

Section 1. Product and Company Identification

**Product Name** Cumene Hydroperoxide  
**CAS Number** 80-15-9

**Parchem - fine & specialty chemicals**

**415 Huguenot Street**  
**New Rochelle, NY 10801**

 **(914) 654-6800**  **(914) 654-6899**

 **parchem.com**  **info@parchem.com**

EMERGENCY RESPONSE NUMBER  
CHEMTEL

Toll Free US & Canada: 1 (800) 255-3924

All other Origins: 1 (813) 248-0585

Collect Calls Accepted

Section 2. Hazards Identification

**Classification of the substance or mixture**

**GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Flammable liquids (Category 4): H227

Organic peroxides (Type F): H242

Acute toxicity, Oral (Category 4): H302

Acute toxicity, Inhalation (Category 3): H331

Acute toxicity, Dermal (Category 4): H312

Skin corrosion (Category 1B): H314

Serious eye damage (Category 1): H318

Specific target organ toxicity - single exposure (Category 3), Respiratory system: H335

Specific target organ toxicity - repeated exposure (Category 2): H373

Aspiration hazard (Category 1): H304

Acute aquatic toxicity (Category 2): H401

Chronic aquatic toxicity (Category 2): H411

**GHS Label Elements**

**Pictograms:**



**Signal word:** DANGER

**Hazard and precautionary statements**

**Hazard statements**

H227: Combustible liquid.

H242: Heating may cause a fire.

H302 + H312: Harmful if swallowed or in contact with skin



H304: May be fatal if swallowed and enters airways.  
H314: Causes severe skin burns and eye damage.  
H331: Toxic if inhaled.  
H335: May cause respiratory irritation.  
H373: May cause damage to organs through prolonged or repeated exposure.  
H411: Toxic to aquatic life with long lasting effects.

#### Precautionary statements

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/vapors/spray.  
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.  
P301 + P310 if swallowed: Immediately call a POISON CENTER or doctor/ physician.  
P301 + P330 + P331 if swallowed, Rinse mouth. Do not induce vomiting.  
P303 + P361 + P353 if on skin (or hair), Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P304 + P340: if inhaled, Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P305 + P351 + P338: if in eyes, Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P310: Immediately call a POISON CENTER or doctor/ physician.  
P322: Specific measures (see supplemental first aid instructions on this label).  
P363: Wash contaminated clothing before reuse.  
P370 + P378: In case of fire, Use dry sand, dry chemical or alcohol-resistant foam for extinction.  
P391: Collect spillage.  
P403 + P233: Store in a well-ventilated place. Keep container tightly closed.  
P405: Store locked up.  
P410: Protect from sunlight.  
P420: Store away from other materials.  
P501: Dispose of contents/ container to an approved waste disposal plant.

**Hazards not otherwise classified (HNOC) or not covered by GHS:** None

Section 3. Composition / Information on Ingredients

**Common Name** Cumene Hydroperoxide  
**Formula** C<sub>9</sub>H<sub>12</sub>O<sub>2</sub>  
**CAS Number** 80-15-9

COMPONENT	CAS NUMBER	CONCENTRATION
Cumene hydroperoxide	80-15-9	70 – 90%
Cumene	–	20 – 30%
2-Phenylpropan-2-ol	–	10 – 20%

Section 4. First Aid Measures

**Description of first-aid measures**

**General advice:** Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

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

**Skin contact:** Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

**Eye contact:** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

**Ingestion:** Do not induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**Most important symptoms and effects, both acute and delayed:** The most important known symptoms and effects are described in the labelling and/or in section 11.

**Indication of any immediate medical attention and special treatment needed:** No data available

Section 5. Firefighting Measures

**Suitable extinguishing media:** Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

**Special hazards arising from the substance or mixture:** Carbon oxides

**Advice for firefighters:** Wear self-contained breathing apparatus for firefighting if necessary.

**Further information:** Use water spray to cool unopened containers.

Section 6. Accidental Release Measures

**Personal precautions, protective equipment and emergency procedures:** Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form



explosive concentrations. Vapors can accumulate in low areas. For personal protection see section 8.

**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.

**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).

**Reference to other sections:** For disposal see section 13.

Section 7. Handling and Storage

**Precautions for safe handling:** Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the buildup of electrostatic charge. Keep away from heat and sources of ignition.

For precautions see section 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.

