

# SAFETY DATA SHEET

## NOROX<sup>®</sup> CHP



Version 3.0      Revision Date: 08/07/2023      SDS Number: 600000000292      Date of last issue: 04/09/2021  
Date of first issue: 12/19/2016

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### SECTION 1. IDENTIFICATION

Trade name : NOROX<sup>®</sup> CHP

CAS-No. : 80-15-9

#### Manufacturer or supplier's details

Company name of supplier : United Initiators, Inc.

Address : 555 Garden Street  
Elyria OH 44035 USA

Telephone : +1-440-323-3112

Telefax : +1-440-323-2659

Emergency telephone : CHEMTREC US (24h): +1-800-424-9300  
CHEMTREC WORLD (24h): +1-703-527-3887

E-mail address of person responsible for the SDS : cs-initiators.nafta@united-in.com

#### Recommended use of the chemical and restrictions on use

Recommended use : polymerization initiators

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### SECTION 2. HAZARDS IDENTIFICATION

#### GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids : Category 4

Flammable liquids : Category 4

Organic peroxides : Type F

Acute toxicity (Oral) : Category 4

Acute toxicity (Inhalation) : Category 3

Acute toxicity (Dermal) : Category 4

Skin corrosion : Category 1B

Serious eye damage : Category 1

Carcinogenicity : Category 1B

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

Specific target organ toxicity : Category 2  
- repeated exposure

Aspiration hazard : Category 1

Short-term (acute) aquatic hazard : Category 2

Long-term (chronic) aquatic hazard : Category 2

### GHS label elements

Hazard pictograms :



Signal Word : Danger

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.  
H350 May cause cancer.  
H373 May cause damage to organs through prolonged or repeated exposure.  
H411 Toxic to aquatic life with long lasting effects.

Precautionary Statements :

#### **Prevention:**

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/ strong acids, bases, heavy metal salts and other reducing substances /combustible materials.  
P234 Keep only in original container.  
P260 Do not breathe mist or vapors.  
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/

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face protection.

### Response:

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

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

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

P363 Wash contaminated clothing before reuse.

P370 + P378 In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish.

P391 Collect spillage.

### Storage:

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

P405 Store locked up.

P410 Protect from sunlight.

P411 + P235 Store at temperatures not exceeding < 30 °C/ < 86 °F. Keep cool.

P420 Store away from other materials.

### Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

### Other hazards

None known.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance  
Chemical nature : Organic Peroxide  
Substance name : Cumene hydroperoxide  
CAS-No. : 80-15-9

### Components

Chemical name	CAS-No.	Concentration (% w/w)
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Cumene hydroperoxide	80-15-9	>= 80 - < 85
Cumene	98-82-8	>= 10 - < 15
Benzenemethanol, alpha,alpha-dimethyl-acetophenone	617-94-7	>= 1 - < 5
	98-86-2	>= 1 - < 5

Actual concentration is withheld as a trade secret

### SECTION 4. FIRST AID MEASURES

- General advice : Take off contaminated clothing and shoes immediately.  
Call a physician immediately.  
Never give anything by mouth to an unconscious person.  
If unconscious, place in recovery position and seek medical advice.  
Move out of dangerous area.  
Show this material safety data sheet to the doctor in attendance.  
Do not leave the victim unattended.  
Symptoms of poisoning may appear several hours later.  
No artificial respiration, mouth-to-mouth or mouth to nose. Use suitable instruments/apparatus.
- If inhaled : Administer oxygen if breathing is difficult or cyanosis is observed.  
Call a physician immediately.  
If breathed in, move person into fresh air.  
If not breathing, give artificial respiration.  
Contact a poison control center.  
Respiratory tract burning possible if aerosols are inhaled.  
Call a physician or poison control center immediately.  
If unconscious, place in recovery position and seek medical advice.  
Keep respiratory tract clear.
- In case of skin contact : If symptoms persist, call a physician.  
Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.  
In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.  
Wash contaminated clothing before re-use.  
If on skin, rinse well with water.  
If on clothes, remove clothes.
- In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness.  
In the case of contact with eyes, rinse immediately with plenty

