

SAFETY DATA SHEET

According to 13 December 2014, No:29204, "Ministry of Environment and Urbanization; Regulation on Safety data sheets regarding hazardous substances and mixtures; Part I".



NOROX[®] CHP

Version	Revision Date:	SDS Number:	Date of last issue: 07.08.2023
3.1	13.11.2023	600000000292	Date of first issue: 09.03.2018

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name	:	NOROX [®] CHP
Substance name	:	Cumene hydroperoxide
Index-No.	:	617-002-00-8
EC-No.	:	201-254-7

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture	:	polymerisation initiators
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1.3 Details of the supplier of the safety data sheet

Company	:	United Initiators GmbH Dr.-Gustav-Adolph-Str. 3 82049 Pullach
Telephone	:	+49 / 89 / 74422 – 0
E-mail address of person responsible for the SDS	:	contact@united-in.com

1.4 Emergency telephone number

0800 0 621 2139 (toll-free, access from Turkey only)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification T.R. SEA No 28848 and subsequent amendments

Organic peroxides, Type F	H242: Heating may cause a fire.
Acute toxicity, Category 4	H302: Harmful if swallowed.
Acute toxicity, Category 3	H331: Toxic if inhaled.
Acute toxicity, Category 4	H312: Harmful in contact with skin.
Skin corrosion, Sub-category 1B	H314: Causes severe skin burns and eye damage.

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Serious eye damage, Category 1	H318: Causes serious eye damage.
Carcinogenicity, Category 1B	H350: May cause cancer.
Specific target organ toxicity - single exposure, Category 3, Respiratory system	H335: May cause respiratory irritation.
Specific target organ toxicity - repeated exposure, Category 2	H373: May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard, Category 1	H304: May be fatal if swallowed and enters airways.
Long-term (chronic) aquatic hazard, Category 2	H411: Toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling T.R. SEA No 28848 and subsequent amendments

Hazard pictograms : 

Signal word : Danger

Hazard statements : 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.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P234 Keep only in original packaging.
P260 Do not breathe mist or vapours.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

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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.

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.

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.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

Substance name : Cumene hydroperoxide
Index-No. : 617-002-00-8
EC-No. : 201-254-7
Chemical nature : Organic Peroxide

Components

Chemical name	CAS-No. EC-No.	Concentration (% w/w)
Cumene hydroperoxide	80-15-9 201-254-7	>= 80 - < 85
Cumene	98-82-8	>= 10 - < 15

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	202-704-5	
Benzenemethanol, alpha,alpha-dimethyl-	617-94-7	>= 1 - < 5
	210-539-5	
acetophenone	98-86-2	>= 1 - < 5
	202-708-7	

SECTION 4: First aid measures

4.1 Description of 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.
- Protection of first-aiders : First Aid responders should pay attention to self-protection and use the recommended protective clothing
- 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 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.

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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.

4.2 Most important symptoms and effects, both acute and delayed

Risks : 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.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically and supportively.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Water spray jet
Alcohol-resistant foam
Carbon dioxide (CO₂)
Dry chemical

Unsuitable extinguishing media : High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire- : Risk of explosion if heated under confinement.

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fighting

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.

5.3 Advice for firefighters

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

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.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Follow safe handling advice and personal protective equipment recommendations.
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Use personal protective equipment.
Ensure adequate ventilation.
Remove all sources of ignition.
Evacuate personnel to safe areas.

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Never return spills in original containers for re-use.
Treat recovered material as described in the section "Disposal considerations".

6.2 Environmental precautions

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.

6.3 Methods and material for containment and cleaning up

Methods for 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.

6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Advice on safe handling : Open drum carefully as content may be under pressure.
Protect from contamination.
Do not swallow.
Do not breathe vapours/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.

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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.

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.

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.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : 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.

Advice on common storage : 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.

7.3 Specific end use(s)

Specific use(s) : For further information, refer to the product technical data sheet.

