

# Material Safety Data Sheet

## **RH L-80** (CUMINE HYDROPEROXIDE)

### 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

**Product Identifier**

Cumyl hydroperoxide, 80% solution in aromatic solvent mixture

**Supplier**

Dakings Chemical (Shandong) Co.,Ltd.

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Dakings Chemical (Shandong) Co.,Ltd.

Relevant identified uses of the substance or mixture  
polymerization initiator

Date of last issue / Revision number

2023/06/18

Chemical family

Peroxides

### 2. HAZARDS IDENTIFICATION

May cause fire.

Harmful in contact with skin and if swallowed.

Toxic by inhalation.

Causes burns.

Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Information on hazardous ingredients

Chemical description

Cumyl hydroperoxide, 90% solution in aromatic solvent mixture

Composition / information on ingredients

Number	% (w/w)	CAS-number	Chemical name
1	83-85	000080-15-9	Cumyl hydroperoxide
2	7-13	000098-82-8	Cumene
3	5 - 8	000617-94-7	2-Phenylisopropanol
4	0.5 - 1.5	000098-86-2	Acetophenone

Number EC-number Classification according to Classification

Number	EC-number	Classification according to 1272/2008 as amended	Classification according to 67/548/EEC as amended
1	201-254-7		
2	202-704-5		
3	210-539-5		
4	202-707-8		

#### 4. FIRST AID MEASURES

##### Most important symptoms and effects

Harmful in contact with skin and if swallowed. Toxic by inhalation. Causes burns. Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed. Causes injury to the cornea and eyelids. Risk of serious damage to eyes

##### Description of first aid measures

###### General

Call a physician immediately.

###### Inhalation

Get medical attention immediately by calling a physician or a poison control center. Remove to fresh air. If not breathing, give artificial respiration. Oxygen may additionally be given, by trained personnel, if it is available.

###### Skin

Immediately flush skin with plenty of water while removing contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Thoroughly clean or destroy contaminated shoes.

###### Eye

Immediately start continuous flushing of eyes with water for at least 15 minutes. If easy to do, contact lenses should be removed during the flushing, by trained personnel. Hold the eyelids apart during the flushing to ensure rinsing the entire surface of the eye and lids with water. Get medical attention immediately.

###### Ingestion

DO NOT induce vomiting. Get medical attention immediately by calling a physician or a poison control center. If victim is conscious and alert, give a cupful of water. Never give anything by mouth to an unconscious or convulsing person. If vomiting occurs, the patient should lie on their left side while vomiting to reduce the risk of aspiration.

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

Persons with pre-existing skin, respiratory, and/or central nervous system disease may be at increased risk if exposed to this material.

This material is severely corrosive to the eyes and may cause delayed keratitis. The normally prescribed 15 minute eye irrigation after exposure may be difficult because of the severe pain. The prior installation of a topical ocular anesthetic is essential to facilitate a comprehensive ocular lavage. If swallowed, do not induce vomiting. Give patient plenty of water to drink. Ingestion of this corrosive material may result in severe ulceration, inflammation, and possible perforation of the upper alimentary tract, with hemorrhage and fluid loss. Aspiration of this material during induced emesis can result in severe lung injury. Contact a Poison Control Center for additional treatment information. Treat any additional effects symptomatically.

#### 5. FIRE-FIGHTING MEASURES

##### Extinguishing media

Water spray, alcohol resistant foam, sand, dry chemical powder, CO<sub>2</sub>.

##### Unsuitable extinguishing media

halons.

**Hazardous decomposition / combustion products**

CO<sub>2</sub>, Carbon monoxide, Carbon dioxide, Acetophenone, Methane, 2-Phenylisopropanol.

**Protective equipment**

Firefighters must wear fire resistant protective equipment. Wear approved respirator and protective gloves.

**Other information**

Evacuate all non-essential personnel. Extinguish a small fire with powder or carbon dioxide then apply water to prevent re-ignition. Cool closed containers with water. Water used to extinguish a fire should not be allowed to enter the drainage system or water courses. After a fire, ventilate thoroughly the area and soak with water, clean the walls and metallic surfaces.

**Fire and explosion hazard**

CAUTION: respiration may occur. Decomposition under effect of heating (See also Section Hazardous decomposition products). If involved in a fire, it will support combustion. Vapors may form explosive mixtures with air. In case of fire and/or explosion do not breathe fumes.

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions**

Use self-contained respiratory equipment. Avoid contact with skin and eyes. For personal protection see Section 8.

**Environmental precautions**

Do not allow to enter drains or water courses.

**Methods and material for containment and cleaning up**

Stop leakage if possible. Eliminate all sources of ignition, and do not generate flames or sparks. Transfer remaining product from leaking container to a clean and suitable container. Cover the remainder with inert absorbent (e.g. vermiculite) for disposal. Keep contents moist. The waste should NOT be confined. Flush surroundings with large amounts of water.

