

## SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 5.6 Revision Date 27.06.2016

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GENERIC EU MSDS - NO COUNTRY SPECIFIC DATA - NO OEL DATA

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

#### 1.1 Product identifiers

Product name : 2-Butanone peroxide

Product Number : 04390

Brand : Sigma-Aldrich

REACH No. : A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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

Identified uses : Laboratory chemicals, Manufacture of substances

#### 1.3 Details of the supplier of the safety data sheet

Company :

#### 1.4 Emergency telephone number

Emergency Phone #

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

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

Flammable liquids (Category 3), H226

Organic peroxides (Type D), H242

Skin corrosion (Category 1B), H314

Reproductive toxicity (Category 1B), H360Df

Acute aquatic toxicity (Category 1), H400

Chronic aquatic toxicity (Category 1), H410

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)

H226

Flammable liquid and vapour.

H242

Heating may cause a fire.

H314

Causes severe skin burns and eye damage.

H360Df

May damage the unborn child. Suspected of damaging fertility.

H410

Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)  
P201 Obtain special instructions before use.  
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
P370 + P378 In case of fire: Use dry powder or dry sand to extinguish.  
Supplemental Hazard Statements none  
Restricted to professional users.  
Restricted to professional users.

### 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.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

Synonyms : Ethyl methyl ketone peroxide  
Methyl ethyl ketone peroxide

Molecular weight : 210,22 g/mol

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

| Component   | Classification  | Concentration |
|---|---|---------------|
| <b>Diisobutyl phthalate</b> Included in the Candidate List of Substances of Very High Concern (SVHC) according to Regulation (EC) No. 1907/2006 (REACH) |   |               |
| CAS-No. 84-69-5<br>EC-No. 201-553-2<br>Index-No. 607-623-00-2   | Repr. 1B; Aquatic Acute 1;<br>Aquatic Chronic 1; H360Df,<br>H400, H410<br>Concentration limits:<br>≥ 25 %: Repr. 1B, H360Df; 5<br>- < 25 %: Repr. 2, H361f;<br>M-Factor - Aquatic Acute: 1  | ≥ 50 - < 70 % |
| <b>2-Butanone peroxide</b>  |   |               |
| CAS-No. 1338-23-4<br>EC-No. 215-661-2   | Org. Perox. D; Acute Tox. 4;<br>Skin Corr. 1B; H242, H302,<br>H314  | ≥ 30 - < 50 % |
| <b>4-Hydroxy-4-methylpentan-2-one</b>   |   |               |
| CAS-No. 123-42-2<br>EC-No. 204-626-7<br>Index-No. 603-016-00-1  | Flam. Liq. 3; Eye Irrit. 2; H226,<br>H319<br>Concentration limits:<br>≥ 10 %: Eye Irrit. 2, H319;   | ≥ 10 - < 20 % |
| <b>Hydrogen peroxide</b>  |   |               |
| CAS-No. 7722-84-1<br>EC-No. 231-765-0<br>Index-No. 008-003-00-9   | Ox. Liq. 1; Acute Tox. 4; Skin<br>Corr. 1A; STOT SE 3; Aquatic<br>Chronic 3; H271, H302, H332,<br>H314, H335, H412<br>Concentration limits:<br>≥ 70 %: Ox. Liq. 1, H271; 50<br>- < 70 %: Ox. Liq. 2, H272; ≥<br>70 %: Skin Corr. 1A, H314; 50 | ≥ 2,5 - < 5 % |

|                            |              |  |               |
|----------------------------|--------------|--|---------------|
|                            |              | - < 70 %: Skin Corr. 1B, H314;<br>35 - < 50 %: Skin Irrit. 2,<br>H315; 8 - < 50 %: Eye Dam. 1,<br>H318; 5 - < 8 %: Eye Irrit. 2,<br>H319; >= 35 %: STOT SE 3,<br>H335; |               |
| <b>Ethyl methyl ketone</b> |              |  |               |
| CAS-No.                    | 78-93-3      | Flam. Liq. 2; Eye Irrit. 2; STOT<br>SE 3; H225, H319, H336   | >= 3 - < 10 % |
| EC-No.                     | 201-159-0    |  |               |
| Index-No.                  | 606-002-00-3 |  |               |

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

Consult a physician. Show this safety data sheet to the doctor in attendance.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

#### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

#### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. 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

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

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

No data available

### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

### 5.4 Further information

Use water spray to cool unopened containers.

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## SECTION 6: Accidental release measures

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

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

For personal protection see section 8.

## **6.2 Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

## **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**

Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge. Keep away from heat and sources of ignition.

For precautions see section 2.2.

## **7.2 Conditions for safe storage, including any incompatibilities**

Store in original container. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store in cool place.

Recommended storage temperature 2 - 8 °C

Vent periodically. Over time, pressure may increase causing containers to burst. Handle and open container with care.

