



# TCI AMERICA

## SAFETY DATA SHEET

Revision number: 1  
Revision date: 07/06/2018

### 1. IDENTIFICATION

**Product name:** Di-tert-butyl Peroxide  
**Product code:** D3411

**Product use:** For laboratory research purposes.  
**Restrictions on use:** Not for drug or household use.

Company:  
TCI America  
9211 N. Harborgate Street  
Portland, OR 97203 U.S.A.  
Telephone:  
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Fax:  
+1-888-520-1075 / +1-503-283-1987  
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sales-US@TCIchemicals.com  
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**Emergency telephone number:**  
Chemical Emergencies:  
TCI America (8:00am - 5:00pm) PST  
+1-503-286-7624  
Transportation Emergencies:  
Chemtrec 24-Hour  
+1-800-424-9300 (U.S.A.)  
+1-703-527-3887 (International)  
**Responsible department:**  
TCI America  
Environmental Health Safety and Security  
+1- 503-286-7624

### 2. HAZARD(S) IDENTIFICATION

**OSHA Haz Com: CFR 1910.1200:** Eye Damage/Irritation [Category 2B]  
**WHMIS 2015:** Flammable Liquids [Category 2]  
Organic Peroxides - Type E

**Signal word:** Danger!

**Hazard Statement(s):** Highly flammable liquid and vapor  
Heating may cause a fire  
Causes eye irritation

**Pictogram(s) or Symbol(s):**



**Precautionary Statement(s):**  
[Prevention]

[Response]

[Storage]

[Disposal]

Keep away from heat, sparks, open flames and hot surfaces. – No smoking. Keep and store away from clothing or other combustible materials. Keep container tightly closed. Keep only in original container. Ground and bond container and receiving equipment. Use explosion-proof electrical, ventilating and lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wash hands and face thoroughly after handling. Wear protective gloves, eye protection. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice or attention. Store away from other materials. Protect from sunlight. Dispose of contents and container in accordance with local, regional, national regulations (e.g. US: 40 CFR Part 261, EU:91/156/EEC, JP: Waste Disposal and Cleaning Act, etc.).

**Hazards not otherwise classified:** None.  
[HNOC]

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

<b>Substance/mixture:</b>	Substance
<b>Components:</b>	Di-tert-butyl Peroxide
<b>Percent:</b>	>98.0%(GC)
<b>CAS RN:</b>	110-05-4
<b>Molecular Weight:</b>	146.23
<b>Chemical Formula:</b>	C <sub>8</sub> H <sub>18</sub> O <sub>2</sub>
<b>Synonyms:</b>	tert-Butyl Peroxide

**4. FIRST-AID MEASURES****Description of first aid measures**

<b>Inhalation:</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.
<b>Skin contact:</b>	Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation or rash occurs: Get medical advice/attention.
<b>Eye contact:</b>	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
<b>Ingestion:</b>	Get medical advice/attention if you feel unwell. Rinse mouth.

**Symptoms/effects:**

<b>Acute:</b>	Redness.
<b>Delayed:</b>	No data available

**Indication of any immediate medical attention:**

Not available.

**Notes to physician:**

No data available

**5. FIRE-FIGHTING MEASURES**

<b>Suitable extinguishing media:</b>	Dry chemical, foam, water spray, carbon dioxide.
<b>Specific hazards arising from the chemical:</b>	Explosion risk in case of fire. Fight fire remotely due to the risk of explosion.
<b>Hazardous combustion products:</b>	These products include: Carbon oxides
<b>Other specific hazards:</b>	Closed containers may explode from heat of a fire.
<b>Advice for firefighters:</b>	Wear self-contained breathing apparatus if possible. Combat fire from a sheltered position.

**6. ACCIDENTAL RELEASE MEASURES**

<b>Personal precautions, protective equipment and emergency procedures:</b>	Use extra personal protective equipment (self-contained breathing apparatus). Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Entry to non-involved personnel should be controlled around the leakage area by roping off, etc.
<b>Environmental precautions:</b>	Prevent product from entering drains.
<b>Methods and materials for containment and cleaning up:</b>	Absorb spilled material in dry sand or inert absorbent before recovering it into an airtight container. In case of large amount of spillage, contain a spill by bunding. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.
<b>Prevention of secondary hazards:</b>	Remove all sources of ignition. Fire-extinguishing devices should be prepared in case of a fire. Use spark-proof tools and explosion-proof equipment. Ensure all leaks are completely removed to prevent subsequent ignition.

