

## Chemical Safety Data Sheet MSDS / SDS

## Cumyl hydroperoxide

Revision Date:2025-02-01 Revision Number:1

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

## Product identifier

Product name : Cumyl hydroperoxide  
CBnumber : CB7203705  
CAS : 80-15-9  
EINECS Number : 201-254-7  
Synonyms : cumene hydroperoxide,Cumyl hydroperoxide

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

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.  
Uses advised against : none

## Company Identification

Company : Chemicalbook  
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing  
Telephone : 400-158-6606

## SECTION 2: Hazards identification

## Classification of the substance or mixture

Organic peroxides, Type E  
Acute toxicity - Category 4, Oral  
Acute toxicity - Category 4, Dermal  
Skin corrosion, Sub-category 1B  
Acute toxicity - Category 3, Inhalation  
Specific target organ toxicity – repeated exposure, Category 2  
Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 2

## Label elements

## Pictogram(s)

Signal word : Danger

## Hazard statement(s)

H226 Flammable liquid and vapour  
H227 Combustible liquid

H242 Heating may cause a fire  
H302 Harmful if swallowed  
H304 May be fatal if swallowed and enters airways  
H312 Harmful in contact with skin  
H314 Causes severe skin burns and eye damage  
H331 Toxic if inhaled  
H335 May cause respiratory irritation  
H341 Suspected of causing genetic defects  
H371 May cause damage to organs  
H373 May cause damage to organs through prolonged or repeated exposure  
H411 Toxic to aquatic life with long lasting effects

#### **Precautionary statement(s)**

P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
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.  
P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P264 Wash hands thoroughly after handling.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P391 Collect spillage. Hazardous to the aquatic environment  
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off Immediately all contaminated clothing. Rinse SKIN with water/shower.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P370+P378 In case of fire: Use ... for extinction.  
P405 Store locked up.  
P410 Protect from sunlight.  
P403+P233 Store in a well-ventilated place. Keep container tightly closed.

#### **Prevention**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P234 Keep only in original packaging.  
P235 Keep cool.  
P240 Ground and bond container and receiving equipment.  
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...  
P264 Wash ... thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P271 Use only outdoors or in a well-ventilated area.

P273 Avoid release to the environment.

#### Response

P370+P378 In case of fire: Use ... to extinguish.

P301+P317 IF SWALLOWED: Get medical help.

P330 Rinse mouth.

P302+P352 IF ON SKIN: Wash with plenty of water/...

P317 Get medical help.

P321 Specific treatment (see ... on this label).

P362+P364 Take off contaminated clothing and wash it before reuse.

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P363 Wash contaminated clothing before reuse.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P316 Get emergency medical help immediately.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P319 Get medical help if you feel unwell.

P391 Collect spillage.

#### Storage

P403 Store in a well-ventilated place.

P410 Protect from sunlight.

P411 Store at temperatures not exceeding ...°C/...°F.

P420 Store separately.

P405 Store locked up.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

#### Disposal

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

#### Other hazards

no data available

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## SECTION 3: Composition/information on ingredients

#### Substance

Product name	: Cumyl hydroperoxide
Synonyms	: cumene hydroperoxide, Cumyl hydroperoxide
CAS	: 80-15-9
EC number	: 201-254-7
MF	: C9H12O2
MW	: 152.19

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## SECTION 4: First aid measures

## Description of first aid measures

### If inhaled

Fresh air, rest. Half-upright position. Artificial respiration may be needed. Refer for medical attention.

### Following skin contact

First rinse with plenty of water for at least 15 minutes, then remove contaminated clothes and rinse again. Refer for medical attention .

### Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

### Following ingestion

Rinse mouth. Give one or two glasses of water to drink. Do NOT induce vomiting. Refer for medical attention .

