

# SAFETY DATA SHEET

## CH-50-WO



Version 2.0      Revision Date: 04/08/2020      SDS Number: 600000000255      Date of last issue: 09/24/2019  
Date of first issue: 11/17/2016

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### SECTION 1. IDENTIFICATION

Trade name : CH-50-WO  
Other means of identification : No data available

#### Manufacturer or supplier's details

Company name of supplier : United Initiators, Inc.

Address : 555 Garden Street  
Elyria OH 44035 USA

Unit 3 – 363 Broadway, Suite 324  
Winnipeg, MB R3C 3N9 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): 1-613-966-6666

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

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### SECTION 2. HAZARDS IDENTIFICATION

#### GHS classification in accordance with the Hazardous Products Regulations

Flammable liquids : Category 3

Organic peroxides : Type D

Aspiration hazard : Category 1

Long-term (chronic) aquatic hazard : Category 4

# SAFETY DATA SHEET

## CH-50-WO



Version 2.0      Revision Date: 04/08/2020      SDS Number: 600000000255      Date of last issue: 09/24/2019  
Date of first issue: 11/17/2016

---

### GHS label elements

Hazard pictograms



Signal Word

: Danger

Hazard Statements

: H226 Flammable liquid and vapor.  
H242 Heating may cause a fire.  
H304 May be fatal if swallowed and enters airways.  
H413 May cause long lasting harmful effects to aquatic life.

Precautionary Statements

: **Prevention:**

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.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

**Response:**

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.  
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.  
P331 Do NOT induce vomiting.  
P370 + P378 In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish.

**Storage:**

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.

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## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

# SAFETY DATA SHEET

## CH-50-WO



Version 2.0      Revision Date: 04/08/2020      SDS Number: 600000000255      Date of last issue: 09/24/2019  
Date of first issue: 11/17/2016

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

### Components

Chemical name	CAS-No.	Concentration (% w/w)
White mineral oil (petroleum)	8042-47-5	>= 50 - < 55
Cyclohexylidenebis[tert-butyl] peroxide	3006-86-8	>= 45 - < 50

Actual concentration or concentration range is withheld as a trade secret

### SECTION 4. FIRST AID MEASURES

General 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.  
Call a physician immediately.

If inhaled : Call a physician or poison control center immediately.  
If unconscious, place in recovery position and seek medical advice.  
Keep respiratory tract clear.  
If breathed in, move person into fresh air.

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.  
If on skin, rinse well with water.  
If on clothes, remove clothes.  
If symptoms persist, call a physician.

In case of eye contact : In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
Remove contact lenses.  
Protect unharmed eye.  
Keep eye wide open while rinsing.  
If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear.  
Do NOT induce vomiting.  
Call a physician immediately.  
Contact a poison control center.  
Rinse mouth thoroughly with water.

Most important symptoms : May be fatal if swallowed and enters airways.

# SAFETY DATA SHEET

## CH-50-WO



Version	Revision Date:	SDS Number:	Date of last issue: 09/24/2019
2.0	04/08/2020	600000000255	Date of first issue: 11/17/2016

---

and effects, both acute and delayed

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

Notes to physician : Treat symptomatically and supportively.

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### SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Water spray jet  
Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical

Unsuitable extinguishing media : High volume water jet

Specific hazards during fire fighting : 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.  
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 : 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.

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

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### SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.  
Ensure adequate ventilation.  
Remove all sources of ignition.  
Evacuate personnel to safe areas.  
Follow safe handling advice and personal protective

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# SAFETY DATA SHEET

## CH-50-WO



Version 2.0      Revision Date: 04/08/2020      SDS Number: 600000000255      Date of last issue: 09/24/2019  
Date of first issue: 11/17/2016

---

equipment recommendations.  
Beware of vapors accumulating to form explosive concentrations. Vapors 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/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.

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### SECTION 7. HANDLING AND STORAGE

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

Advice on protection against fire and explosion : Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors).  
Keep away from heat and sources of ignition.  
Use only explosion-proof equipment.  
Keep away from combustible material.

Advice on safe handling : Do not swallow.  
Do not breathe vapors/dust.  
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.