Recommended storage temperature 2 - 8°C

Section 8. Exposure Controls / Personal Protection

**Control parameters**

**Components with workplace control parameters**

Component	CAS #	Value	Control Parameters	Basics
Cumene hydroperoxide	80-15-9	TWA	1.000000 ppm	USA. Workplace Environmental Exposure Levels (WEEL)
	Remarks	Skin		
Cumene	98-82-8	TWA	50.000000 ppm	USA. ACGIH Threshold Limit Values (TLV)
		Central Nervous System impairment Upper Respiratory Tract irritation Eye irritation Skin irritation		
		TWA	50.000000 ppm 245.000000 mg/m <sup>3</sup>	USA. NIOSH Recommended Exposure Limits
		Potential for dermal absorption		
		TWA	50.000000 ppm 245.000000 mg/m <sup>3</sup>	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		Skin designation The value in mg/m <sup>3</sup> is approximate.		



### Exposure controls

**Appropriate engineering controls:** Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

### Personal protective equipment

**Eye/face protection:** Tightly fitting safety goggles. Face shield (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.

**Body Protection:** Complete suit protecting against chemicals, 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 multipurpose 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

## Section 9. Physical and Chemical Properties

### Information on basic physical and chemical properties

**Form:** Liquid

**Odor:** No data available

**Odor Threshold:** No data available

**pH:** No data available

**Melting point/freezing point:** No data available

**Initial boiling point and boiling range:** 100 - 101°C (212 - 214°F) at 11 hPa (8 mmHg) - lit.

**Flash point (Closed Cup):** 79°C (174°F)

**Evaporation rate:** No data available

**Flammability (solid, gas):** No data available

**Upper/lower flammability or explosive limits:** No data available

**Vapor pressure:** 0.5 hPa (0.4 mmHg) at 55°C (131°F) < 0.04 hPa (< 0.03 mmHg) at 20°C (68°F)

**Vapor density:** 5.25 - (Air = 1.0)

**Relative density:** 1.05 g/cm<sup>3</sup> at 25°C (77°F)

**Water solubility:** Soluble

**Partition coefficient: n-octanol/water:** No data available

**Auto-ignition temperature:** No data available

**Decomposition temperature:** 70°C (158°F) - Self-Accelerating decomposition temperature (SADT)

**Viscosity:** No data available

**Explosive properties:** No data available

**Oxidizing properties:** No data available

#### Other safety information

**Relative vapor density:** 5.25 - (Air = 1.0)

#### Section 10. Stability and Reactivity

**Reactivity:** No data available

**Chemical stability:** Self-Accelerating decomposition temperature (SADT) 70°C. Stable under recommended storage conditions.

**Possibility of hazardous reactions:** No data available

**Conditions to avoid:** Do not expose to temperatures above: 40°C, heat, flames and sparks.

**Incompatible materials:** Powdered metals, Organic materials, Heavy metal salts, metal salts, Combustible material, Acids, Alkalis, Reducing agents, Rust, charcoal, Amines, Copper, Lead, Cobalt/cobalt oxides

#### Hazardous decomposition products

**Other decomposition products:** No data available

**In the event of fire:** see section 5

#### Section 11. Toxicological Information

#### Information on toxicological effects

##### Acute toxicity

**LD50 Oral:** Rat - male - 1,470 mg/kg (Cumene hydroperoxide)

**LC50 Inhalation:** Rat - male - 4 h - 1.37 mg/l (Cumene hydroperoxide)

**LD50 Dermal:** Rat - male and female - 1,200 - 1,520 mg/kg (Cumene hydroperoxide)

##### Skin corrosion/irritation

**Skin:** Rabbit (Cumene hydroperoxide)

**Result:** Causes burns. - 72 h

**Serious eye damage/eye irritation:** No data available (Cumene hydroperoxide)

**Respiratory or skin sensitization:** No data available (Cumene hydroperoxide)

**Germ cell mutagenicity** Ames test (Cumene hydroperoxide), *S. typhimurium*

**Result:** positive

(Cumene hydroperoxide)

**Mouse:** Male and female

**Result:** Negative

**Carcinogenicity**

**Carcinogenicity:** Mouse - Subcutaneous

**Tumorigenic:** Equivocal tumorigenic agent by RTECS criteria. Tumorigenic: Tumors at site or application. (Cumene hydroperoxide)