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- of water and seek medical advice.  
Continue rinsing eyes during transport to hospital.  
Remove contact lenses.  
Protect unharmed eye.  
Keep eye wide open while rinsing.  
If eye irritation persists, consult a specialist.
- If swallowed : Call a physician immediately.  
Contact a poison control center.  
Rinse mouth thoroughly with water.  
Keep respiratory tract clear.  
If symptoms persist, call a physician.
- Most important symptoms and effects, both acute and delayed : Harmful if swallowed or in contact with skin.  
May be fatal if swallowed and enters airways.  
Causes serious eye damage.  
Toxic if inhaled.  
May cause respiratory irritation.  
May cause cancer.  
May cause damage to organs through prolonged or repeated exposure.  
Causes severe burns.
- Protection of first-aiders : First Aid responders should pay attention to self-protection and use the recommended protective clothing
- Notes to physician : Treat symptomatically and supportively.
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### SECTION 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Water spray jet  
Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical
- Unsuitable extinguishing media : High volume water jet
- Specific hazards during fire fighting : Risk of explosion if heated under confinement.  
Possible emission of gaseous decomposition products may lead to a dangerous pressure build-up.  
Avoid confinement.  
Contact with incompatible materials or exposure to temperatures exceeding SADT may result in a self-accelerating decomposition reaction with release of flammable vapors which may auto-ignite.
- The product burns violently.  
Flash back possible over considerable distance.  
Do not allow run-off from fire fighting to enter drains or water courses.

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Vapors may form explosive mixtures with air.  
The product will float on water and can be reignited on surface water.  
Cool closed containers exposed to fire with water spray.

Specific extinguishing methods : Do not use a solid water stream as it may scatter and spread fire.  
Remove undamaged containers from fire area if it is safe to do so.  
Use water spray to cool unopened containers.

Further information : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
Use a water spray to cool fully closed containers.  
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary.  
Use personal protective equipment.

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### SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Follow safe handling advice and personal protective equipment recommendations.  
Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.  
Use personal protective equipment.  
Ensure adequate ventilation.  
Remove all sources of ignition.  
Evacuate personnel to safe areas.  
Never return spills in original containers for re-use.  
Treat recovered material as described in the section "Disposal considerations".

Environmental precautions : Prevent product from entering drains.  
Prevent further leakage or spillage if safe to do so.  
If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up : Contact with incompatible substances can cause decomposition at or below SADT.  
Clear spills immediately.  
Suppress (knock down) gases/vapors/mists with a water spray jet.  
To clean the floor and all objects contaminated by this material, use plenty of water.  
Soak up with inert absorbent material.  
Isolate waste and do not reuse.

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Non-sparking tools should be used.  
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.

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### SECTION 7. HANDLING AND STORAGE

- Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
- Advice on protection against fire and explosion : Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors).  
Keep away from heat and sources of ignition.  
Use only explosion-proof equipment.  
Keep away from open flames, hot surfaces and sources of ignition.  
Keep away from combustible material.  
Do not spray on a naked flame or any incandescent material.
- Advice on safe handling : Open drum carefully as content may be under pressure.  
Protect from contamination.  
Do not swallow.  
Do not breathe vapors/dust.  
Avoid exposure - obtain special instructions before use.  
Avoid contact with skin and eyes.  
Avoid formation of aerosol.  
Take precautionary measures against static discharges.  
Never return any product to the container from which it was originally removed.  
Provide sufficient air exchange and/or exhaust in work rooms.  
Avoid confinement.  
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
Smoking, eating and drinking should be prohibited in the application area.  
Wash thoroughly after handling.  
For personal protection see section 8.
- Conditions for safe storage : Store in original container.  
Keep containers tightly closed in a cool, well-ventilated place.  
Store in cool place.  
Contamination may result in dangerous pressure increases - closed containers may rupture.  
Prevent unauthorized access.  
Observe label precautions.  
Store in accordance with the particular national regulations.  
Avoid impurities (e.g. rust, dust, ash), risk of decomposition.  
Electrical installations / working materials must comply with the technological safety standards.

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Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Materials to avoid : Keep away from strong acids, bases, heavy metal salts and other reducing substances.

Recommended storage temperature : < 30 °C

< 86 °F

Further information on storage stability : No decomposition if stored normally.

