

SAFETY DATA SHEET

according to the Hazardous Products Regulations



TAHP-88

Version	Revision Date:	SDS Number:	Date of last issue: 01/13/2022
2.2	05/06/2024	600000000043	Date of first issue: 03/23/2020

SECTION 1. IDENTIFICATION

Trade name : TAHP-88
Other means of identification : No data available
CAS-No. : 3425-61-4

Manufacturer or supplier's details

Company name of supplier : United Initiators, Inc.

Address : 555 Garden Street
Elyria OH 44035 USA

United Initiators Canada Ltd.
2147 PG Pulp Mill Road
Prince George, BC-V2N 2S6 CANADA

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
CANUTEC (24h): 1-613-996-6666

For Transportation Incidents : TERRAPURE EMERGENCY RESPONSE SERVICES (24h):
1-800-567-7455

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

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the Hazardous Products Regulations

Flammable liquids : Category 3

Organic peroxides : Type E

Acute toxicity (Oral) : Category 4

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Acute toxicity (Inhalation) : Category 3
Acute toxicity (Dermal) : Category 3
Skin corrosion : Category 1B
Serious eye damage : Category 1
Skin sensitization : Category 1
Germ cell mutagenicity : Category 2
Short-term (acute) aquatic hazard : Category 2
Long-term (chronic) aquatic hazard : Category 2

GHS label elements

Hazard pictograms : 

Signal Word : Danger

Hazard Statements : H226 Flammable liquid and vapor.
H242 Heating may cause a fire.
H302 Harmful if swallowed.
H311 + H331 Toxic in contact with skin or if inhaled.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H341 Suspected of causing genetic defects.
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, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P234 Keep only in original packaging.
P240 Ground and bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242 Use non-sparking tools.
P243 Take action to prevent static discharges.
P261 Avoid breathing mist or vapors.
P264 Wash skin thoroughly after handling.

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P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
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.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P361 + P364 Take off immediately all 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.
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
P410 Protect from sunlight.
P411 Store at temperatures not exceeding 30 °C/ 86 °F.
P420 Store separately.

Disposal:

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

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

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Substance / Mixture : Substance
Chemical nature : Organic Peroxide
Substance name : tert-pentyl hydroperoxide
CAS-No. : 3425-61-4
Common Name/Synonym : Hydroperoxide, 1,1-dimethylpropyl

Components

Chemical name	Common Name/Synonym	CAS-No.	Concentration (% w/w)
tert-pentyl hydroperoxide	tert-pentyl hydroperoxide	3425-61-4	$\geq 84 - \leq 88$ *
Di-tert-pentyl peroxide	Di-tert-pentyl peroxide	10508-09-5	$\geq 1 - < 5$ *

* Actual concentration or concentration range 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.

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- 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.
Call a physician immediately.
Contact a poison control center.
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.
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.
Toxic in contact with skin or if inhaled.
May cause an allergic skin reaction.
Causes serious eye damage.
Suspected of causing genetic defects.
Causes severe burns.
sensitizing effects
- 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 (CO₂)
Dry chemical
- Unsuitable extinguishing media : High volume water jet
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- 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.
Vapors may form explosive mixtures with air.
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.

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.
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.

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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.
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.

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.
Persons susceptible to skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not

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be employed in any process in which this mixture is being used.

- 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.
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 combustible materials.
Keep away from strong acids, bases, heavy metal salts and other reducing substances.
- Recommended storage temperature : 5 - 30 °C
- Further information on storage stability : Stable under recommended storage conditions.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

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 : <= 120 min
Glove thickness : 0.40 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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

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Color	:	colorless
Odor	:	characteristic
Odor Threshold	:	not determined
pH	:	ca. 4 (20 °C)
Melting point/range	:	ca. -20 - -4 °C
Boiling point/boiling range	:	Decomposition: Decomposes below the boiling point.
Flash point	:	ca. 47 °C Method: closed cup
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not applicable
Flammability (liquids)	:	Flammable liquid and vapor., Organic peroxide
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	:	43.2 hPa (25 °C)
Relative vapor density	:	not determined
Relative density	:	not determined
Density	:	0.92 g/cm ³ (20 °C)
Solubility(ies) Water solubility	:	63.3 g/l soluble
Partition coefficient: n-octanol/water	:	log Pow: 2.9 Based on data from similar materials
Autoignition temperature	:	not determined

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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 : 5.2 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.

Refractive index : 1.41 (20 °C)

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.
Toxic in contact with skin or if inhaled.

Product:

- Acute oral toxicity : LD50 (Rat): 500 mg/kg
Method: OECD Test Guideline 401
- Acute inhalation toxicity : LC50 (Rat): 2.4 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Method: OECD Test Guideline 403
- Acute dermal toxicity : LD50 (Rat): 446 mg/kg
Method: OECD Test Guideline 402

Components:

tert-pentyl hydroperoxide:

- Acute oral toxicity : LD50 (Rat): 500 mg/kg
Method: OECD Test Guideline 401
- Acute inhalation toxicity : LC50 (Rat): 2.4 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Method: OECD Test Guideline 403
- Acute dermal toxicity : LD50 (Rat): 446 mg/kg
Method: OECD Test Guideline 402

Di-tert-pentyl peroxide:

- Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 423
Assessment: The substance or mixture has no acute oral toxicity
- Acute inhalation toxicity : LC50 (Rat): > 22 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Method: OECD Test Guideline 436
Assessment: The substance or mixture has no acute inhalation toxicity
- Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

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Skin corrosion/irritation

Causes severe burns.

Product:

Species : Rabbit
Method : OECD Test Guideline 404
Result : Causes burns.

Remarks : Extremely corrosive and destructive to tissue.

Components:

tert-pentyl hydroperoxide:

Species : Rabbit
Method : OECD Test Guideline 404
Result : Causes burns.

Di-tert-pentyl peroxide:

Species : Rabbit
Method : OECD Test Guideline 404
Result : Irritating to skin.

Serious eye damage/eye irritation

Causes serious eye damage.

Product:

Species : Rabbit
Result : Irreversible effects on the eye

Remarks : May cause irreversible eye damage.

Components:

tert-pentyl hydroperoxide:

Species : Rabbit
Result : Irreversible effects on the eye

Di-tert-pentyl peroxide:

Species : Rabbit
Result : No eye irritation
Method : OECD Test Guideline 437

Respiratory or skin sensitization

Skin sensitization

May cause an allergic skin reaction.

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Respiratory sensitization

Not classified due to lack of data.

Product:

Result : May cause sensitization by skin contact.

Remarks : Based on data from similar materials

Remarks : Causes sensitization.

Components:

tert-pentyl hydroperoxide:

Result : May cause sensitization by skin contact.

Remarks : Based on data from similar materials

Di-tert-pentyl peroxide:

Species : Guinea pig

Method : OECD Test Guideline 406

Result : Does not cause skin sensitization.

Germ cell mutagenicity

Suspected of causing genetic defects.

Product:

Germ cell mutagenicity - : In vitro tests showed mutagenic effects

Assessment

Components:

tert-pentyl hydroperoxide:

Genotoxicity in vitro : Test Type: Ames test
Method: OECD Test Guideline 471
Result: Equivocal

Test Type: Micronucleus test
Method: OECD Test Guideline 487
Result: positive

Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative

Genotoxicity in vivo : Test Type: In vivo mammalian alkaline comet assay
Method: OECD Test Guideline 489
Result: negative

Germ cell mutagenicity - : In vitro tests showed mutagenic effects
Assessment

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Di-tert-pentyl peroxide:

Genotoxicity in vitro : Method: OECD Test Guideline 471
Result: negative

Method: OECD Test Guideline 473
Result: negative

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

Germ cell mutagenicity - Assessment : Positive result(s) from in vivo mammalian somatic cell mutagenicity tests.

Carcinogenicity

Not classified due to lack of data.

Product:

Remarks : This information is not available.

Reproductive toxicity

Not classified due to lack of data.

Product:

Effects on fertility : Remarks: No data available

Effects on fetal development : Remarks: No data available

Components:

tert-pentyl hydroperoxide:

Effects on fertility : Remarks: No data available

Effects on fetal development : Remarks: No data available

Di-tert-pentyl peroxide:

Effects on fertility : Species: Rat
Application Route: Ingestion
General Toxicity Parent: NOAEL: 100 mg/kg body weight
Method: OECD Test Guideline 422
Remarks: Based on data from similar materials

Species: Rat
Application Route: Ingestion
General Toxicity Parent: LOAEL: 300 mg/kg body weight
Method: OECD Test Guideline 422
Remarks: Based on data from similar materials

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Effects on fetal development : General Toxicity Maternal: NOAEL: 1,000 mg/kg body weight
Method: OECD Test Guideline 414
Result: negative
Remarks: Based on data from similar materials

STOT-single exposure

Not classified due to lack of data.