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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Cumene	98-82-8	TWA (8 Hour)	20 ppm 100 mg/m ³	TR OEL
		Further information: A skin notation assigned to the OEL identifies the possibility of significant uptake through the skin.		
		STEL 15 min	50 ppm 250 mg/m ³	TR OEL
		Further information: A skin notation assigned to the OEL identifies the possibility of significant uptake through the skin.		
		TWA	20 ppm 100 mg/m ³	2000/39/EC
		Further information: Identifies the possibility of significant uptake through the skin, Indicative		
		STEL	50 ppm 250 mg/m ³	2000/39/EC
		Further information: Identifies the possibility of significant uptake through the skin, Indicative		
		TWA	10 ppm 50 mg/m ³	2019/1831/E U
		Further information: A skin notation assigned to the occupational exposure limit value indicates the possibility of significant uptake through the skin., Indicative		
		STEL	50 ppm 250 mg/m ³	2019/1831/E U
		Further information: A skin notation assigned to the occupational exposure limit value indicates the possibility of significant uptake through the skin., Indicative		

Derived No Effect Level (DNEL) :

Substance name	End Use	Exposure routes	Potential health effects	Value
Cumene hydroperoxide	Workers	Inhalation	Long-term systemic effects	6 mg/m ³
Cumene	Workers	Inhalation	Long-term systemic effects	100 mg/m ³
	Workers	Inhalation	Acute local effects	250 mg/m ³
	Workers	Skin contact	Long-term systemic effects	15,4 mg/kg bw/day
acetophenone	Workers	Inhalation	Long-term systemic effects	22 mg/m ³

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	Workers	Inhalation	Acute local effects	
	Remarks: No hazard identified			
	Workers	Skin contact	Long-term systemic effects	6,3 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	5,4 mg/m ³
	Consumers	Skin contact	Long-term systemic effects	3,1 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	3,1 mg/kg bw/day
	Consumers	Ingestion	Acute systemic effects	6,25 mg/kg bw/day

Predicted No Effect Concentration (PNEC) :

Substance name	Environmental Compartment	Value
Cumene hydroperoxide	Fresh water	0,0031 mg/l
	Marine water	0,00031 mg/l
	Sewage treatment plant	0,39 mg/l
	Fresh water sediment	0,023 mg/kg dry weight (d.w.)
	Marine sediment	0,002 mg/kg dry weight (d.w.)
	Soil	0,0029 mg/kg dry weight (d.w.)
Cumene	Fresh water	0,035 mg/l
	Intermittent use/release	0,012 mg/l
	Marine water	0,004 mg/l
	Fresh water sediment	3,22 mg/kg
	Marine sediment	0,322 mg/kg
	Sewage treatment plant	200 mg/l
	Soil	0,624 mg/kg

8.2 Exposure controls

Engineering measures

Minimize workplace exposure concentrations.

Personal protective equipment

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.

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- 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 manufacturer. Wash hands before breaks and at the end of workday.
- 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.
- Respiratory protection : In the case of dust or aerosol formation use respirator with an approved filter.
- Filter type : ABEK-filter
- Protective measures : The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- Appearance : liquid
- Colour : Colorless to pale yellow

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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
Upper explosion limit / Upper flammability limit	:	Upper explosion limit No data available
Lower explosion limit / Lower flammability limit	:	Lower explosion limit No data available
Vapour pressure	:	0,044 hPa (25 °C)
Relative vapour density	:	ca. 5,4 (20 °C)
Relative density	:	not determined
Density	:	1,06 g/cm ³ (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
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.

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Organic peroxide

9.2 Other information

- 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.
- Flammability (liquids) : Flammable liquid, Organic peroxide
- Self-heating substances : The substance or mixture is not classified as self heating.
- Self-ignition : The substance or mixture is not classified as pyrophoric.

SECTION 10: Stability and reactivity

10.1 Reactivity

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

10.2 Chemical stability

Stable under recommended storage conditions.
No decomposition if stored normally.

10.3 Possibility of hazardous reactions

Hazardous reactions : Vapours may form explosive mixture with air.

10.4 Conditions to avoid

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

10.5 Incompatible materials

Materials to avoid : Accelerators, strong acids and bases, heavy metals and heavy metal salts, reducing agents

10.6 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

11.1 Information on toxicological effects

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.

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.

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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
Result : Causes burns.

Remarks : Extremely corrosive and destructive to tissue.

Cumene:

Species : Rabbit
Method : OECD Test Guideline 404

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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
Method : OECD Test Guideline 405
Result : No eye irritation

Benzenemethanol, alpha,alpha-dimethyl-:

Result : Irritating to eyes.

acetophenone:

Species : Rabbit
Method : No information available.
Result : Eye irritation
Remarks : Based on harmonised classification in EU regulation

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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
Species: Mouse
Application Route: Skin contact
Result: negative

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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

Method: OECD Test Guideline 476

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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:

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Effects on foetal development : Species: Rabbit
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.