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### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Cumene hydroperoxide	80-15-9	TWA	1 ppm	US WEEL
Cumene	98-82-8	TWA	5 ppm	ACGIH
		TWA	50 ppm 245 mg/m <sup>3</sup>	NIOSH REL
		TWA	50 ppm 245 mg/m <sup>3</sup>	OSHA Z-1
		TWA	50 ppm 245 mg/m <sup>3</sup>	OSHA P0
acetophenone	98-86-2	TWA	10 ppm	ACGIH
		TWA	10 ppm	US WEEL

**Engineering measures** : Minimize workplace exposure concentrations.

#### Personal protective equipment

Respiratory protection : In the case of dust or aerosol formation use respirator with an approved filter.

Filter type : ABEK-filter

Use NIOSH approved respiratory protection.

#### Hand protection

Material : Nitrile rubber  
Break through time : < 30 min  
Glove thickness : 0.40 mm

Material : butyl-rubber  
Break through time : < 30 min  
Glove thickness : 0.70 mm



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- Remarks : The data about break through time/strength of material are standard values! The exact break through time/strength of material has to be obtained from the producer of the protective glove. Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work.  
For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.
- Eye protection : Ensure that eyewash stations and safety showers are close to the workstation location.  
Please follow all applicable local/national requirements when selecting protective measures for a specific workplace.  
Always wear eye protection when the potential for inadvertent eye contact with the product cannot be excluded.  
Tightly fitting safety goggles  
Please wear suitable protective goggles. Also wear face protection if there is a splash hazard.
- Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.  
  
Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, disposable suits) to avoid exposed skin surfaces.  
Wear as appropriate:  
Flame retardant antistatic protective clothing.
- Protective measures : The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
- Hygiene measures : Avoid contact with skin, eyes and clothing.  
Keep away from food and drink.  
When using do not eat or drink.  
When using do not smoke.  
Wash hands before breaks and immediately after handling the product.

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### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : liquid
- Color : Colorless to pale yellow

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Odor : aromatic

Odor Threshold : No data available

pH : 5 - 6

Melting point/range : -9 °C

Boiling point/boiling range : 53 °C  
(0.13 hPa)

Flash point : ca. 63 °C  
Method: closed cup

Flammability (solid, gas) : Not applicable

Flammability (liquids) : Flammable liquid

Self-ignition : The substance or mixture is not classified as pyrophoric.

Upper explosion limit / Upper flammability limit : Upper explosion limit  
No data available

Lower explosion limit / Lower flammability limit : Lower explosion limit  
No data available

Vapor pressure : 0.044 hPa (25 °C)

Relative vapor density : ca. 5.4 (20 °C)

Relative density : not determined

Density : 1.06 g/cm<sup>3</sup> (20 °C)

Solubility(ies)  
Water solubility : 13.9 g/l slightly soluble (25 °C)

Solubility in other solvents : No data available

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

Autoignition temperature : not determined

Self-Accelerating decomposition temperature (SADT) : 80 °C  
Method: UN-Test H.4  
SADT-Self Accelerating Decomposition Temperature. Lowest temperature at which the tested package size will undergo a self-accelerating decomposition reaction.

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Viscosity  
Viscosity, dynamic : ca. 12.5 mPa.s (20 °C)  
Viscosity, kinematic : not determined

Explosive properties : Not explosive In use, may form flammable/explosive vapor-air mixture.

Oxidizing properties : The substance or mixture is not classified as oxidizing.  
Organic peroxide

Self-heating substances : The substance or mixture is not classified as self heating.

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### SECTION 10. STABILITY AND REACTIVITY

Reactivity : Stable under recommended storage conditions.  
Heating may cause a fire or explosion.

Chemical stability : Stable under recommended storage conditions.  
No decomposition if stored normally.

Possibility of hazardous reactions : Vapors may form explosive mixture with air.

Conditions to avoid : Protect from contamination.  
Contact with incompatible substances can cause decomposition at or below SADT.  
Heat, flames and sparks.  
Avoid confinement.

Incompatible materials : Accelerators, strong acids and bases, heavy metals and heavy metal salts, reducing agents

Hazardous decomposition products : Irritant, caustic, flammable, noxious/toxic gases and vapours can develop in the case of fire and decomposition

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### SECTION 11. TOXICOLOGICAL INFORMATION

#### Acute toxicity

Harmful if swallowed or in contact with skin.  
Toxic if inhaled.

#### Product:

Acute oral toxicity : LD50 (Rat): 382 mg/kg

Acute inhalation toxicity : LC50: 1.370 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Assessment: The component/mixture is toxic after short term

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inhalation.