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

no data available

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

no data available

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## SECTION 5: Firefighting measures

### Extinguishing media

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

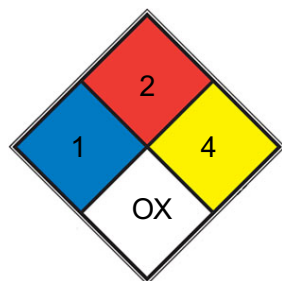
### Specific Hazards Arising from the Chemical

Combustible. Above 79°C explosive vapour/air mixtures may be formed. Risk of fire and explosion on contact with organic materials or reducing agents.

### Advice for firefighters

Use water spray, powder, alcohol-resistant foam, carbon dioxide. In case of fire: keep drums, etc., cool by spraying with water. Combat fire from a sheltered position.

### NFPA 704



■ HEALTH	1	Exposure would cause irritation with only minor residual injury (e.g. <a href="#">acetone</a> , sodium bromate, potassium chloride)
■ FIRE	2	Must be moderately heated or exposed to relatively high ambient temperature before ignition can occur and multiple finely divided suspended solids that do not require heating before ignition can occur. Flash point between 37.8 and 93.3 °C (100 and 200 °F). (e.g. diesel fuel, <a href="#">sulfur</a> )
■ REACT	4	Readily capable of detonation or explosive decomposition at normal temperatures and pressures (e.g. <a href="#">nitroglycerin</a> , chlorine dioxide, nitrogen triiodide)

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## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Personal protection: chemical protection suit including self-contained breathing apparatus. Do NOT let this chemical enter the environment. Collect leaking liquid in sealable plastic containers. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations. Do NOT absorb in saw-dust or other combustible absorbents.

### Environmental precautions

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

### Methods and materials for containment and cleaning up

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

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## SECTION 7: Handling and storage

### Precautions for safe handling

NO open flames. NO contact with flammables. Above 79°C use a closed system and ventilation. Use non-sparking handtools. Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

### Conditions for safe storage, including any incompatibilities

Separated from combustible substances, reducing agents, mineral acids and food and feedstuffs. Cool. Dry. Store in an area without drain or sewer access.

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## SECTION 8: Exposure controls/personal protection

### Control parameters

#### Occupational Exposure limit values

Component	$\alpha,\alpha$ -dimethylbenzyl hydroperoxide			
CAS No.	80-15-9			
	Limit value - Eight hours		Limit value - Short term	
	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Latvia	?	1	?	?
	Remarks			

#### Biological limit values

no data available

### Exposure controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

### Individual protection measures

#### Eye/face protection

Wear face shield or eye protection in combination with breathing protection.

#### Skin protection

Protective gloves. Protective clothing.

#### Respiratory protection

Use ventilation, local exhaust or breathing protection.

#### Thermal hazards

no data available

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## SECTION 9: Physical and chemical properties

### Information on basic physicochemical properties

Physical state	slightly yellow Liquid
Colour	no data available
Odour	no data available
Melting point/freezing point	238°C(lit.)
Boiling point or initial boiling point and boiling range	100-101°C/8mmHg(lit.)
Flammability	no data available
Lower and upper explosion limit/flammability limit	no data available
Flash point	79°C
Auto-ignition temperature	no data available
Decomposition temperature	no data available
pH	no data available
Kinematic viscosity	no data available
Solubility	In water: Slightly soluble
Partition coefficient n-octanol/water	2.16
Vapour pressure	<0.03 mm Hg ( 20 °C)
Density and/or relative density	1.03g/mL at 25°C
Relative vapour density	5.4 (vs air)
Particle characteristics	no data available

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## SECTION 10: Stability and reactivity

**Reactivity**

no data available

**Chemical stability**

no data available

**Possibility of hazardous reactions**

May explode on heating above ~150°C. The substance is a strong oxidant. It reacts violently with combustible and reducing materials. This generates fire and explosion hazard. May decompose violently on contact with cobalt, copper or lead alloys and mineral acids.

