white                                            |
| Odour                                        | bitter almond-like                                       |
| Odour Threshold                              | No data available                                        |
| pH                                           | No data available                                        |
| Melting point/freezingpoint                  | Melting point: 100 - 105 °C - (decomposition)            |
| Initial boiling point and boiling range      | No data available                                        |
| Flash point                                  | No data available                                        |
| Evaporation rate                             | No data available                                        |
| Flammability (solid, gas)                    | Flammable solid.                                         |
| Upper/lower flammability or explosive limits | No data available                                        |
| Vapour pressure                              | < 1 hPa at 20 °C                                         |
| Vapour density                               | No data available                                        |
| Density                                      | 1,33 g/cm <sup>3</sup> at 25 °C                          |
| Relative density                             | No data available                                        |
| Water solubility                             | 0,35 mg/l at 20 °C - OECD Test Guideline 105             |
| Partition coefficient: noctanol/water        | log Pow: 3,2 at 22 °C - Bioaccumulation is not expected. |
| Auto-ignition temperature                    | No data available                                        |
| Decomposition temperature                    | > 70 °C                                                  |
| Viscosity                                    | No data available                                        |
| Explosive properties                         | Explosive when dry                                       |

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Oxidizing properties

Oxidizing potential

### 9.2 Other safety information

Bulk density 500 - 600 kg/m<sup>3</sup>  
 Particle size 135 µm - OECD Test Guideline 110 - Mean particle size  
 Relative vapor density 8,4

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Explosive Mechanical sensitivity (friction) sensitive to shock The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

### 10.2 Chemical stability

Decomposes on exposure to light. The product is chemically stable under standard ambient conditions (room temperature) . Contains the following stabilizer(s): water (25 %)

### 10.3 Possibility of hazardous reactions

Exothermic reaction with: carbon/soot polymerisable substances  
 Risk of explosion with:  
 Alcohols, Amines, polymerisation initiators  
 Reducing agents alkalines Strong acids Organic acids anilines Chloroform dimethyl sulfoxide iron(III) compounds lithium aluminium hydride Metallic salts

### 10.4 Conditions to avoid

Temperatures above melting point. Heating may cause a fire. no information available

### 10.5 Incompatible materials

No data available

### 10.6 Hazardous decomposition products

In the event of fire: see section 5

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

LD<sub>0</sub> Oral - Mouse - male and female - > 2.000 mg/kg (OECD Test Guideline 401)  
 LD<sub>0</sub> Oral - Mouse - male and female - > 2.000 mg/kg (Benzoyl peroxide) (OECD Test Guideline 401)  
 Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.  
 LC<sub>0</sub> Inhalation - Rat - male - 4 h - 24,3 mg/l - dust/mist(OECD Test Guideline 403)  
 LC<sub>0</sub> Inhalation - Rat - male - 4 h - 24,3 mg/l - dust/mist (Benzoyl peroxide) (OECD Test Guideline 403)  
 Symptoms: Possible damages:, mucosal irritations  
 Dermal: No data available

#### Skin corrosion/irritation

Skin - Rabbit (Benzoyl peroxide)  
 Result: No skin irritation - 4 h (OECD Test Guideline 404)

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**Serious eye damage/eye irritation**

Remarks: Causes serious eye irritation.

Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

**Respiratory or skin sensitisation**

Local lymph node assay (LLNA) - Mouse (Benzoyl peroxide)

Result: positive (OECD Test Guideline 429)

**Germ cell mutagenicity**

Test Type: Ames test

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Test system: Mouse lymphoma test

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

Test Type: Ames test (Benzoyl peroxide)

Test system: Escherichia coli/Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Test Type: In vitro mammalian cell gene mutation test (Benzoyl peroxide)

Test system: Mouse lymphoma test

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative (Benzoyl peroxide)

Test Type: Micronucleus test

Species: Mouse

Application Route: Intraperitoneal injection

Method: OECD Test Guideline 474

Result: negative

**Carcinogenicity**

No data available

**Reproductive toxicity**

No data available

**Specific target organ toxicity - single exposure**

No data available

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

**Additional Information**

**Endocrine disrupting properties**

**Product:**



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**Assessment :**

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. Depending on the intensity and duration of exposure, effects may vary from mild irritation to severe destruction of tissue. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. (Benzoyl peroxide)

**SECTION 12: Ecological information****12.1 Toxicity***Toxicity to fish*

semi-static test LC50 - Oncorhynchus mykiss (rainbow trout) - 0,0602 mg/l - 96 h (Benzoyl peroxide) (OECD Test Guideline 203)

*Toxicity to daphnia and other aquatic invertebrates Immobilization*

static test EC50 - Daphnia magna (Water flea) - 0,11 mg/l - 48 h (Benzoyl peroxide) (OECD Test Guideline 202)

*Toxicity to algae*

static test ErC50 - Pseudokirchneriella subcapitata (green algae) - 0,0711 mg/l - 72 h (Benzoyl peroxide) (OECD Test Guideline 201)

static test NOEC - Pseudokirchneriella subcapitata (green algae) - 0,02 mg/l - 72 h (Benzoyl peroxide) (OECD Test Guideline 201)

*Toxicity to bacteria*

static test EC50 - activated sludge - 35 mg/l - 0,5 h (Benzoyl peroxide) (OECD Test Guideline 209)

*Toxicity to daphnia and other aquatic invertebrates(Chronic toxicity)*

semi-static test EC10 - Daphnia magna (Water flea) - 0,001 mg/l - 21 d (Benzoyl peroxide) (OECD Test Guideline 211)

**12.2 Persistence and degradability**

Biodegradability aerobic - Exposure time 28 d (Benzoyl peroxide)

Result: 71 % - Readily biodegradable. (OECD Test Guideline 301D)

**12.3 Bioaccumulative potential**

No data available

**12.4 Mobility in soil**

No data available

**12.5 Results of PBT and vPvB assessment**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher

**12.6 Other adverse effects**

Biological effects:

Hazard for drinking water supplies. Discharge into the environment must be avoided

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Endocrine disrupting properties

Product:

Assessment :

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

No data available

### SECTION 14: Transport information

#### 14.1 UN number

ADR/RID: 3104

IMDG: 3104

IATA: 3104

#### 14.2 UN proper shipping name

ADR/RID: ORGANIC PEROXIDE TYPE C, SOLID (DIBENZOYL PEROXIDE)

IMDG: ORGANIC PEROXIDE TYPE C, SOLID (DIBENZOYL PEROXIDE)

IATA: Organic peroxide type C, solid (Benzoyl peroxide)

Special Provisions: "Keep away from heat" label required

#### 14.3 Transport hazard class(es)

ADR/RID: 5.2

IMDG: 5.2

IATA: 5.2

#### 14.4 Packaging group

ADR/RID: -

IMDG: -

IATA: -

#### 14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

#### 14.6 Special precautions for user

Further information

No data available

### SECTION 15: Regulatory information

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

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

#### 15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out

### SECTION 16: Other information

#### Full text of H-Statements referred to under sections 2 and 3.

H241 Heating may cause a fire or explosion.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

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**National Fire Protection Association (U.S.A.):**

Health: 2

Flammability: 0

Reactivity: 1

***Further information***

*The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Labotiq shall not be held liable for any damage resulting from handling or from contact with the above product.*

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Revision Date : July 8, 2025