Acute dermal toxicity : LD50: 1,200 - 1,520 mg/kg  
Assessment: The component/mixture is moderately toxic after single contact with skin.

### **Components:**

#### **Cumene hydroperoxide:**

Acute oral toxicity : LD50 Oral (Rat): 382 mg/kg

Acute inhalation toxicity : LC50: 1.370 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Assessment: The component/mixture is toxic after short term inhalation.

Acute dermal toxicity : LD50: 1,200 - 1,520 mg/kg  
Assessment: The component/mixture is moderately toxic after single contact with skin.

#### **Cumene:**

Acute oral toxicity : LD50 (Rat): 2,260 mg/kg  
Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 (Rabbit): > 3,160 mg/kg  
Assessment: The substance or mixture has no acute dermal toxicity  
Remarks: No mortality observed at this dose.

#### **Benzenemethanol, alpha,alpha-dimethyl-:**

Acute oral toxicity : Acute toxicity estimate: 500 mg/kg  
Assessment: The component/mixture is moderately toxic after single ingestion.  
Remarks: Expert judgment

Acute inhalation toxicity : Remarks: No data available

Acute dermal toxicity : LD50: Method: Expert judgment  
Assessment: The substance or mixture has no acute dermal toxicity  
Remarks: Based on available data, the classification criteria are not met.

#### **acetophenone:**

Acute oral toxicity : Acute toxicity estimate: 500.0 mg/kg  
Method: Expert judgment  
Assessment: The component/mixture is moderately toxic after single ingestion.

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Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI

Acute dermal toxicity : LD50 (Rat): 3,300 mg/kg  
Method: OECD Test Guideline 402

### **Skin corrosion/irritation**

Causes severe burns.

#### **Product:**

Species : Rabbit  
Result : Causes burns.

Remarks : Extremely corrosive and destructive to tissue.

#### **Components:**

##### **Cumene hydroperoxide:**

Species : Rabbit  
Result : Causes burns.

Remarks : Extremely corrosive and destructive to tissue.

##### **Cumene:**

Species : Rabbit  
Method : OECD Test Guideline 404  
Result : No skin irritation

##### **Benzenemethanol, alpha,alpha-dimethyl-:**

Species : Rabbit  
Result : Severe skin irritation

##### **acetophenone:**

Species : Rabbit  
Method : OECD Test Guideline 404  
Result : No skin irritation

Remarks : May cause skin irritation in susceptible persons.

### **Serious eye damage/eye irritation**

Causes serious eye damage.

#### **Product:**

Species : Rabbit  
Result : Corrosive

Remarks : May cause irreversible eye damage.

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### Components:

#### **Cumene hydroperoxide:**

Species : Rabbit  
Result : Corrosive  
  
Remarks : May cause irreversible eye damage.

#### **Cumene:**

Species : Rabbit  
Result : No eye irritation  
Method : OECD Test Guideline 405

#### **Benzenemethanol, alpha,alpha-dimethyl-:**

Result : Irritating to eyes.

#### **acetophenone:**

Species : Rabbit  
Result : Eye irritation  
Method : No information available.  
Remarks : Based on harmonised classification in EU regulation 1272/2008, Annex VI  
  
Remarks : May cause irreversible eye damage.

### **Respiratory or skin sensitization**

#### **Skin sensitization**

Not classified based on available information.

#### **Respiratory sensitization**

Not classified based on available information.

### Product:

Result : Does not cause skin sensitization.  
Remarks : Based on available data, the classification criteria are not met.

### Components:

#### **Cumene hydroperoxide:**

Result : Does not cause skin sensitization.

#### **Cumene:**

Routes of exposure : Skin contact  
Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : Does not cause skin sensitization.

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### acetophenone:

Test Type : Draize Test  
Routes of exposure : Skin contact  
Species : Guinea pig  
Result : Does not cause skin sensitization.

### Germ cell mutagenicity

Not classified based on available information.