# SAFETY DATA SHEET

## CH-50-WO



Version 2.0      Revision Date: 04/08/2020      SDS Number: 600000000255      Date of last issue: 09/24/2019  
Date of first issue: 11/17/2016

For personal protection see section 8.  
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 : < 30 °C

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

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
White mineral oil (petroleum)	8042-47-5	TWA (Mist)	5 mg/m <sup>3</sup>	CA AB OEL
		STEL (Mist)	10 mg/m <sup>3</sup>	CA AB OEL
		TWAEV (Mist)	5 mg/m <sup>3</sup>	CA QC OEL
		STEV (Mist)	10 mg/m <sup>3</sup>	CA QC OEL
		TWA (Mist)	1 mg/m <sup>3</sup>	CA BC OEL
		TWA (Mist)	1 mg/m <sup>3</sup>	CA BC OEL
		TWA (Inhalable fraction)	5 mg/m <sup>3</sup>	ACGIH

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

#### Personal protective equipment

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

Filter type : ABEK-filter

#### Hand protection

Material : Nitrile rubber  
Break through time : 480 min  
Glove thickness : 0.4 mm

Material : butyl-rubber

# SAFETY DATA SHEET

## CH-50-WO



Version 2.0      Revision Date: 04/08/2020      SDS Number: 600000000255      Date of last issue: 09/24/2019  
Date of first issue: 11/17/2016

---

Break through time : 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 Wash hands before breaks and at the end of workday.

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.

Skin and body protection : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.

Hygiene measures : Keep away from food and drink.  
When using do not eat or drink.  
When using do not smoke.  
Wash hands before breaks and immediately after handling the product.

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### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Color : colorless

Odor : characteristic

pH : No data available

Melting point/range : < -25 °C

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

Flash point : 49 °C

Method: ISO 3679

Flammability (solid, gas) : Not applicable

# SAFETY DATA SHEET

## CH-50-WO



Version	Revision Date:	SDS Number:	Date of last issue: 09/24/2019
2.0	04/08/2020	600000000255	Date of first issue: 11/17/2016

---

Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapor pressure	:	No data available
Density	:	0.89 g/cm <sup>3</sup> (20 °C)
Solubility(ies)	:	
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Self-Accelerating decomposition temperature (SADT)	:	70 °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	:	33 mPa.s ( 20 °C)
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing. Organic peroxide
Refractive index	:	1.454 (20 °C)

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### SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Stable under recommended storage conditions.
Chemical stability	:	Stable under recommended storage conditions.
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



# SAFETY DATA SHEET

## CH-50-WO



Version 2.0      Revision Date: 04/08/2020      SDS Number: 600000000255      Date of last issue: 09/24/2019  
Date of first issue: 11/17/2016

---

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

Not classified based on available information.

#### **Product:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC0 (Rat): > 207.2 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist

Acute dermal toxicity : LD0 (Rat): > 2,000 mg/kg

#### **Components:**

##### **White mineral oil (petroleum):**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg  
Method: OECD Test Guideline 401  
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rat): > 5 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403  
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg  
Method: OECD Test Guideline 402  
Assessment: The substance or mixture has no acute dermal toxicity  
Remarks: No mortality observed at this dose.

##### **Cyclohexylidenebis[tert-butyl] peroxide:**

Acute oral toxicity : LD50 (Rat): 13,342 mg/kg  
Method: Expert judgment  
Assessment: The substance or mixture has no acute oral toxicity

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg  
Method: Expert judgment  
Assessment: The substance or mixture has no acute dermal toxicity



# SAFETY DATA SHEET

## CH-50-WO



Version 2.0      Revision Date: 04/08/2020      SDS Number: 600000000255      Date of last issue: 09/24/2019  
Date of first issue: 11/17/2016

---

### Components:

#### **White mineral oil (petroleum):**

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

#### **Cyclohexylidenebis[tert-butyl] peroxide:**

Test Type : Buehler Test  
Routes of exposure : Skin contact  
Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : negative

### **Germ cell mutagenicity**

Not classified based on available information.