## **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**

**Components with workplace control parameters**

## **8.2 Exposure controls**

### **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**

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### **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.

Full contact

Material: butyl-rubber

Minimum layer thickness: 0,3 mm

Break through time: 480 min

Material tested: Butoject® (KCL 897 / Aldrich Z677647, Size M)

Splash contact  
Material: Nature latex/chloroprene  
Minimum layer thickness: 0,6 mm  
Break through time: 30 min  
Material tested:Lapren® (KCL 706 / Aldrich Z677558, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de,  
test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

#### **Body Protection**

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### **Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### **Control of environmental exposure**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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## **SECTION 9: Physical and chemical properties**

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

|   |                                    |
|---|------------------------------------|
| a) Appearance                                   | Form: liquid<br>Colour: colourless |
| b) Odour  | No data available                  |
| c) Odour Threshold                              | No data available                  |
| d) pH   | No data available                  |
| e) Melting point/freezing point                 | No data available                  |
| f) Initial boiling point and boiling range      | No data available                  |
| g) Flash point                                  | 59 °C - closed cup                 |
| h) Evaporation rate                             | No data available                  |
| i) Flammability (solid, gas)                    | No data available                  |
| j) Upper/lower flammability or explosive limits | No data available                  |
| k) Vapour pressure                              | No data available                  |
| l) Vapour density                               | No data available                  |
| m) Relative density                             | 1,060 g/cm <sup>3</sup> at 20 °C   |
| n) Water solubility                             | No data available                  |
| o) Partition coefficient: n-octanol/water       | No data available                  |

|    |                           |                   |
|----|---------------------------|-------------------|
| p) | Auto-ignition temperature | No data available |
| q) | Decomposition temperature | No data available |
| r) | Viscosity                 | No data available |
| s) | Explosive properties      | No data available |
| t) | Oxidizing properties      | No data available |

## 9.2 Other safety information

No data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

No data available

### 10.4 Conditions to avoid

Heat, flames and sparks.

### 10.5 Incompatible materials

acids, Bases, Organic materials, Metal oxides, Heavy metal salts, Amines

### 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

Other decomposition products - No data available

In the event of fire: see section 5

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

No data available

#### Skin corrosion/irritation

No data available

#### Serious eye damage/eye irritation

No data available

#### Respiratory or skin sensitisation

No data available

#### Germ cell mutagenicity

No data available

#### Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

#### 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**

RTECS: Not available

burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting

Liver - Irregularities - Based on Human Evidence (Ethyl methyl ketone)

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

No data available

**12.2 Persistence and degradability**

No data available

**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**

Very toxic to aquatic life with long lasting effects.

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**SECTION 13: Disposal considerations****13.1 Waste treatment methods****Product**

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

**Contaminated packaging**

Dispose of as unused product.

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**SECTION 14: Transport information****14.1 UN number**

ADR/RID: 3105

IMDG: 3105

IATA: 3105

**14.2 UN proper shipping name**

ADR/RID: ORGANIC PEROXIDE TYPE D, LIQUID (METHYL ETHYL KETONE PEROXIDE(S))

IMDG: ORGANIC PEROXIDE TYPE D, LIQUID (METHYL ETHYL KETONE PEROXIDE(S))

IATA: Organic peroxide type D, liquid (Methyl ethyl ketone peroxide(s))

**14.3 Transport hazard class(es)**

ADR/RID: 5.2

IMDG: 5.2

IATA: 5.2 (HEAT)

**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**

No data available

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**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.

### Authorisations and/or restrictions on use

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Diisobutyl phthalate

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Diisobutyl phthalate

REACH - List of substances subject to authorisation (Annex XIV) : Diisobutyl phthalate

## 15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out

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## SECTION 16: Other information

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

|        |   |
|--------|---|
| H225   | Highly flammable liquid and vapour.                           |
| H226   | Flammable liquid and vapour.                                  |
| H242   | Heating may cause a fire.                                     |
| H271   | May cause fire or explosion; strong oxidizer.                 |
| H272   | May intensify fire; oxidizer.                                 |
| H302   | Harmful if swallowed.   |
| H314   | Causes severe skin burns and eye damage.                      |
| H315   | Causes skin irritation.                                       |
| H318   | Causes serious eye damage.                                    |
| H319   | Causes serious eye irritation.                                |
| H332   | Harmful if inhaled.   |
| H335   | May cause respiratory irritation.                             |
| H336   | May cause drowsiness or dizziness.                            |
| H360Df | May damage the unborn child. Suspected of damaging fertility. |
| H361f  | Suspected of damaging fertility.                              |
| H400   | Very toxic to aquatic life.                                   |
| H410   | Very toxic to aquatic life with long lasting effects.         |
| H412   | Harmful to aquatic life with long lasting effects.            |

### Further information

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