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Components:

Cumene hydroperoxide:

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

Repeated dose toxicity

Product:

Species : Rat
NOAEC : 31 mg/m³
Application Route : inhalation (gas)
Exposure time : 90 d
Method : OECD Test Guideline 413

Components:

Cumene hydroperoxide:

Species : Rat
NOAEC : 31 mg/m³
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.

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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

12.1 Toxicity

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.

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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 microorganisms : EC50 : > 2.000 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0,35 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)

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Method: OECD Test Guideline 211

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

12.2 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.

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Benzenemethanol, alpha,alpha-dimethyl-:

Biodegradability : Remarks: No data available

acetophenone:

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

12.3 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)

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

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

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12.6 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.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : 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

14.1 UN number

ADR : UN 3109
RID : UN 3109
IMDG : UN 3109
IATA : UN 3109

14.2 UN proper shipping name

ADR : ORGANIC PEROXIDE TYPE F, LIQUID
(CUMYL HYDROPEROXIDE)
RID : ORGANIC PEROXIDE TYPE F, LIQUID
(CUMYL HYDROPEROXIDE)

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IMDG : ORGANIC PEROXIDE TYPE F, LIQUID
(CUMYL HYDROPEROXIDE)

IATA : Organic peroxide type F, liquid
(Cumyl hydroperoxide)

14.3 Transport hazard class(es)

ADR : 5.2

RID : 5.2

IMDG : 5.2

IATA : 5.2

14.4 Packing group

ADR

Packing group : Not assigned by regulation

Classification Code : P1

Hazard Identification Number : 539

Labels : 5.2 (8)

Tunnel restriction code : (D)

RID

Packing group : Not assigned by regulation

Classification Code : P1

Hazard Identification Number : 539

Labels : 5.2 (8)

IMDG

Packing group : Not assigned by regulation

Labels : 5.2 (8)

EmS Code : F-J, S-R

IATA (Cargo)

Packing instruction (cargo aircraft) : 570

Packing group : Not assigned by regulation

Labels : Organic Peroxides, Keep Away From Heat, Corrosive

IATA (Passenger)

Packing instruction (passenger aircraft) : 570

Packing group : Not assigned by regulation

Labels : Organic Peroxides, Keep Away From Heat, Corrosive

14.5 Environmental hazards

ADR

Environmentally hazardous : yes

RID

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Environmentally hazardous : yes

IMDG

Marine pollutant : yes

14.6 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.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

KKDIK (30105 (Bis)) - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex 17) : Conditions of restriction for the following entries should be considered: Number on list 3

Regulation on Persistent Organic Pollutants (Number 30595 and subsequent amendments published) : Not applicable

Regulation on prevention of major industrial accidents. Reg number 30702

		Quantity 1	Quantity 2
H2	ACUTE TOXIC	50 t	200 t
P6b	SELF-REACTIVE SUBSTANCES AND MIXTURES and ORGANIC PEROXIDES	50 t	200 t
E2	ENVIRONMENTAL HAZARDS	200 t	500 t

Other regulations:

Gefahrgruppe nach TRGS 741: Ib (German regulatory requirements)

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T.R. Regulation on Classification, Labeling and Packaging of Substances and Mixtures, dated December 11, 2013 and numbered 28848 from the Ministry of Environment and Urbanization and the subsequent amendments published.

Regulation on health and safety measures regarding working with chemicals (Number: 28733, 2013). Occupational Exposure Limit Values (Annex 1)

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

15.2 Chemical safety assessment

This information is not available.

SECTION 16: Other information

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.

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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/>

Full text of other abbreviations

2000/39/EC : Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values

2019/1831/EU : Europe. Commission Directive 2019/1831/EU establishing a fifth list of indicative occupational exposure limit values

TR OEL : Turkey. Chemical Agents at Work - Annex I: Indicative occupational exposure limit values

2000/39/EC / TWA : Limit Value - eight hours

2000/39/EC / STEL : Short term exposure limit

2019/1831/EU / TWA : Limit Value - eight hours

2019/1831/EU / STEL : Short term exposure limit

TR OEL / TWA (8 Hour) : Measured or calculated in relation to a reference period of eight-hour time-weighted average

TR OEL / STEL 15 min : A limit value above which exposure should not occur and is related to a 15-minute period, unless otherwise specified

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; 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; 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; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Re-

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striction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; 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

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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