### Product:

Genotoxicity in vitro : Result: Not mutagenic in Ames Test.

### Components:

#### **White mineral oil (petroleum):**

Genotoxicity in vitro : Method: OECD Test Guideline 476  
Result: negative  
Remarks: Information given is based on data obtained from similar substances.

Genotoxicity in vivo : Method: OECD Test Guideline 474  
Result: negative  
Remarks: Based on data from similar materials

#### **Cyclohexylidenebis[tert-butyl] peroxide:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Method: OECD Test Guideline 471  
Result: negative

### **Carcinogenicity**

Not classified based on available information.

### Components:

#### **White mineral oil (petroleum):**

Method : OECD Test Guideline 453  
Result : negative  
Remarks : Based on data from similar materials

# SAFETY DATA SHEET

## CH-50-WO



Version 2.0      Revision Date: 04/08/2020      SDS Number: 600000000255      Date of last issue: 09/24/2019  
Date of first issue: 11/17/2016

---

### Reproductive toxicity

Not classified based on available information.

#### Components:

##### **Cyclohexylidenebis[tert-butyl] peroxide:**

Effects on fertility : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test  
Species: Rat  
Application Route: Ingestion  
Method: OECD Test Guideline 422  
Result: negative

Effects on fetal development : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test  
Species: Rat  
Application Route: Ingestion  
Method: OECD Test Guideline 422  
Result: negative

### STOT-single exposure

Not classified based on available information.

#### Components:

##### **White mineral oil (petroleum):**

Assessment : No data available

### STOT-repeated exposure

Not classified based on available information.

#### Components:

##### **White mineral oil (petroleum):**

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.  
Remarks : Not classified due to data which are conclusive although insufficient for classification.

### Repeated dose toxicity

#### Components:

##### **Cyclohexylidenebis[tert-butyl] peroxide:**

Species : Rat  
NOAEL : 200 mg/kg  
Application Route : Oral  
Method : OECD Test Guideline 422

### Aspiration toxicity

May be fatal if swallowed and enters airways.

# SAFETY DATA SHEET

## CH-50-WO



Version 2.0      Revision Date: 04/08/2020      SDS Number: 600000000255      Date of last issue: 09/24/2019  
Date of first issue: 11/17/2016

---

### Components:

#### **White mineral oil (petroleum):**

May be fatal if swallowed and enters airways.

#### **Cyclohexylidenebis[tert-butyl] peroxide:**

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

### **Further information**

#### Product:

Remarks : Solvents may degrease the skin.

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## SECTION 12. ECOLOGICAL INFORMATION

### **Ecotoxicity**

#### Product:

#### **Ecotoxicology Assessment**

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

### Components:

#### **White mineral oil (petroleum):**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

NOEC (Fish): >= 100 mg/l  
Exposure time: 96 h  
Method: No information available.

Toxicity to daphnia and other aquatic invertebrates : NOEC (Daphnia magna (Water flea)): >= 100 mg/l  
Exposure time: 48 h  
Method: No information available.

EC50 (Daphnia magna (Water flea)): > 100 mg/l  
Exposure time: 48 h  
Method: No information available.

Toxicity to algae/aquatic plants : NOEC (algae): >= 100 mg/l  
Exposure time: 72 h  
Method: No information available.

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 1,000 mg/l  
Method: OECD Test Guideline 211

# SAFETY DATA SHEET

## CH-50-WO



Version 2.0      Revision Date: 04/08/2020      SDS Number: 600000000255      Date of last issue: 09/24/2019  
Date of first issue: 11/17/2016

---

### **Cyclohexylidenebis[tert-butyl] peroxide:**

- Toxicity to fish : LL50 (Danio rerio (zebra fish)): > 100 mg/l  
Exposure time: 96 h  
Test substance: Water Accommodated Fraction
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 1,000 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202
- Toxicity to algae/aquatic plants : NOELR (Pseudokirchneriella subcapitata (green algae)): > 10 mg/l  
Exposure time: 72 h  
Test substance: Water Accommodated Fraction  
Method: OECD Test Guideline 201  
Remarks: No toxicity at the limit of solubility.
- Toxicity to microorganisms : EC50: > 20 mg/l  
Exposure time: 3 h  
Method: OECD Test Guideline 209

### **Persistence and degradability**

#### **Product:**

- Biodegradability : Result: Not readily biodegradable.