**Other information**

CAUTION: respiration may occur. Vapors are heavier than air and may spread along floors. Vapors may travel to source of ignition and flash back. Evacuate personnel to safe area.

**7. HANDLING AND STORAGE****Precautions for safe handling**

Never weigh out in the storage room. When using do not eat, drink or smoke. Do not pipet by mouth. Do not breathe fumes/vapor. Handle in well ventilated areas. Apply effective local ventilation. Eliminate all sources of ignition, and do not generate flames or sparks. Keep away from reducing agents (e.g. amines), acids, alkalis and heavy metal compounds (e.g. accelerators, driers, metal soaps). Keep product and emptied container away from heat and sources of ignition. Confinement must be avoided. Avoid contact with skin and eyes. Avoid Incompatible materials (See Section 10).

**Fire and explosion prevention**

Use explosion protected equipment. Keep away from sources of ignition - No smoking. Use non-sparking tools in areas where explosive vapor/air mixtures may occur. Do not cut or weld on or near this container even when empty.

**Conditions for safe storage**

Store in accordance with local/national regulations. Keep away from food, drink and animal feeding stuffs. Store in a dry well ventilated place away from sources of heat and direct sunlight. Store separate from other chemicals. Keep only in the original container. Keep container upright to prevent leakage.

**Storage**

Avoid temperatures below -30 °C. If product freezes or separates, contact RH CHEM.

For maximum quality store below: 40 °C.

**Other information**

It is recommended to use electrical equipment of temperature group T3. However, auto ignition can never be excluded.

Wash hands thoroughly after handling or contact. Keep work clothes separate and do not take them home.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Control parameters**

Ensure good ventilation and local exhaustion of the working area. Explosion proof ventilation recommended.

**Personal protection****Respiratory**

Do not breathe vapor ! In case of insufficient ventilation wear suitable respiratory equipment (respirator with Filter A).

**Hand**

Wear suitable protective gloves of neoprene or synthetic rubber.

**Eye**

Wear eye/face protection.

**Skin and body**

Wear suitable protective clothing.

**Other information**

Emergency-shower and facilities for rinsing eyes must be accessible. Launder clothes before reuse.

**Cumene**

skin Potential for cutaneous absorption

Time Weighted Average (TWA) 245 mg/m<sup>3</sup>

Time Weighted Average (TWA) 50 ppm

**9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance liquid
Color: colorless light yellow
Odor aromatic
Boiling point/range not applicable (Decomposes)
Melting point/freezing point: -30°C / -22°F
Flash point 83-85°C / 181-185°F
Flashpoint method, closed cup
Flammability, Decomposition products may be flammable.
Explosive properties, no
Oxidizing properties
not applicable
Vapor pressure 2.0 kPa (20°C / 68°F)
Density, 1060 kg/m <sup>3</sup> (20°C / 68°F)
Specific gravity = 1.06 (20°C / 68°F)
Bulk density, not applicable
Solubility in water slightly Miscible
Solubility in other solvents not determined
pH value slightly acidic
Partition coefficient n-octanol/water not determined
Relative vapor density (air=1) Cumene : 4.1.
Viscosity 37.3 mPa.s (0°C / 32°F)
Active oxygen content 8.5%
Peroxide content 81%
Autoignition temperature Test method not applicable (See Section 7)
SADT: 65 °C. See also Section 10.
Upper/lower flammability or explosive limits not determined
Volatile %, approx. 2%

**10. STABILITY AND REACTIVITY****Chemical stability**

SADT - (Self accelerating decomposition temperature) is the lowest temperature at which self accelerating decomposition may occur with a substance in the packaging as used in transport.

A dangerous self-accelerating decomposition reaction and, under certain circumstances, explosion or fire can be caused by thermal decomposition at and above the following temperature: 65 °C. Contact with incompatible substances can cause decomposition at or below the

SADT 65 °C.

#### Conditions to avoid

Avoid temperatures below -30 °C.

To maintain quality store in original closed container below: 40 °C.

A high degree of confinement must be avoided.

#### Incompatible materials

Avoid contact with rust, iron and Copper. Contact with incompatible materials such as acids, alkalies, heavy metals and reducing agents will result in hazardous decomposition. Do not mix with peroxide accelerators. Use only Stainless steel 316, PP, polyethylene or glass-lined equipment . Contact RH CHEM for more information.

#### Possibility of hazardous reactions

Polymerization does not occur.

#### Hazardous decomposition products

Hazardous decomposition products: Acetophenone, Methane, 2-Phenylisopropanol.

#### Other information

Emergency procedures will vary depending on conditions. The customer must have an emergency response plan in place. Contact RH CHEM for assistance with developing an emergency response plan.