### Product:

Genotoxicity in vitro : Test Type: in vitro test  
Test system: Salmonella typhimurium  
Result: positive

Genotoxicity in vivo : Test Type: Micronucleus test  
Species: Mouse  
Application Route: Skin contact  
Result: negative

### Components:

#### Cumene hydroperoxide:

Genotoxicity in vitro : Test Type: in vitro test  
Test system: Salmonella typhimurium  
Result: positive

Genotoxicity in vivo : Test Type: Micronucleus test  
Species: Mouse  
Application Route: Skin contact  
Result: negative

#### Cumene:

Genotoxicity in vitro : Method: OECD Test Guideline 473  
Result: negative

Method: OECD Test Guideline 471  
Result: negative

Method: OECD Test Guideline 476  
Result: negative

Method: OECD Test Guideline 482  
Result: negative

Test Type: Ames test  
Result: positive

Genotoxicity in vivo : Species: Rat  
Application Route: Intraperitoneal  
Exposure time: 72 h

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Method: OECD Test Guideline 474  
Result: Equivocal

Species: Mouse  
Application Route: inhalation (gas)  
Exposure time: 14 w  
Method: OECD Test Guideline 474  
Result: negative

### acetophenone:

Genotoxicity in vitro : Method: OECD Test Guideline 473  
Result: negative

Method: OECD Test Guideline 476  
Result: negative

Method: OECD Test Guideline 471  
Result: negative

Genotoxicity in vivo : Species: Mouse  
Application Route: Intraperitoneal  
Method: OECD Test Guideline 474  
Result: negative

### Carcinogenicity

May cause cancer.

#### Product:

Remarks : This information is not available.

#### Components:

##### **Cumene hydroperoxide:**

Remarks : This information is not available.

##### **Cumene:**

Species : Rat, male and female  
Application Route : inhalation (vapor)  
Result : carcinogenic effects

Species : Mouse, male and female  
Application Route : inhalation (vapor)  
Result : carcinogenic effects

Carcinogenicity - Assessment : Sufficient evidence of carcinogenicity in animal experiments

**IARC**

Group 2B: Possibly carcinogenic to humans  
Cumene

98-82-8



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**OSHA**      No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

**NTP**      Reasonably anticipated to be a human carcinogen  
Cumene      98-82-8

### Reproductive toxicity

Not classified based on available information.

#### Components:

##### **Cumene hydroperoxide:**

Effects on fertility      :    Remarks: No data available

Effects on fetal development      :    Remarks: No data available

##### **Cumene:**

Effects on fetal development      :    Species: Rabbit  
Application Route: inhalation (vapor)  
General Toxicity Maternal: LOAEL: 500  
Developmental Toxicity: NOAEL: 2,300  
Method: OECD Test Guideline 414

##### **acetophenone:**

Effects on fertility      :    Species: Rat  
Application Route: Ingestion  
General Toxicity Parent: NOAEL: 225 mg/kg body weight  
General Toxicity F1: NOAEL: 225 mg/kg body weight  
Method: OECD Test Guideline 422  
Result: negative

Species: Rat  
Application Route: Ingestion  
General Toxicity Parent: LOAEL: 750 mg/kg body weight  
General Toxicity F1: LOAEL: 750 mg/kg body weight  
Method: OECD Test Guideline 422

Effects on fetal development      :    Species: Mouse  
Application Route: Ingestion  
General Toxicity Maternal: NOAEL: 125 mg/kg body weight  
Embryo-fetal toxicity.: NOAEL: 125 mg/kg body weight  
Method: OECD Test Guideline 414

### STOT-single exposure

May cause respiratory irritation.

#### Product:

Assessment      :    May cause respiratory irritation.

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### Components:

#### **Cumene:**

Assessment : May cause respiratory irritation.

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

May cause damage to organs through prolonged or repeated exposure.

#### Product:

Assessment : May cause damage to organs through prolonged or repeated exposure.

### Components:

#### **Cumene hydroperoxide:**

Assessment : May cause damage to organs through prolonged or repeated exposure.

#### **Repeated dose toxicity**

#### Product:

Species : Rat  
NOAEC : 31 mg/m<sup>3</sup>  
Application Route : inhalation (gas)  
Exposure time : 90 d  
Method : OECD Test Guideline 413

### Components:

#### **Cumene hydroperoxide:**

Species : Rat  
NOAEC : 31 mg/m<sup>3</sup>  
Application Route : inhalation (gas)  
Exposure time : 90 d

#### **Cumene:**

Species : Rat  
NOAEL : 154 mg/kg  
Application Route : Oral  
Method : OECD Test Guideline 413

#### **acetophenone:**

Species : Rat  
NOAEL : 225 mg/kg  
LOAEL : 750 mg/kg  
Application Route : Ingestion  
Method : OECD Test Guideline 422

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### **Aspiration toxicity**

May be fatal if swallowed and enters airways.

### **Product:**

May be fatal if swallowed and enters airways.

### **Components:**

#### **Cumene:**

May be fatal if swallowed and enters airways.

### **Further information**

#### **Product:**

Remarks : Solvents may degrease the skin.

#### **Components:**

##### **acetophenone:**

Remarks : No data available

---

## SECTION 12. ECOLOGICAL INFORMATION

### **Ecotoxicity**

#### **Product:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 3.9 mg/l  
Exposure time: 96 h  
Test Type: semi-static test  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 18.8 mg/l  
Exposure time: 48 h  
Test Type: Immobilization  
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): 3.1 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

NOEC (Desmodesmus subspicatus (green algae)): 1 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

Toxicity to microorganisms : NOEC (Pseudomonas putida): 50 mg/l  
End point: Growth rate  
Exposure time: 16 h

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### Ecotoxicology Assessment

Acute aquatic toxicity : Toxic to aquatic life.  
Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

### Components:

#### **Cumene hydroperoxide:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 3.9 mg/l  
Exposure time: 96 h  
Test Type: semi-static test  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 18.8 mg/l  
Exposure time: 48 h  
Test Type: Immobilization  
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): 3.1 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

NOEC (Desmodesmus subspicatus (green algae)): 1 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

Toxicity to microorganisms : NOEC (Pseudomonas putida): 50 mg/l  
End point: Growth rate  
Exposure time: 16 h

#### **Cumene:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 4.8 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 2.14 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): 2.01 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.35 mg/l  
Exposure time: 21 d  
Method: OECD Test Guideline 211

Toxicity to microorganisms : EC50: > 2,000 mg/l  
Exposure time: 3 h  
Method: OECD Test Guideline 209

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### Ecotoxicology Assessment

Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

### Benzenemethanol, alpha,alpha-dimethyl-:

#### Ecotoxicology Assessment

Acute aquatic toxicity : This product has no known ecotoxicological effects.

Chronic aquatic toxicity : This product has no known ecotoxicological effects.

### acetophenone:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 162 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 528 mg/l  
Exposure time: 48 h

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 86.4 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 24.8 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201

### Persistence and degradability

#### Product:

Biodegradability : Result: Not readily biodegradable.  
Method: OECD Test Guideline 301B

#### Components:

##### Cumene hydroperoxide:

Biodegradability : Result: Not readily biodegradable.  
Method: OECD Test Guideline 301B

##### Cumene:

Biodegradability : Result: Readily biodegradable.

##### Benzenemethanol, alpha,alpha-dimethyl-:

Biodegradability : Remarks: No data available

##### acetophenone:

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Biodegradability : Result: Readily biodegradable.  
Method: OECD Test Guideline 301C

### Bioaccumulative potential

#### Components:

##### **Cumene hydroperoxide:**

Partition coefficient: n-octanol/water : log Pow: 1.6

##### **Cumene:**

Bioaccumulation : Bioconcentration factor (BCF): 94.69  
Remarks: Calculation

Partition coefficient: n-octanol/water : log Pow: 3.55 (23 °C / 23 °C)

##### **Benzenemethanol, alpha,alpha-dimethyl-:**

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

##### **acetophenone:**

Bioaccumulation : Bioconcentration factor (BCF): 0.48

Partition coefficient: n-octanol/water : log Pow: 1.63

### Mobility in soil

No data available

### Other adverse effects

#### Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances  
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

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

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### SECTION 13. DISPOSAL CONSIDERATIONS

#### Disposal methods

- Waste from residues : Dispose of wastes in an approved waste disposal facility. The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container.
- Contaminated packaging : Dispose of in accordance with local regulations. Clean container with water. Dispose of contents/ container to an approved waste disposal plant. Empty remaining contents. Dispose of as unused product. Do not re-use empty containers. Do not burn, or use a cutting torch on, the empty drum.
- 

### SECTION 14. TRANSPORT INFORMATION

#### International Regulations

##### UNRTDG

- UN number : UN 3109  
Proper shipping name : ORGANIC PEROXIDE TYPE F, LIQUID (CUMYL HYDROPEROXIDE)  
Class : 5.2  
Subsidiary risk : 8  
Packing group : Not assigned by regulation  
Labels : 5.2 (8)