#### **Components:**

### **White mineral oil (petroleum):**

- Biodegradability : Result: Readily biodegradable.  
Method: OECD Test Guideline 301B

### **Cyclohexylidenebis[tert-butyl] peroxide:**

- Biodegradability : Result: Not readily biodegradable.  
Biodegradation: 5 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301B

### **Bioaccumulative potential**

#### **Components:**

### **White mineral oil (petroleum):**

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

### **Cyclohexylidenebis[tert-butyl] peroxide:**

- Partition coefficient: n-octanol/water : log Pow: > 6.5

# SAFETY DATA SHEET

## CH-50-WO



Version 2.0      Revision Date: 04/08/2020      SDS Number: 600000000255      Date of last issue: 09/24/2019  
Date of first issue: 11/17/2016

---

### 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.  
May cause long lasting harmful effects to aquatic life.

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## SECTION 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.

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## SECTION 14. TRANSPORT INFORMATION

### International Regulations

#### **UNRTDG**

UN number : UN 3105  
Proper shipping name : ORGANIC PEROXIDE TYPE D, LIQUID  
(1,1-DI-(tert-BUTYLPEROXY) CYCLOHEXANE)  
Class : 5.2  
Packing group : Not assigned by regulation  
Labels : 5.2

#### **IATA-DGR**

UN/ID No. : UN 3105  
Proper shipping name : Organic peroxide type D, liquid  
(1,1-Di-(tert-butylperoxy) cyclohexane)  
Class : 5.2  
Packing group : Not assigned by regulation  
Labels : Division 5.2 - Organic peroxides, Handling Label - Keep Away From Heat  
Packing instruction (cargo aircraft) : 570  
Packing instruction (passenger aircraft) : 570

#### **IMDG-Code**

UN number : UN 3105

---

# SAFETY DATA SHEET

## CH-50-WO



Version 2.0      Revision Date: 04/08/2020      SDS Number: 600000000255      Date of last issue: 09/24/2019  
Date of first issue: 11/17/2016

---

Proper shipping name : ORGANIC PEROXIDE TYPE D, LIQUID  
(1,1-DI-(tert-BUTYLPEROXY)CYCLOHEXANE)  
Class : 5.2  
Packing group : Not assigned by regulation  
Labels : 5.2  
EmS Code : F-J, S-R  
Marine pollutant : no

### 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 3105  
Proper shipping name : ORGANIC PEROXIDE TYPE D, LIQUID  
(1,1-DI-(tert-BUTYLPEROXY) CYCLOHEXANE)  
Class : 5.2  
Packing group : II  
Labels : 5.2  
ERG Code : 145  
Marine pollutant : no

### Special precautions for user

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

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## SECTION 15. REGULATORY INFORMATION

### 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  
AICS (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

### Canadian lists

No substances are subject to a Significant New Activity Notification.



# SAFETY DATA SHEET

## CH-50-WO



Version	Revision Date:	SDS Number:	Date of last issue: 09/24/2019
2.0	04/08/2020	600000000255	Date of first issue: 11/17/2016

---

### 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.

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

Revision Date : 04/08/2020

#### Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)  
CA AB OEL : Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)  
CA BC OEL : Canada. British Columbia OEL  
CA QC OEL : Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants  
ACGIH / TWA : 8-hour, time-weighted average  
CA AB OEL / TWA : 8-hour Occupational exposure limit  
CA AB OEL / STEL : 15-minute occupational exposure limit  
CA BC OEL / TWA : 8-hour time weighted average  
CA QC OEL / TWA EV : Time-weighted average exposure value  
CA QC OEL / STEV : Short-term exposure value

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; 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 Develop-

# SAFETY DATA SHEET

## CH-50-WO



Version	Revision Date:	SDS Number:	Date of last issue: 09/24/2019
2.0	04/08/2020	600000000255	Date of first issue: 11/17/2016

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ment; 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

The information provided in this Material 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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