### 11. TOXICOLOGICAL INFORMATION

No experimental toxicological data on the preparation as such available. The following data are applicable to the ingredient(s) listed below.

<b>Cumyl hydroperoxide</b>
<b>Acute toxicity</b>
Oral LD50
rat:382 mg/kg
Inhalation LC50
rat:220 ppm (4 hours exposure time )
Irritation
Skin
Severely irritating
Eye
Severely irritating
Sensitization
Not sensitizing
Genotoxicity
Ames test: Not mutagenic

<b>Cumene</b>
<b>Acute toxicity</b>
Oral LD50
rat: 2910 mg/kg
Dermal LD50
rabbit 12.300 mg/kg
Inhalation LC50

mouse 2000 ppm
Irritation
Skin
Mildly irritating
Eye
Mildly irritating

<b>2-Phenylisopropanol</b>
<b>Acute toxicity</b>
Oral LD50
rat: 1300 mg/kg ( Lit. )
Irritation
Skin
Irritating to skin ( Lit. )
Eye
Irritating to eyes ( Lit. )

## 12. ECOLOGICAL INFORMATION

No experimental ecological data are available on the preparation as such. The following data are applicable to the ingredient(s) listed below.

<b>Cumyl hydroperoxide</b>
<b>Ecotoxicity</b>
fish
Acute toxicity, 96h-LC50, 3.9 mg/l. ( Oncorhynchus mykiss.)
Fate
Degradation Biotic
Not readily biodegradable ( Closed bottle test ).

<b>Cumene</b>
<b>Ecotoxicity</b>
fish
Pimephales promelas: 96h-LC50: 6.32 mg/l
bacteria
Activated sludge respiration inhibition test EC50 = 17 mg/l.
Fate
Degradation Biotic
Readily biodegradable.
Other information
Bio Concentration Factor (BCF) = 35.5

## 13. DISPOSAL CONSIDERATIONS

<b>Product</b>
Due to the high risk of contamination recycling/recovery is not recommended. Waste disposal in accordance with regulations (most probably controlled incineration).
<b>Contaminated packaging</b>

According to local regulations. Emptied container might retain product residues. Follow all warnings even after the container is emptied. Do not wash residues into drains or other waterways.

**Other information**

For further advice contact RH CHEM.

## 14. TRANSPORT INFORMATION

Land transport
Transport hazard class: 5.2
Classification Code: P1
RID class: 5.2
Hazard Identification No.: 539
Substance Identification No. : 3109
UN number : 3109
Proper Shipping Name
Organic peroxide type F, liquid ( Cumyl hydroperoxide )
Other information
Bulk transport is not automatically allowed. Permission is necessary. Every shipment should be accompanied with a copy of the notification.
Required labels: 5.2 + 8
Subsidiary risk: 8

Sea transport (IMO / IMDG-code)
Transport hazard class
5.2
UN number
3109
EMS
F-J, S-R
Marine pollutant
yes
Proper Shipping Name
Organic peroxide type F, liquid ( Cumyl hydroperoxide )
Other information
Bulk transport is not automatically allowed. Permission is necessary. Every shipment should be accompanied with a copy of the notification.
Label(s): 5.2 + 8

Air transport (ICAO-TI / IATA-DGR)
UN number : 3109
Transport hazard class: 5.2
Proper Shipping Name
Organic peroxide type F, liquid ( Cumyl hydroperoxide )
Other information
Label(s); 5.2 + 8

## 15. REGULATORY INFORMATION

Product label name  
Cumyl hydroperoxide, 80% solution in aromatic solvent mixture  
Labelling according to EC directives  
EC-number  
not applicable

R(isk) phrase(s) (EU classification)

Code Description

R07. May cause fire.

R21/22. Harmful in contact with skin and if swallowed.

R23. Toxic by inhalation.

R34. Causes burns.

R48/20/22. Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.

R51/53. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S(afety) phrase(s) (EU classification)

Code and Description

S03/07. Keep container tightly closed in a cool place.

S14B. Keep away from reducing agents (e.g. amines), acids, alkalies and heavy metal compounds (e.g. accelerators, driers, metal soaps).

S26. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S36/37/39. Wear suitable protective clothing, gloves and eye/face protection.

S45. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S50D. Do not mix with peroxide-accelerators or reducing agents.

S61. Avoid release to the environment. Refer to special instructions/Safety data sheets.

Classification according to 67/548/EC as amended



DANGEROUS FOR  
THE ENVIRONMENT  
(N)

OXIDIZING (O)

TOXIC (T)

Other information

Substance and/or product listed in Directive 96/82/EC.

#### 16. OTHER INFORMATION

Relevant hazard statements		
Chemical name	Hazard statement(s) (GHS-classification)	