SAFETY DATA SHEET

Revision Date 13-Jul-2020 **Revision Number** 5

1. Identification

Product Name **Cumyl hydroperoxide**

Cat No. : **L06866**

CAS-No 80-15-9
Synonyms Cumene hydroperoxide

Recommended Use Laboratory chemicals.
Uses advised against Food, drug, pesticide or biocidal product use.
Details of the supplier of the safety data sheet

Company
Alfa Aesar
Thermo Fisher Scientific Chemicals, Inc.
30 Bond Street
Ward Hill, MA 01835-8099
Tel: 800-343-0660
Fax: 800-322-4757
Email: tech@alfa.com
www.alfa.com

Emergency Telephone Number
During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660.
After normal business hours, call Carechem 24 at (866) 928-0789.

2. Hazard(s) identification

Classification
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids	Category 3
Organic peroxides	Type E
Acute oral toxicity	Category 4
Acute dermal toxicity	Category 4
Acute Inhalation Toxicity - Vapors	Category 3
Skin Corrosion/Irritation	Category 1 B
Serious Eye Damage/Eye Irritation	Category 1
Carcinogenicity	Category 1B
Specific target organ toxicity (single exposure) Target Organs - Respiratory system.	Category 3
Specific target organ toxicity - (repeated exposure) Target Organs - Lungs.	Category 2
Aspiration Toxicity	Category 1

Label Elements

Signal Word
Danger

Hazard Statements
Flammable liquid and vapor
Heating may cause a fire
May be fatal if swallowed and enters airways
Causes severe skin burns and eye damage
May cause respiratory irritation
Toxic if inhaled
May cause cancer
May cause damage to organs through prolonged or repeated exposure
Harmful if swallowed or in contact with skin

Precautionary Statements
Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area
Do not breathe dust/fume/gas/mist/vapors/spray
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use explosion-proof electrical/ventilating/lighting/equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Keep/Store away from clothing/ other combustible materials
Keep only in original container
Keep cool
Response
Immediately call a POISON CENTER or doctor/physician
Inhalation
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Skin
Wash contaminated clothing before reuse
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Ingestion
Do NOT induce vomiting
Rinse mouth
Fire
In case of fire: Use CO2, dry chemical, or foam for extinction
Storage
Store locked up
Store in a well-ventilated place. Keep container tightly closed

Store at temperatures not exceeding 40 °C/ 104 °F. Keep cool
Protect from sunlight
Store away from other materials

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Toxic to aquatic life with long lasting effects
WARNING. Cancer - https://www.p65warnings.ca.gov/.

3. Composition/Information on Ingredients

Component	CAS-No	Weight %
Cumene hydroperoxide	80-15-9	80
Cumene	98-82-8	20

4. First-aid measures

General Advice Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.

Inhalation Remove to fresh air. Get medical attention immediately if symptoms occur.

Ingestion Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

Most important symptoms and effects None reasonably foreseeable. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

Notes to Physician Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media Carbon dioxide (CO_2). Powder. Water spray. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion. CO_2, dry chemical, dry sand, alcohol-resistant foam. Water mist may be used to cool closed containers.

Unsuitable Extinguishing Media No information available

Flash Point 56 °C / 132.8 °F

Method - No information available

Autoignition Temperature No information available

Explosion Limits

Upper No data available
Lower No data available
Sensitivity to Mechanical Impact No information available
Sensitivity to Static Discharge No information available

Specific Hazards Arising from the Chemical
Thermal decomposition can lead to release of irritating gases and vapors. The product causes burns of eyes, skin and mucous membranes. Flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

Hazardous Combustion Products
Carbon monoxide (CO). Carbon dioxide (CO_2).
Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

Health	Flammability	Instability	Physical hazards
0	0	0	-

6. Accidental release measures

Personal Precautions Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation.

Environmental Precautions Should not be released into the environment.

Methods for Containment and Clean Up Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

7. Handling and storage

Handling Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Avoid ingestion and inhalation. Avoid dust formation.