##### IATA-DGR

- UN/ID No. : UN 3109  
Proper shipping name : Organic peroxide type F, liquid (Cumyl hydroperoxide)  
Class : 5.2  
Subsidiary risk : 8  
Packing group : Not assigned by regulation  
Labels : Organic Peroxides, Keep Away From Heat, Corrosive  
Packing instruction (cargo aircraft) : 570  
Packing instruction (passenger aircraft) : 570

##### IMDG-Code

- UN number : UN 3109  
Proper shipping name : ORGANIC PEROXIDE TYPE F, LIQUID (CUMYL HYDROPEROXIDE)  
Class : 5.2  
Subsidiary risk : 8  
Packing group : Not assigned by regulation
-

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Labels : 5.2 (8)  
EmS Code : F-J, S-R  
Marine pollutant : yes

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

### Domestic regulation

#### 49 CFR

UN/ID/NA number : UN 3109  
Proper shipping name : Organic peroxide type F, liquid  
(Cumyl hydroperoxide, <= 90%)  
Class : 5.2  
Subsidiary risk : 8  
Packing group : Not assigned by regulation  
Labels : ORGANIC PEROXIDE, CORROSIVE  
ERG Code : 145  
Marine pollutant : yes

### Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

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## SECTION 15. REGULATORY INFORMATION

### CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Cumene hydroperoxide	80-15-9	10	12

### SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

### SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

**SARA 311/312 Hazards** : Flammable (gases, aerosols, liquids, or solids)  
Organic peroxides  
Acute toxicity (any route of exposure)  
Carcinogenicity  
Specific target organ toxicity (single or repeated exposure)  
Aspiration hazard  
Skin corrosion or irritation  
Serious eye damage or eye irritation

**SARA 313** : The following components are subject to reporting levels established by SARA Title III, Section 313:



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Cumene hydroperoxide	80-15-9
Cumene	98-82-8
acetophenone	98-86-2

### Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 112 (40 CFR 61):

Cumene	98-82-8
acetophenone	98-86-2

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489):

Cumene hydroperoxide	80-15-9
Cumene	98-82-8
acetophenone	98-86-2

### Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

This product does not contain any priority pollutants related to the U.S. Clean Water Act

### California Prop. 65

WARNING: This product can expose you to chemicals including Cumene, which is/are known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

### International Regulations

Gefahrgruppe nach DGUV 13 Vorschrift 13 (bisher BGV B4): Ib (German regulatory requirements)

#### The ingredients of this product are reported in the following inventories:

TCSI (TW)	: On the inventory, or in compliance with the inventory
TSCA (US)	: All substances listed as active on the TSCA inventory
AIIC (AU)	: On the inventory, or in compliance with the inventory
DSL (CA)	: All components of this product are on the Canadian DSL
ENCS (JP)	: On the inventory, or in compliance with the inventory
ISHL (JP)	: On the inventory, or in compliance with the inventory
KECI (KR)	: On the inventory, or in compliance with the inventory

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PICCS (PH) : On the inventory, or in compliance with the inventory  
IECSC (CN) : On the inventory, or in compliance with the inventory  
NZIoC (NZ) : On the inventory, or in compliance with the inventory  
TECI (TH) : On the inventory, or in compliance with the inventory

### TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

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## SECTION 16. OTHER INFORMATION

### Further information

This material safety datasheet only contains information relating to safety and does not replace any product information or product specification.  
These safety instructions also apply to empty packaging which may still contain product residues.  
The hazards on the label also apply to residues in the container.

Sources of key data used to compile the Material Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

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### Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)  
NIOSH REL : USA. NIOSH Recommended Exposure Limits  
OSHA P0 : USA. Table Z-1-A Limits for Air Contaminants (1989 vacated values)  
OSHA Z-1 : USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants  
US WEEL : USA. Workplace Environmental Exposure Levels (WEEL)  
ACGIH / TWA : 8-hour, time-weighted average  
NIOSH REL / TWA : Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek  
OSHA P0 / TWA : 8-hour time weighted average  
OSHA Z-1 / TWA : 8-hour time weighted average  
US WEEL / TWA : 8-hr TWA

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the

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German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

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.

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