

## SAFETY DATA SHEET

Version 8.1  
Revision Date 12/28/2020  
Print Date 01/17/2021**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifiers**Product name : Benzoyl peroxide (with 25% H<sub>2</sub>O) for synthesisProduct Number : 8.01641  
Catalogue No. : 801641  
Brand : Millipore  
Index-No. : 617-008-00-0  
CAS-No. : 94-36-0**1.2 Relevant identified uses of the substance or mixture and uses advised against**

Identified uses : Chemical for synthesis

**1.3 Details of the supplier of the safety data sheet**Company : EMD Millipore Corporation  
400 Summit Drive  
BURLINGTON MA 01803  
UNITED STATES

Telephone : +1 800-645-5476

**1.4 Emergency telephone**

Emergency Phone # : 800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**Organic peroxides (Type C), H242  
Eye irritation (Category 2A), H319  
Skin sensitization (Category 1), H317  
Short-term (acute) aquatic hazard (Category 1), H400  
Long-term (chronic) aquatic hazard (Category 1), H410

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

**2.2 GHS Label elements, including precautionary statements**

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/ sparks/ open flames/ hot surfaces. No smoking.  |
| P220                       | Keep/Store away from clothing/ combustible materials.  |
| P234                       | Keep only in original container.   |
| P261                       | Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.  |
| P264                       | Wash skin thoroughly after handling.   |
| P272                       | Contaminated work clothing must not be allowed out of the workplace.   |
| P273                       | Avoid release to the environment.  |
| P280                       | Wear protective gloves/ eye protection/ face protection.   |
| P302 + P352                | IF ON SKIN: Wash with plenty of soap and water.  |
| P305 + P351 + P338         | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P333 + P313                | If skin irritation or rash occurs: Get medical advice/ attention.  |
| P337 + P313                | If eye irritation persists: Get medical advice/ attention.   |
| P363                       | Wash contaminated clothing before reuse.   |
| P391                       | Collect spillage.  |
| P403 + P235                | Store in a well-ventilated place. Keep cool.   |
| P410                       | Protect from sunlight.   |
| P420                       | Store away from other materials.   |
| P501                       | Dispose of contents/ container to an approved waste disposal plant.  |

### 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances

|           |                |
|-----------|----------------|
| Formula   | : C14H10O4     |
| CAS-No.   | : 94-36-0      |
| EC-No.    | : 202-327-6    |
| Index-No. | : 617-008-00-0 |

| Component               | Classification   | Concentration  |
|-------------------------|--|----------------|
| <b>Benzoyl peroxide</b> | Org. Perox. B; Eye Irrit. 2A; Skin Sens. 1; Aquatic Acute 1; Aquatic Chronic 1; H241, H319, H317, H400, H410<br>M-Factor - Aquatic Acute: 10 - Aquatic Chronic: 10 | >= 70 - < 90 % |

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

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## 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.

#### 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

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## 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

Combustible.

Avoid shock and friction.

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.

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## 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.

### 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.

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## 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. Separately or together with other organic peroxides only and away from sources of ignition and heat.

Store at +15°C to +25°C.

Storage class (TRGS 510): 5.2: Organic peroxides and self-reacting hazardous materials

### 7.3 Specific end use(s)

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

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Ingredients with workplace control parameters

| Component        | CAS-No. | Value                                  | Control parameters  | Basis                                   |
|------------------|---------|--|---------------------|---|
| Benzoyl peroxide | 94-36-0 | TWA                                    | 5 mg/m <sup>3</sup> | USA. ACGIH Threshold Limit Values (TLV) |
|                  | Remarks | Not classifiable as a human carcinogen |                     |   |

|  |  |     |                     |   |
|--|--|-----|---------------------|---|
|  |  | TWA | 5 mg/m <sup>3</sup> | USA. NIOSH Recommended Exposure Limits  |
|  |  | TWA | 5 mg/m <sup>3</sup> | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants        |
|  |  | TWA | 5 mg/m <sup>3</sup> | USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000                           |
|  |  | PEL | 5 mg/m <sup>3</sup> | California permissible exposure limits for chemical contaminants (Title 8, Article 107) |

## 8.2 Exposure controls

### Appropriate engineering controls

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

### 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

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: > 480 min

Material tested:KCL 741 Dermatril® L

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: > 480 min

Material tested:KCL 741 Dermatril® L

#### 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.

## Control of environmental exposure

Do not let product enter drains.

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### SECTION 9: Physical and chemical properties

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

|   |  |
|---|--|
| a) Appearance                                   | Form: crystals<br>Color: white                                   |
| b) Odor   | bitter almond-like   |
| c) Odor Threshold                               | No data available  |
| d) pH   | No data available  |
| e) Melting point/freezing point                 | Melting point: 100 - 105 °C (212 - 221 °F) - (decomposition)     |
| f) Initial boiling point and boiling range      | No data available  |
| g) Flash point                                  | No data available  |
| h) Evaporation rate                             | No data available  |
| i) Flammability (solid, gas)                    | Flammable solid.   |
| j) Upper/lower flammability or explosive limits | No data available  |
| k) Vapor pressure                               | < 1 hPa at 20 °C (68 °F)   |
| l) Vapor density                                | 8.4  |
| m) Relative density                             | 1.33 g/cm <sup>3</sup> at 25 °C (77 °F)                          |
| n) Water solubility                             | 0.35 mg/l at 20 °C (68 °F) - OECD Test Guideline 105             |
| o) Partition coefficient: n-octanol/water       | log Pow: 3.2 at 22 °C (72 °F) - Bioaccumulation is not expected. |
| p) Autoignition temperature                     | No data available  |
| q) Decomposition temperature                    | > 70 °C (> 158 °F) -   |
| r) Viscosity                                    | No data available  |
| s) Explosive properties                         | Explosive when dry.  |
| t) 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   |

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## 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) .