**Carcinogenicity:** Mouse - Unreported

**Tumorigenic:** Equivocal tumorigenic agent by RTECS criteria. Blood: Lymphomas including Hodgkin's disease. Skin and Appendages: Other: Tumors. (Cumene hydroperoxide)

**IARC:** 2B - Group 2B: Possibly carcinogenic to humans (Cumene)

**ACGIH:** No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

**NTP:** No components 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 components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity:** No data available (Cumene hydroperoxide)

**Specific target organ toxicity - single exposure:** No data available (Cumene hydroperoxide)

**Specific target organ toxicity - repeated exposure:** No data available

**Aspiration hazard:** No data available (Cumene hydroperoxide)

**Additional Information**

**RTECS:** MX2450000

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Cough, Shortness of breath, Headache, Nausea (Cumene hydroperoxide)

Stomach - Irregularities - Based on Human Evidence

Stomach - Irregularities - Based on Human Evidence (Cumene hydroperoxide)

Stomach - Irregularities - Based on Human Evidence (Cumene)

Section 12. Ecological Information

**Toxicity**

**Toxicity to fish:** Semi-static test LC50 - *Oncorhynchus mykiss* (rainbow trout) - 3.9 mg/l - 96 h (Cumene hydroperoxide) (OECD Test Guideline 203)

**Toxicity to daphnia and other aquatic invertebrates:** Immobilization EC50 - *Daphnia magna* (Water flea) - 18.84 mg/l - 48 h (Cumene hydroperoxide) (OECD Test Guideline 202)

**Toxicity to algae:** Growth inhibition EC50 - *Desmodesmus subspicatus* (*Scenedesmus subspicatus*) - 3.1 mg/l - 72 h (Cumene hydroperoxide) (OECD Test Guideline 201)



**Persistence and degradability**

**Biodegradability:** aerobic - Exposure time 28 d (Cumene hydroperoxide)

**Result:** 2 % - Not readily biodegradable. (OECD Test Guideline 301B)\

**Bioaccumulative potential**

**Mobility in soil:** No data available (Cumene hydroperoxide)

**Results of PBT and vPvB assessment:** PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**Other adverse effects:** An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Toxic to aquatic life with long lasting effects

Section 13. Disposal Considerations

**Waste Treatment Methods:** Dispose of product and contaminated packaging in accordance with all local, state, and federal environmental control regulations.

Section 14. Transport Information

**DOT (US)**

**UN number:** 3109

**Class:** 5.2

**Packing group:** II

**Proper shipping name:** Organic peroxide type F, liquid (Cumyl hydroperoxide, ≤90%) (Cumene hydroperoxide)

**Reportable Quantity (RQ):** 12 lbs

**Poison Inhalation Hazard:** No

**IMDG**

**UN number:** 3109

**Class:** 5.2 (8)

**EMS-No:** F-J, S-R

**Proper shipping name:** Organic Peroxide Type F, Liquid (Cumyl Hydroperoxide) (Cumene hydroperoxide)

**Marine pollutant:** yes

**IATA**

**UN number:** 3109

**Class:** 5.2 (HEAT, 8)

**Proper shipping name:** Organic peroxide type F, liquid (Cumyl hydroperoxide) (Cumene hydroperoxide)





Section 15. Regulatory Information

**SARA 302 Components:** No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components:** The following components are subject to reporting levels established by SARA Title III, Section 313: Cumene (98-82-8), Cumene hydroperoxide (80-15-9)

**SARA 311/312 Hazards:** Fire Hazard, Reactivity Hazard, Acute Health Hazard, Chronic Health Hazard

**Massachusetts Right To Know Components:** Cumene hydroperoxide (80-15-9), Cumene (98-82-8)

**Pennsylvania Right To Know Components:** Cumene hydroperoxide (80-15-9), Cumene (98-82-8), 2-Phenylpropan-2-ol (617-94-7)

**New Jersey Right To Know Components:** Cumene hydroperoxide (80-15-9), Cumene (98-82-8), 2-Phenylpropan-2-ol (617-94-7)

**California Prop. 65 Components:** Warning! This product contains a chemical known to the State of California to cause cancer. Cumene (98-82-8)

**HMIS Rating**

**Health hazard:** 3\*

**Flammability:** 2

**Physical Hazard:** 1

**NFPA Rating**

**Health hazard:** 3

**Fire Hazard:** 2

**Reactivity Hazard:** 1

**Special Hazard:** OX

Section 16. Other Information

**Disclaimer:** 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.

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