**Conditions to avoid**

no data available

**Incompatible materials**

no data available

**Hazardous decomposition products**

no data available

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## SECTION 11: Toxicological information

**Acute toxicity**

- Oral: no data available
- Inhalation: no data available
- Dermal: no data available

**Skin corrosion/irritation**

no data available

**Serious eye damage/irritation**

no data available

**Respiratory or skin sensitization**

no data available

**Germ cell mutagenicity**

no data available

**Carcinogenicity**

no data available

**Reproductive toxicity**

no data available

**STOT-single exposure**

The substance is corrosive to the eyes, skin and respiratory tract. Corrosive on ingestion. Inhalation may cause lung oedema. See Notes. The effects may be delayed. Medical observation is indicated.

#### **STOT-repeated exposure**

no data available

#### **Aspiration hazard**

No indication can be given about the rate at which a harmful concentration of this substance in the air is reached on evaporation at 20°C.

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## **SECTION 12: Ecological information**

#### **Toxicity**

Toxicity to fish: no data available

Toxicity to daphnia and other aquatic invertebrates: no data available

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

#### **Persistence and degradability**

no data available

#### **Bioaccumulative potential**

no data available

#### **Mobility in soil**

no data available

#### **Toxics Screening Level**

The current ITSL for Cumene Hydroperoxide (6 µg/m<sup>3</sup>) was derived on March 17, 2006 (see attached justification memo).

#### **Other adverse effects**

no data available

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## **SECTION 13: Disposal considerations**

#### **Disposal methods**

##### **Product**

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

##### **Contaminated packaging**

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

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## SECTION 14: Transport information

### UN Number

ADR/RID: UN3107 (For reference only, please check.)

IMDG: UN3107 (For reference only, please check.)

IATA: UN3107 (For reference only, please check.)

### UN Proper Shipping Name

ADR/RID: ORGANIC PEROXIDE TYPE E, LIQUID (For reference only, please check.)

IMDG: ORGANIC PEROXIDE TYPE E, LIQUID (For reference only, please check.)

IATA: ORGANIC PEROXIDE TYPE E, LIQUID (For reference only, please check.)

### Transport hazard class(es)

ADR/RID: 5.2 (For reference only, please check.)

IMDG: 5.2 (For reference only, please check.)

IATA: 5.2 (For reference only, please check.)

### Packing group, if applicable

ADR/RID: (For reference only, please check.)

IMDG: (For reference only, please check.)

IATA: (For reference only, please check.)

### Environmental hazards

ADR/RID: Yes

IMDG: Yes

IATA: Yes

### Special precautions for user

no data available

### Transport in bulk according to IMO instruments

no data available

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## SECTION 15: Regulatory information

### Safety, health and environmental regulations specific for the product in question

#### European Inventory of Existing Commercial Chemical Substances (EINECS)

Listed.

#### EC Inventory

Listed.

#### United States Toxic Substances Control Act (TSCA) Inventory

Listed.

#### **China Catalog of Hazardous chemicals 2015**

Listed.

#### **New Zealand Inventory of Chemicals (NZIoC)**

Listed.

#### **PICCS**

Listed.

#### **Vietnam National Chemical Inventory**

Listed.

#### **IECSC**

Listed.

#### **Korea Existing Chemicals List (KECL)**

Listed.

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## **SECTION 16: Other information**

### **Abbreviations and acronyms**

CAS: Chemical Abstracts Service

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

### **References**

IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>

HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>

IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: [http://www.echemportal.org/echemportal/index?pagelD=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pagelD=0&request_locale=en)

CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>

ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>

Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>

ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

### **Other Information**

The technical product can contain a certain amount of cumene (10-20%) which changes physical properties. Other UN number: 3109 Organic peroxide, type F. The symptoms of lung oedema often do not become manifest until a few hours have passed and they are aggravated by physical effort. Rest and medical observation are therefore essential. Immediate administration of an appropriate inhalation therapy by a

doctor, or by an authorized person, should be considered. Rinse contaminated clothing with plenty of water because of fire hazard.

**Disclaimer:**

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.