Storage Keep refrigerated. Corrosives area. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame.

8. Exposure controls / personal protection

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL (TWA)
Cumene	TWA: 50 ppm	(Vacated) TWA: 50 ppm (Vacated) TWA: 245 mg/m³ Skin TWA: 50 ppm TWA: 245 mg/m³	IDLH: 900 ppm TWA: 50 ppm TWA: 245 mg/m³	TWA: 50 ppm

Legend

ACGIH - American Conference of Governmental Industrial Hygienists
OSHA - Occupational Safety and Health Administration
NIOSH IDLH: NIOSH - National Institute for Occupational Safety and Health

Engineering Measures None under normal use conditions.

Personal Protective Equipment

Eye/face Protection Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection No protective equipment is needed under normal use conditions.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Physical State	Liquid
Appearance	No information available
Odor	No information available
Odor Threshold	No information available
pH	Not applicable
Melting Point/Range	-30 °C / -22 °F
Boiling Point/Range	250 - 102 °C / 482 - 215.6 °F @ 8mmHg
Flash Point	56 °C / 132.8 °F
Evaporation Rate	No information available
Flammability (solid,gas)	Not applicable
Flammability or explosive limits	
Upper	No data available
Lower	No data available
Vapor Pressure	No information available
Vapor Density	No information available
Specific Gravity	1.03 g/cm3
Solubility	No information available
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	No information available
Decomposition Temperature	No information available
Viscosity	No information available
Molecular Formula	C9 H12 O2
Molecular Weight	152.20
Refractive index	1.5242

10. Stability and reactivity

Reactive Hazard Yes

Stability Stable under normal conditions.

Conditions to Avoid Keep away from open flames, hot surfaces and sources of ignition.

Incompatible Materials Reducing Agent

Hazardous Decomposition Products Carbon monoxide (CO), Carbon dioxide (CO_2)

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information

Oral LD50	Category 4. ATE = 300 - 2000 mg/kg.
Dermal LD50	Category 4. ATE = 1000 - 2000 mg/kg.
Vapor LC50	Category 3. ATE = 2 - 10 mg/l.

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Cumene hydroperoxide	LD50 = 382 mg/kg (Rat)	LD50 = 0.126 mL/kg (Rabbit)	LC50 = 220 ppm (Rat) 4 h
Cumene	1400 mg/kg (Rat) 2700 mg/kg (Rat)	LD50 = 12300 µL/kg (Rabbit)	LC50 > 3577 ppm (Rat) 6 h LC50 = 39000 mg/m³ (Rat) 4 h

Toxicologically Synergistic No information available

Products

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation No information available

Sensitization No information available

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Cumene hydroperoxide	80-15-9	Not listed	Not listed	Not listed	Not listed	Not listed
Cumene	98-82-8	Group 2B	Reasonably Anticipated	Not listed	X	Not listed

IARC (International Agency for Research on Cancer)

NTP: (National Toxicity Program)

IARC (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
Group 2A - Probably Carcinogenic to Humans
Group 2B - Possibly Carcinogenic to Humans
NTP: (National Toxicity Program)
Known - Known Carcinogen
Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

Mutagenic Effects No information available

Reproductive Effects No information available.

Developmental Effects No information available.

Teratogenicity No information available.

STOT - single exposure Respiratory system
STOT - repeated exposure Lungs

Aspiration hazard No information available

Symptoms / effects,both acute and delayed Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

Endocrine Disruptor Information No information available

Other Adverse Effects The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity

The product contains following substances which are hazardous for the environment. Contains a substance which is:. Very toxic to aquatic organisms.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Cumene hydroperoxide	Not listed	LC50: = 3.9 mg/L, 96h static (Oncorhynchus mykiss)	Not listed	EC50: = 7 mg/L, 24h (Daphnia magna)
Cumene	EC50: = 2.6 mg/L, 72h (Pseudokirchneriella subcapitata)	LC50: = 2.7 mg/L, 96h semi-static (Oncorhynchus mykiss) LC50: = 4.8 mg/L, 96h flow-through (Oncorhynchus mykiss) LC50: 6.04 - 6.61 mg/L, 96h flow-through (Pimephales promelas) LC50: = 5.1 mg/L, 96h	EC50 = 0.89 mg/L 5 min EC50 = 1.10 mg/L 15 min EC50 = 1.48 mg/L 30 min EC50 = 172 mg/L 24 h	EC50: 7.9 - 14.1 mg/L, 48h Static (Daphnia magna) EC50: = 0.6 mg/L, 48h (Daphnia magna)

		semi-static (Poecilia reticulata)		

Persistence and Degradability Immiscible with water May persist based on information available.

Bioaccumulation/ Accumulation No information available.

Mobility Is not likely mobile in the environment due its low water solubility.

Component	log Pow
Cumene	3.7

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

Component	RCRA - U Series Wastes	RCRA - P Series Wastes
Cumene hydroperoxide - 80-15-9	U096	-
Cumene - 98-82-8	U055	-

14. Transport information

DOT

UN-No UN3109
Proper Shipping Name ORGANIC PEROXIDE TYPE F, LIQUID
Technical Name (Cumene hydroperoxide)
Hazard Class 5.2

TDG

UN-No UN3109
Proper Shipping Name ORGANIC PEROXIDE TYPE F, LIQUID
Hazard Class 5.2

IATA

UN-No UN3109
Proper Shipping Name ORGANIC PEROXIDE TYPE F, LIQUID
Hazard Class 5.2
Subsidiary Hazard Class 8

IMDG/IMO

UN-No UN3109
Proper Shipping Name ORGANIC PEROXIDE TYPE F, LIQUID
Hazard Class 5.2

15. Regulatory information

United States of America Inventory

Component	CAS-No	TSCA	TSCA Inventory notification - Active/Inactive	TSCA - EPA Regulatory Flags
Cumene hydroperoxide	80-15-9	X	ACTIVE	-
Cumene	98-82-8	X	ACTIVE	-

Legend:
TSCA - Toxic Substances Control Act, (40 CFR Part 710)
X - Listed
'-' - Not Listed

TSCA 12(b) - Notices of Export Not applicable

International Inventories
Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Australia (AICS), China (IECSC), Korea (ECL).

Component	CAS-No	DSL	NDSL	EINECS	PICCS	ENCS	AICS	IECSC	KECL
Cumene hydroperoxide	80-15-9	X	-	201-254-7	X	X	X	X	KE-24814
Cumene	98-82-8	X	-	202-704-5	X	X	X	X	KE-23957

U.S. Federal Regulations

SARA 313

Component	CAS-No	Weight %	SARA 313 - Threshold Values %
Cumene hydroperoxide	80-15-9	80	1.0
Cumene	98-82-8	20	0.1

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act) Not applicable

Clean Air Act

Component	HAPS Data	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Cumene	X		-

OSHA - Occupational Safety and Health Administration Not applicable

Component	Specifically Regulated Chemicals	Highly Hazardous Chemicals
Cumene hydroperoxide	-	TQ: 5000 lb

CERCLA Not applicable

Component	Hazardous Substances RQs	CERCLA EHS RQs
Cumene hydroperoxide	10 lb	-
Cumene	5000 lb	-

California Proposition 65 This product contains the following Proposition 65 chemicals.

Component	CAS-No	California Prop. 65	Prop 65 NSRL	Category
Cumene	98-82-8	Carcinogen	-	Carcinogen

U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Cumene hydroperoxide	X	X	X	-	X
Cumene	X	X	X	X	X

U.S. Department of Transportation

Reportable Quantity (RQ): Y
DOT Marine Pollutant N
DOT Severe Marine Pollutant N

U.S. Department of Homeland Security This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

16. Other information

Prepared By Health, Safety and Environmental Department
Email: tech@alfa.com
www.alfa.com

Revision Date	13-Jul-2020
Print Date	13-Jul-2020
Revision Summary	SDS authoring systems update, replaces ChemGes SDS No. 80-15-9.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS