

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



NOROX[®] CHP

Version	Revision Date:	SDS Number:	Date of last issue: 2021/04/09
3.0	2023/08/07	600000000292	Date of first issue: 2017/07/18

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : NOROX[®] CHP

Chemical nature : Organic Peroxide

Manufacturer or supplier's details

Company : United Initiators (Shanghai) Co., Ltd

Address : Room 501, Bldg. 1, No. 1 Shangda Road
Shanghai, China, 200444

Telephone : +86 21 61172758

Emergency telephone number : +86 21 61172758

E-mail address : cs-initiators.cn@united-in.com

Recommended use of the chemical and restrictions on use

Recommended use : polymerisation initiators

2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance	: liquid
Colour	: Colorless to pale yellow
Odour	: aromatic

Combustible liquid. Heating may cause a fire. Harmful if swallowed or in contact with skin. May be fatal if swallowed and enters airways. Causes severe skin burns and eye damage. Toxic if inhaled. May cause respiratory irritation. May cause cancer. May cause damage to organs through prolonged or repeated exposure. Toxic to aquatic life with long lasting effects.

GHS Classification

Flammable liquids : Category 4

Organic peroxides : Type F

Acute toxicity (Oral) : Category 4

Acute toxicity (Inhalation) : Category 3

Acute toxicity (Dermal) : Category 4

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519




NOROX® CHP

Version 3.0 Revision Date: 2023/08/07 SDS Number: 600000000292 Date of last issue: 2021/04/09
Date of first issue: 2017/07/18

Skin corrosion/irritation : Category 1B
Serious eye damage/eye irritation : Category 1
Carcinogenicity : Category 1B
Specific target organ toxicity - single exposure : Category 3 (respiratory tract irritation)
Specific target organ toxicity - repeated exposure : Category 2
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,

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



NOROX[®] CHP

Version	Revision Date:	SDS Number:	Date of last issue: 2021/04/09
3.0	2023/08/07	600000000292	Date of first issue: 2017/07/18

heavy metal salts and other reducing substances /combustible materials.

P234 Keep only in original container.

P260 Do not breathe mist or vapours.

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.

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.

P362 + P364 Take off contaminated clothing and wash it 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.

Physical and chemical hazards

Combustible liquid. Heating may cause a fire.

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



NOROX[®] CHP

Version 3.0 Revision Date: 2023/08/07 SDS Number: 600000000292 Date of last issue: 2021/04/09
Date of first issue: 2017/07/18

Health hazards

Harmful if swallowed. Toxic if inhaled. Harmful in contact with skin. Causes severe skin burns and eye damage. Causes serious eye damage. May cause cancer. May cause respiratory irritation. May cause damage to organs through prolonged or repeated exposure. May be fatal if swallowed and enters airways.

Environmental hazards

Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

Other hazards which do not result in classification

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance
Substance name : Cumene hydroperoxide
CAS-No. : 80-15-9

Components

Chemical name	CAS-No.	Concentration (% w/w)
Cumene hydroperoxide	80-15-9	>= 80 -< 85
Cumene	98-82-8	>= 10 -< 15
Benzenemethanol, alpha,alpha-dimethyl-	617-94-7	>= 1 -< 5
acetophenone	98-86-2	>= 1 -< 2.5

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 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.

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



NOROX® CHP

Version	Revision Date:	SDS Number:	Date of last issue: 2021/04/09
3.0	2023/08/07	600000000292	Date of first issue: 2017/07/18

- Call a physician or poison control centre 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 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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5. FIREFIGHTING MEASURES

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



NOROX[®] CHP

Version	Revision Date:	SDS Number:	Date of last issue: 2021/04/09
3.0	2023/08/07	600000000292	Date of first issue: 2017/07/18

- Suitable extinguishing media : Water spray jet
Alcohol-resistant foam
Carbon dioxide (CO₂)
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.
Vapours 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 : 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.
- 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.
- Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.
Use personal protective equipment.

6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Follow safe handling advice and personal protective equipment recommendations.
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



NOROX[®] CHP

Version	Revision Date:	SDS Number:	Date of last issue: 2021/04/09
3.0	2023/08/07	600000000292	Date of first issue: 2017/07/18

- Use personal protective equipment.
Ensure adequate ventilation.
Remove all sources of ignition.
Evacuate personnel to safe areas.
- 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/vapours/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.
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.
- Prevention of secondary hazards : Never return spills in original containers for re-use.
Treat recovered material as described in the section "Disposal considerations".

7. HANDLING AND STORAGE

Handling

- 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 vapours).
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 vapours/dust.

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



NOROX[®] CHP

Version	Revision Date:	SDS Number:	Date of last issue: 2021/04/09
3.0	2023/08/07	600000000292	Date of first issue: 2017/07/18

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.

Avoidance of contact : Accelerators, strong acids and bases, heavy metals and heavy metal salts, reducing agents

Storage

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.
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

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

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of	Control parameters / Permissible	Basis
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SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



NOROX[®] CHP

Version 3.0 Revision Date: 2023/08/07 SDS Number: 600000000292 Date of last issue: 2021/04/09
Date of first issue: 2017/07/18

		exposure)	concentration	
Cumene	98-82-8	TWA	5 ppm	ACGIH
acetophenone	98-86-2	TWA	10 ppm	ACGIH

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

Eye/face 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.

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

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

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



NOROX[®] CHP

Version	Revision Date:	SDS Number:	Date of last issue: 2021/04/09
3.0	2023/08/07	600000000292	Date of first issue: 2017/07/18

manufacturer. Wash hands before breaks and at the end of workday.

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Colour : Colorless to pale yellow

Odour : aromatic

Odour 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

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



NOROX[®] CHP

Version	Revision Date:	SDS Number:	Date of last issue: 2021/04/09
3.0	2023/08/07	600000000292	Date of first issue: 2017/07/18

Vapour pressure : 0.044 hPa (25 °C)

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

Relative density : not determined

Density : 1.06 g/cm³ (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

Auto-ignition 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.

Viscosity

Viscosity, dynamic : ca. 12.5 mPa.s (20 °C)

Viscosity, kinematic : not determined

Explosive properties : Not explosive In use, may form flammable/explosive vapour-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.

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 : Vapours may form explosive mixture with air.

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



NOROX[®] CHP

Version	Revision Date:	SDS Number:	Date of last issue: 2021/04/09
3.0	2023/08/07	600000000292	Date of first issue: 2017/07/18

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

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 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.

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



NOROX® CHP

Version	Revision Date:	SDS Number:	Date of last issue: 2021/04/09
3.0	2023/08/07	600000000292	Date of first issue: 2017/07/18

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 judgement

Acute inhalation toxicity : Remarks: No data available

Acute dermal toxicity : LD50: Method: Expert judgement
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 judgement
Assessment: The component/mixture is moderately toxic after single ingestion.
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

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



NOROX[®] CHP

Version	Revision Date:	SDS Number:	Date of last issue: 2021/04/09
3.0	2023/08/07	600000000292	Date of first issue: 2017/07/18

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.

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.

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



NOROX[®] CHP

Version	Revision Date:	SDS Number:	Date of last issue: 2021/04/09
3.0	2023/08/07	600000000292	Date of first issue: 2017/07/18

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 sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Product:

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

Components:

Cumene hydroperoxide:

Result : Does not cause skin sensitisation.

Cumene:

Exposure routes : Skin contact
Species : Guinea pig
Method : OECD Test Guideline 406
Result : Does not cause skin sensitisation.

acetophenone:

Test Type : Draize Test
Exposure routes : Skin contact
Species : Guinea pig
Result : Does not cause skin sensitisation.

Germ cell mutagenicity

Not classified based on available information.

Product:

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

Genotoxicity in vivo : Test Type: Micronucleus test

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



NOROX[®] CHP

Version	Revision Date:	SDS Number:	Date of last issue: 2021/04/09
3.0	2023/08/07	600000000292	Date of first issue: 2017/07/18

Species: Mouse
Application Route: Skin contact
Result: negative

Components:

Cumene hydroperoxide:

Genotoxicity in vitro : Test Type: in vitro assay
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
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

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



NOROX[®] CHP

Version	Revision Date:	SDS Number:	Date of last issue: 2021/04/09
3.0	2023/08/07	600000000292	Date of first issue: 2017/07/18

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 (vapour)
Result : carcinogenic effects

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

Carcinogenicity - Assessment : Sufficient evidence of carcinogenicity in animal experiments

Reproductive toxicity

Not classified based on available information.