Product:

Remarks : No data available

Components:

tert-pentyl hydroperoxide:

Remarks : No data available

STOT-repeated exposure

Not classified due to lack of data.

Product:

Remarks : No data available

Components:

tert-pentyl hydroperoxide:

Remarks : No data available

Repeated dose toxicity

Product:

Species : Rat
NOAEL : 100 mg/kg
Application Route : oral (gavage)
Method : OECD Test Guideline 421

Components:

tert-pentyl hydroperoxide:

Species : Rat
NOAEL : 100 mg/kg
Application Route : oral (gavage)
Method : OECD Test Guideline 421

Di-tert-pentyl peroxide:

Species : Rat
NOAEL : 300 mg/kg
Application Route : oral (gavage)
Exposure time : 28 d

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Method : OECD Test Guideline 407

Aspiration toxicity

Not classified due to lack of data.

Product:

No data available

Components:

tert-pentyl hydroperoxide:

No data available

Further information

Product:

Remarks : Solvents may degrease the skin.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish : Remarks: No data available

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 6.7 mg/l
Method: OECD Test Guideline 202
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): 1.2 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to microorganisms : EC50 (Bacteria): 138 mg/l
Method: OECD Test Guideline 209
Remarks: Based on data from similar materials

: EC10 (Bacteria): 33 mg/l
Method: OECD Test Guideline 209
Remarks: Based on data from similar materials

Ecotoxicology Assessment

Acute aquatic toxicity : Toxic to aquatic life.

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

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Components:

tert-pentyl hydroperoxide:

- Toxicity to fish : Remarks: No data available
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 6.7 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
Remarks: Information given is based on data obtained from similar substances.
- Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 1.2 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
- Toxicity to microorganisms : EC50 (Bacteria): 138 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209
Remarks: Based on data from similar materials
- EC10 (Bacteria): 33 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209
Remarks: Based on data from similar materials

Di-tert-pentyl peroxide:

- Toxicity to fish : LC50 : 1,000 mg/l
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 73.1 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
- Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 36 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
- NOEC (Pseudokirchneriella subcapitata (green algae)): 15 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
- Toxicity to microorganisms : EC50 (Bacteria): 1,000 mg/l
Exposure time: 0.5 h
Method: OECD Test Guideline 209

Ecotoxicology Assessment

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

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Chronic aquatic toxicity : May cause long lasting harmful effects to aquatic life.

Persistence and degradability

Product:

Biodegradability : Result: Not readily biodegradable.
Method: OECD Test Guideline 301D
Remarks: Based on data from similar materials

Components:

tert-pentyl hydroperoxide:

Biodegradability : Result: Not readily biodegradable.
Method: OECD Test Guideline 301D
Remarks: Based on data from similar materials

Di-tert-pentyl peroxide:

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

Bioaccumulative potential

Components:

tert-pentyl hydroperoxide:

Partition coefficient: n-octanol/water : log Pow: 2.9
Remarks: Based on data from similar materials

Di-tert-pentyl peroxide:

Bioaccumulation : Bioconcentration factor (BCF): 614

Partition coefficient: n-octanol/water : log Pow: 4.7

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.

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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

IMDG-Code

- UN number : UN 3107
- Proper shipping name : ORGANIC PEROXIDE TYPE E, LIQUID (tert-AMYL HYDROPEROXIDE)
- Class : 5.2
- Packing group : Not assigned by regulation
- Labels : 5.2
- 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

TDG

- UN number : UN 3107
- Proper shipping name : ORGANIC PEROXIDE TYPE E, LIQUID (tert-AMYL HYDROPEROXIDE)
- Class : 5.2
- Packing group : II
- Labels : 5.2
- 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

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Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

International Regulations

Gefahrgruppe nach TRGS 741: 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 |
| DSL (CA) | : | This product contains the following components listed on the Canadian NDSL. All other components are on the Canadian DSL.

tert-pentyl hydroperoxide

Di-tert-pentyl peroxide |
| 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 |
| IECSC (CN) | : | On the inventory, or in compliance with the inventory |

Canadian lists

No substances are subject to a Significant New Activity Notification.

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 : Internal technical data, data from raw material SDSs, OECD

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compile the Material Safety Data Sheet eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

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Date format : mm/dd/yyyy

Full text of other abbreviations

AllC - 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 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

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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