

SAFETY DATA SHEET

TBHP-70-AQ



Version
1.0

Revision Date:
2018/05/18

SDS Number:
600000000045

Print Date:
2018/05/18

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : TBHP-70-AQ

Recommended use of the chemical and restrictions on use

Recommended use : polymerisation initiators
Oxidizing agents

Manufacturer or supplier's details

Company : United Initiators GmbH

Address : Dr.-Gustav-Adolph-Str. 3
82049 Pullach 09

Emergency telephone number : +49 / 89 / 74422 – 0 (24 h)

E-mail address : contact@united-in.com

2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids : Category 3

Organic peroxides : Type F

Acute toxicity (Oral) : Category 4

Acute toxicity (Inhalation) : Category 2

Acute toxicity (Dermal) : Category 3

Skin corrosion/irritation : Category 1

Serious eye damage/eye irritation : Category 1

Skin sensitisation : Category 1

Germ cell mutagenicity : Category 2

Chronic aquatic toxicity : Category 2

GHS label elements

Hazard pictograms :



Signal word : Danger

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Hazard statements : H226 Flammable liquid and vapour.
H242 Heating may cause a fire.
H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H330 Fatal if inhaled.
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/sparks/open flames/hot surfaces. No smoking.
P220 Keep/Store away from clothing/ strong acids, bases, heavy metal salts and other reducing substances /combustible materials.
P233 Keep container tightly closed.
P234 Keep only in original container.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash the contact area thoroughly after handling.
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.
P281 Use personal protective equipment as required.
P284 Wear respiratory protection.
Response:
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER or doctor/ physician 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): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 + P310 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.
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 or doctor/ physician.

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P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P363 Wash contaminated clothing before reuse.
P370 + P378 In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide for extinction.
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 35 °C/ 95 °F. Keep cool.
P420 Store away from other materials.

Disposal:

P501 Dispose of contents and container according to wastes control act.

Other hazards which do not result in classification

Vapours may form explosive mixture with air.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture
Chemical nature : Organic Peroxide
Liquid mixture

Components

| Chemical name | Common Name | CAS-No. | Concentration (% w/w) |
|-----------------------|-----------------------|-----------|-----------------------|
| t-Butyl Hydroperoxide | t-Butyl Hydroperoxide | 75-91-2 | >= 65 - < 70 |
| Water | Water | 7732-18-5 | >= 30 - < 35 |

4. FIRST AID MEASURES

General 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.
Call a physician immediately.

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.

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- Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.
- In case of skin contact : 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.
If symptoms persist, call a physician.
- If inhaled : Call a physician or poison control centre immediately.
If unconscious, place in recovery position and seek medical advice.
Keep respiratory tract clear.
Call a physician immediately.
If breathed in, move person into fresh air.
Contact a poison control center.
- If swallowed : Keep respiratory tract clear.
Call a physician immediately.
Rinse mouth thoroughly with water.
- Most important symptoms and effects, both acute and delayed : Harmful if swallowed.
Toxic in contact with skin.
May cause an allergic skin reaction.
Causes serious eye damage.
Fatal if inhaled.
Suspected of causing genetic defects.
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.
-

5. FIREFIGHTING MEASURES

Suitable and unsuitable extinguishing media

- Suitable extinguishing media : Water spray
Alcohol-resistant foam
Carbon dioxide (CO₂)
Dry chemical
- Unsuitable extinguishing media : High volume water jet
- Specific hazards during fire-fighting : Contact with incompatible materials or exposure to temperatures exceeding SADT may result in a self-accelerating decomposition reaction with release of flammable vapors which

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may auto-ignite.
The product burns violently.
Flash back possible over considerable distance.
Vapours may form explosive mixtures with air.
Cool closed containers exposed to fire with water spray.

Specific extinguishing methods : 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.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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

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

Methods and materials for containment and cleaning up : Contact with incompatible substances can cause decomposition at or below SADT.
Clear spills immediately.
Suppress (knock down) gases/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

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employed in the cleanup of releases. You will need to determine which regulations are applicable.

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 vapours). Keep away from heat and sources of ignition. Use only explosion-proof equipment. Keep away from combustible material.
- Advice on safe handling : 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.
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 sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
Protect from contamination.
- Conditions for safe storage : 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.
Store in original container.
Keep containers tightly closed in a cool, well-ventilated place.
Store in accordance with the particular national regulations.
- Materials to avoid : Keep away from strong acids, bases, heavy metal salts and other reducing substances.
- Recommended storage temperature : 2 - 35 °C

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components 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

Eye protection : Tightly fitting safety goggles
Please wear suitable protective goggles. Also wear face protection if there is a splash hazard.
Ensure that eyewash stations and safety showers are close to the workstation location.

Hand protection

Material : butyl-rubber

Break through time : \geq 480 min

Glove thickness : 0.5 mm

Remarks : 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.

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 : colourless

Odour : characteristic

Odour Threshold : No data available

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pH : No data available

Melting point/range : < 0 °C

Boiling point/boiling range : Decomposition: Decomposes below the boiling point.

Flash point : 38 °C
Method: ISO 3679

Evaporation rate : No data available

Flammability (solid, gas) : Not applicable

Self-ignition :

Upper/Lower explosion limit

Upper explosion limit : No data available

Lower explosion limit : No data available

Vapour pressure : 50.78 hPa (25 °C)

Solubility(ies)
Water solubility : > 691 g/l (20 °C)
soluble

Density : 0.93 g/cm³ (20 °C)

Partition coefficient: n-octanol/water : log Pow: 0.85 (20 °C)

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 : 4.1 mPa.s (20 °C)

Explosive properties : Not explosive

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

Refractive index : 1.387 (20 °C)

10. STABILITY AND REACTIVITY

Chemical stability and possibility of hazardous reactions : Stable under recommended storage conditions.
Stable under recommended storage conditions.
Vapours may form explosive mixture with air.

Conditions to avoid : Protect from contamination.

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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

Health hazard information

Acute toxicity

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

Product:

Acute oral toxicity : LD50 (Rat): 560 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): 1.85 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rabbit): 440 mg/kg
Method: OECD Test Guideline 402

Components:

t-Butyl Hydroperoxide:

Acute oral toxicity : LD50 (Rat): 560 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): 1.85 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rabbit): 440 mg/kg
Method: OECD Test Guideline 402

Skin corrosion/irritation

Causes severe burns.

Product:

Species: Rabbit
Method: Draize Test
Result: Corrosive, category 1C - where responses occur after exposures between 1 hour and 4

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hours and observations up to 14 days.

Remarks: Extremely corrosive and destructive to tissue.

Components:

t-Butyl Hydroperoxide:

Species: Rabbit

Method: Draize Test

Result: Corrosive, category 1C - where responses occur after exposures between 1 hour and 4 hours and observations up to 14 days.

Remarks: Extremely corrosive and destructive to tissue.

Serious eye damage/eye irritation

Causes serious eye damage.

Product:

Species: Rabbit

Result: Irreversible effects on the eye

Method: OECD Test Guideline 405

Remarks: May cause irreversible eye damage.

Components:

t-Butyl Hydroperoxide:

Species: Rabbit

Result: Irreversible effects on the eye

Method: OECD Test Guideline 405

Remarks: May cause irreversible eye damage.

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

Not classified based on available information.

Product:

Species: Guinea pig

Method: OECD Test Guideline 406

Result: May cause sensitisation by skin contact.

Remarks: Causes sensitisation.

Components:

t-Butyl Hydroperoxide:

Species: Guinea pig

Method: OECD Test Guideline 406

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Result: May cause sensitisation by skin contact.

Remarks: Causes sensitisation.

Carcinogenicity

Not classified based on available information.

Product:

Species: Mouse
Application Route: Oral
Exposure time: 103 w
Result: negative

Components:

t-Butyl Hydroperoxide:

Species: Mouse
Application Route: Oral
Result: negative

Germ cell mutagenicity

Suspected of causing genetic defects.

Product:

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
Result: positive

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

Genotoxicity in vivo : Method: Directive 67/548/EEC, Annex V, B.12.
Result: negative

Method: Directive 67/548/EEC, Annex, B.22
Result: positive

Germ cell mutagenicity- Assessment : Positive results from in vitro mammalian mutagenicity assays,
chemical structure activity relationship to known germ cell
mutagens

Components:

t-Butyl Hydroperoxide:

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
Result: positive

Genotoxicity in vivo : Method: Directive 67/548/EEC, Annex V, B.12.
Result: negative

Method: Directive 67/548/EEC, Annex, B.22

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Result: positive

Germ cell mutagenicity- Assessment : Positive results from in vitro mammalian mutagenicity assays, chemical structure activity relationship to known germ cell mutagens

Reproductive toxicity

Not classified based on available information.