### 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 information available

### 10.6 Hazardous decomposition products

In the event of fire: see section 5

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## 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.

LC0 Inhalation - Rat - male - 4 h - 24.3 mg/l  
(OECD Test Guideline 403)  
LC0 Inhalation - Rat - male - 4 h - 24.3 mg/l (Benzoyl peroxide)  
(OECD Test Guideline 403)  
LD50 Inhalation - Rat - male - 4 h - 24.3 mg/l (Benzoyl peroxide)  
(OECD Test Guideline 403)  
Symptoms: Possible damages:, mucosal irritations  
Dermal: No data available  
No data available

#### **Skin corrosion/irritation**

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

#### **Serious eye damage/eye irritation**

No data available

#### **Respiratory or skin sensitization**

Local lymph node assay (LLNA) - Mouse (Benzoyl peroxide)  
Result: positive  
(OECD Test Guideline 429)

#### **Germ cell mutagenicity**

Ames test  
Salmonella typhimurium  
Result: negative  
In vitro mammalian cell gene mutation test  
Mouse lymphoma test  
Result: negative  
Ames test (Benzoyl peroxide)  
Salmonella typhimurium  
Result: negative  
In vitro mammalian cell gene mutation test (Benzoyl peroxide)  
Mouse lymphoma test  
Result: negative

#### **Carcinogenicity**

IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.  
NTP: No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.  
OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

#### **Reproductive toxicity**

No data available

#### **Specific target organ toxicity - single exposure**

Acute oral toxicity - Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract. (Benzoyl peroxide)  
Acute inhalation toxicity - Possible damages:, mucosal irritations (Benzoyl peroxide)

#### **Specific target organ toxicity - repeated exposure**

No data available

### Aspiration hazard

No data available (Benzoyl peroxide)

## 11.2 Additional Information

Repeated dose toxicity - Rat - male and female - Dermal - 104 Weeks - NOAEL (No observed adverse effect level) - 100 - 150 mg/kg (Benzoyl peroxide)  
Not available

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)

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## SECTION 12: Ecological information

### 12.1 Toxicity

|   |   |
|---|---|
| Toxicity to fish                                    | semi-static test LC50 - Oncorhynchus mykiss (rainbow trout) - 0.06 mg/l - 96 h (Benzoyl peroxide)<br>(OECD Test Guideline 203)  |
| Toxicity to daphnia and other aquatic invertebrates | static test EC50 - Daphnia magna (Water flea) - 0.11 mg/l - 48 h (Benzoyl peroxide)<br>(OECD Test Guideline 202)  |
| Toxicity to algae                                   | static test ErC50 - Pseudokirchneriella subcapitata (green algae) - 0.0711 mg/l - 72 h (Benzoyl peroxide)<br>(OECD Test Guideline 201)<br><br>static test NOEC - Pseudokirchneriella subcapitata (green algae) - 0.02 mg/l - 72 h (Benzoyl peroxide)<br>(OECD Test Guideline 201) |
| Toxicity to bacteria                                | static test EC50 - activated sludge - 35 mg/l - 0.5 h (Benzoyl peroxide)<br>(OECD Test Guideline 209)   |

### 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 (Benzoyl peroxide)

### 12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

### 12.6 Other adverse effects

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

No data available

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

Waste material must be disposed of in accordance with the national and local No mixing with other waste. Handle uncleaned containers like the product. See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

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## SECTION 14: Transport information

#### DOT (US)

UN number: 3104 Class: 5.2

Proper shipping name: Organic peroxide type C, solid (Dibenzoyl peroxide, ≤77%)

Reportable Quantity (RQ):

Poison Inhalation Hazard: No

#### IMDG

UN number: 3104 Class: 5.2

EMS-No: F-J, S-R

Proper shipping name: ORGANIC PEROXIDE TYPE C, SOLID (DIBENZOYL PEROXIDE)

#### IATA

UN number: 3104 Class: 5.2 (HEAT)

Proper shipping name: Organic peroxide type C, solid (Dibenzoyl peroxide)

Special Provisions: "Keep away from heat" label required.

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## SECTION 15: Regulatory information

#### SARA 302 Components

This material does not contain any components with a section 302 EHS TPQ.

#### SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:

|                  | CAS-No. | Revision Date |
|------------------|---------|---------------|
| Benzoyl peroxide | 94-36-0 | 2007-07-01    |

#### Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

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## SECTION 16: Other information

#### 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

Millipore - 8.01641

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