Components:

Cumene hydroperoxide:

Effects on fertility : Remarks: No data available

Effects on foetal development : Remarks: No data available

Cumene:

Effects on foetal development : Species: Rabbit

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



NOROX® CHP

Version	Revision Date:	SDS Number:	Date of last issue: 2021/04/09
3.0	2023/08/07	600000000292	Date of first issue: 2017/07/18

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Application Route: inhalation (vapour)
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 foetal development : Species: Mouse
Application Route: Ingestion
General Toxicity Maternal: NOAEL: 125 mg/kg body weight
Embryo-foetal 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.

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

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



NOROX® CHP

Version	Revision Date:	SDS Number:	Date of last issue: 2021/04/09
3.0	2023/08/07	600000000292	Date of first issue: 2017/07/18

exposure.

Repeated dose toxicity

Product:

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

Components:

Cumene hydroperoxide:

Species	:	Rat
NOAEC	:	31 mg/m ³
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

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:

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



NOROX[®] CHP

Version	Revision Date:	SDS Number:	Date of last issue: 2021/04/09
3.0	2023/08/07	600000000292	Date of first issue: 2017/07/18

Remarks : Solvents may degrease the skin.

Components:

acetophenone:

Remarks : No data available

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

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

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



NOROX[®] CHP

Version	Revision Date:	SDS Number:	Date of last issue: 2021/04/09
3.0	2023/08/07	600000000292	Date of first issue: 2017/07/18

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

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.

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



NOROX[®] CHP

Version	Revision Date:	SDS Number:	Date of last issue: 2021/04/09
3.0	2023/08/07	600000000292	Date of first issue: 2017/07/18

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:

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

Bioaccumulative potential

Components:

Cumene hydroperoxide:

Partition coefficient: n- : log Pow: 1.6

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



NOROX[®] CHP

Version	Revision Date:	SDS Number:	Date of last issue: 2021/04/09
3.0	2023/08/07	600000000292	Date of first issue: 2017/07/18

octanol/water

Cumene:

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

Partition coefficient: n-octanol/water : log Pow: 3.55 (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:

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.

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.

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



NOROX® CHP

Version	Revision Date:	SDS Number:	Date of last issue: 2021/04/09
3.0	2023/08/07	600000000292	Date of first issue: 2017/07/18

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
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.

National Regulations

GB 6944/12268

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)

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



NOROX[®] CHP

Version	Revision Date:	SDS Number:	Date of last issue: 2021/04/09
3.0	2023/08/07	600000000292	Date of first issue: 2017/07/18

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.

15. REGULATORY INFORMATION

National regulatory information

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

Law on the Prevention and Control of Occupational Diseases

Regulations on Safety Management of Hazardous Chemicals

Identification of Major Hazard Installations for Hazardous Chemicals (GB 18218)

No. / Code	Chemical name / Category	Threshold quantity
W7.2	Organic peroxides	50 t

Hazardous Chemicals for Priority Management under SAWS : Listed

Regulation of Environmental Management on the First Import of Chemicals and the Import and Export of Toxic Chemicals

China Severely Restricted Toxic Chemicals for Import and Export : Listed

The components 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
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

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



NOROX[®] CHP

Version	Revision Date:	SDS Number:	Date of last issue: 2021/04/09
3.0	2023/08/07	600000000292	Date of first issue: 2017/07/18

TECI (TH) : On the inventory, or in compliance with the inventory

16. OTHER INFORMATION

Revision Date : 2023/08/07

Further information

Other information : This 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 Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

Date format : yyyy/mm/dd

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)

ACGIH / TWA : 8-hour, time-weighted average

AIRC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; 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; 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; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New

SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



NOROX[®] CHP

Version	Revision Date:	SDS Number:	Date of last issue: 2021/04/09
3.0	2023/08/07	600000000292	Date of first issue: 2017/07/18

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; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECl - 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; WHMIS - Workplace Hazardous Materials Information System

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.

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