Product:

Effects on fertility : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat
Application Route: Oral
General Toxicity - Parent: NOAEL: 21 mg/kg body weight
Method: OECD Test Guideline 422

Components:

t-Butyl Hydroperoxide:

Effects on fertility : Species: Rat
Application Route: Oral
General Toxicity - Parent: NOAEL: 21 mg/kg body weight
Method: OECD Test Guideline 422

Effects on foetal development : Species: Rat
Application Route: Oral
General Toxicity Maternal: NOAEL: 35 mg/kg body weight
Developmental Toxicity: NOAEL: 35 mg/kg body weight
Method: OECD Test Guideline 414

STOT - single exposure

Not classified based on available information.

Product:

Remarks: No data available

STOT - repeated exposure

Not classified based on available information.

Repeated dose toxicity

Product:

Species: Rat
NOAEL: 21 mg/kg
Application Route: Oral
Exposure time: 28 d
Method: OECD Test Guideline 422

Species: Rat
LOAEL: 0.022 mg/l
Application Route: Inhalation

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Exposure time: 28 d
Method: OECD Test Guideline 412

Components:

t-Butyl Hydroperoxide:

Species: Rat
NOAEL: 21 mg/kg
Application Route: Oral
Method: OECD Test Guideline 422

Species: Rat
LOAEL: 0.022 mg/l
Application Route: Inhalation
Method: OECD Test Guideline 412

Aspiration toxicity

Not classified based on available information.

Product:

No data available

Further information

Product:

Remarks: Solvents may degrease the skin.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

- Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 29.61 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 14.07 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
- Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): 1.47 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
- Toxicity to microorganisms : EC50 (Bacteria): 17 mg/l

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Components:

t-Butyl Hydroperoxide:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 29.61 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 14.07 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): 1.47 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to microorganisms : EC50 (Bacteria): 17 mg/l

Persistence and degradability

Product:

Biodegradability : Result: Not readily biodegradable.

Components:

t-Butyl Hydroperoxide:

Biodegradability : Result: Not readily biodegradable.

Bioaccumulative potential

Components:

t-Butyl Hydroperoxide:

Partition coefficient: n-octanol/water : log Pow: 0.85 (20 °C)

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.

Components:

t-Butyl Hydroperoxide:

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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13. DISPOSAL CONSIDERATIONS

Disposal methods

- Waste from residues : 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.
Dispose of wastes in an approved waste disposal facility.
- Contaminated packaging : 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.
Dispose of in accordance with local regulations.

Disposal precautions

Dispose of in accordance with local regulations.

14. TRANSPORT INFORMATION

International Regulations

UNRTDG

- UN number : UN 3109
Proper shipping name : ORGANIC PEROXIDE TYPE F, LIQUID
(tert-BUTYL 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
(tert-Butyl 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
(tert-BUTYL 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

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

Not applicable for product as supplied.

National Regulations

Refer to section 15 for specific national regulation.

Special precautions for user

Not applicable

15. REGULATORY INFORMATION

National regulatory information

Regulation under the Occupational Safety and Health Act

Harmful Substances Prohibited from Manufacturing

Not applicable

Harmful Substances Required Permission for Manufacture

Not applicable

Harmful Agents to be kept below Occupational Exposure Limits

Not applicable

Harmful Agents Required to be kept below Permission Levels

Not applicable

Hazardous substances requiring management

Not applicable

Controlled Substances Subject to Environment Monitoring

Not applicable

Controlled Substances Subject to Health Examination

Not applicable

Regulation under the Chemical Control Act

Toxic Chemicals

Not applicable

Restricted Chemicals

Not applicable

Prohibited Chemicals

Not applicable

Toxic Release Inventory

Not applicable

Accident Precaution Chemicals

Not applicable

Dangerous Substances Safety Management Act

Classification : Group 4, Flammable liquids, Type 2 petroleum, Water soluble liquid

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Hazard rank : Hazardous rank III
Designated Quantity : 2000 litre
Safety Warning : Keep away from fire

Wastes Control Act

Industrial waste
Follow article 13 of the act to dispose the product waste

Other requirements in domestic and other countries

The components of this product are reported in the following inventories:

DSL (CA) : All components of this product are on the Canadian DSL
AICS (AU) : On the inventory, or in compliance with the inventory
NZIoC (NZ) : On the inventory, or in compliance with the inventory
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
TCSI (TW) : On the inventory, or in compliance with the inventory
TSCA (US) : On TSCA Inventory

16. OTHER INFORMATION

Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; 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; CPR - Controlled Products Regulations; 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

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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; 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

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