**7. HANDLING AND STORAGE**

<b>Precautions for safe handling:</b>	Handling is performed in a well ventilated place. Wear suitable protective equipment. Be careful not to cause leakage, overflow, or dispersion. Steam should not be generated unnecessarily. Keep away from heat/sparks/open flame/hot surfaces. -No smoking. Take measures to prevent the build up of electrostatic charge. Use explosion-proof equipment. Avoid shock and friction. Wash hands and face before breaks and immediately after handling the product. Use a closed system if possible. Use a ventilation, local exhaust if vapour or aerosol will be generated. Avoid contact with skin, eyes and clothing. Don't leave used equipment or rag. This product may ignite if it is left stuck on combustibles such as paper, rags, etc.
<b>Conditions for safe storage, including any incompatibilities</b>	
<b>Storage conditions:</b>	Keep container tightly closed. Store in an explosion-proof freezer. Be sure not to give the container unexpected impacts, such as falling down or falling off. Store away from other materials. Heat-sensitive
<b>Packaging material:</b>	Comply with laws. Keep only in original container.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Appropriate engineering controls:** Follow safe industrial engineering/laboratory practices when handling any chemical. Install a closed system or local exhaust. Also install safety shower and eye bath.

### Personal protective equipment

**Respiratory protection:** Vapor respirator. Follow local and national regulations.  
**Hand protection:** Protective gloves.  
**Eye protection:** Safety glasses. A face-shield, if the situation requires.  
**Skin and body protection:** Protective clothing. Protective boots, if the situation requires.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state (20°C):</b>	Liquid		
<b>Form:</b>	Clear		
<b>Colour:</b>	Colorless - Slightly pale yellow		
<b>Odour:</b>	Characteristic		
<b>Odor threshold:</b>	No data available		
<b>Odour threshold:</b>	No data available		
<b>Melting point/freezing point:</b>	-40°C (-40°F)	<b>pH:</b>	No data available
<b>Boiling point/range:</b>	111°C (232°F)	<b>Vapour pressure:</b>	No data available.
<b>Decomposition temperature:</b>	No data available	<b>Vapour density:</b>	5
<b>Relative density:</b>	0.80	<b>Dynamic Viscosity:</b>	No data available
<b>Kinematic viscosity:</b>	No data available	<b>Evaporation rate(Butyl Acetate=1):</b>	No data available
<b>Log Pow:</b>	No data available	<b>Autoignition temperature:</b>	475°C (887°F)
<b>Flash point:</b>	12°C (54°F)	<b>Flammability or explosive limits:</b>	
<b>Flammability(solid, gas):</b>	No data available	<b>Lower:</b>	No data available
		<b>Upper:</b>	No data available
<b>Solubility(ies):</b>			
<b>[Water]</b>	Insoluble		
<b>[Other solvents]</b>			
<b>Soluble:</b>	Acetone, Carbon tetrachloride, Many organic solvents		

## 10. STABILITY AND REACTIVITY

**Reactivity:** No data available  
**Chemical stability:** Stable under proper conditions.  
**Possibility of hazardous reactions:** May explosively decompose on heating, shock, friction, etc.  
**Conditions to avoid:** Heat, Spark, Open flame, Static discharge, Shock, Friction, Light  
**Incompatible materials:** Strong acids, Strong bases, Reducing agents, Combustibles, Organic materials, Metal powders  
**Hazardous decomposition products:** Carbon dioxide, Carbon monoxide

**11. TOXICOLOGICAL INFORMATION****RTECS Number:** ER2450000**Acute Toxicity:**ihl-rat LC50:>4100 ppm/4H  
orl-rat LD50:>25 g/kg

ipr-rat LD50:3210 mg/kg

**Skin corrosion/irritation:**

skn-rbt 500 mg

**Serious eye damage/irritation:**

eye-rbt 500 mg/24H MLD

**Respiratory or skin sensitization:**

No data available

**Germ cell mutagenicity:**

No data available

**Carcinogenicity:**

unr-mus TDL0:585 mg/kg

**IARC:** No data available**NTP:** No data available**OSHA:** No data available**Reproductive toxicity:**ihl-rat TCL0:226 mg/m<sup>3</sup>/4H (1-19D preg)**Target organ(s):**

No data available

**12. ECOLOGICAL INFORMATION****Ecotoxicity:****Fish:** No data available  
**Crustacea:** No data available  
**Algae:** No data available**Persistence / degradability:**

0% (by BOD) , 0% (by GC)

**Bioaccumulative potential(BCF):**

250

**Mobility in soil****Log Pow:** 1 - 4  
**Soil adsorption (Koc):** 720  
**Henry's Law (PaM<sup>3</sup>/mol):** 121.5**13. DISPOSAL CONSIDERATIONS****Disposal of product:**

Recycle to process if possible. It is the generator's responsibility to comply with Federal, State and Local rules and regulations. Consult an expert of disposal. You may be able to dissolve or mix material with a combustible solvent and little by little burn in a chemical incinerator equipped with an afterburner and scrubber system. If a large amount of the substance is burned at a time, an explosion may occur. This section is intended to provide assistance but does not replace these laws, nor does compliance in accordance with this section ensure regulatory compliance according to the law. US EPA guidelines for Identification and Listing of Hazardous Waste are listed in 40 CFR Parts 261. The product should not be allowed to enter the environment, drains, water ways, or the soil.

**Disposal of container:**

Dispose of as unused product. Do not re-use empty containers.

**Other considerations:**

Observe all federal, state and local regulations when disposing of the substance.

**14. TRANSPORT INFORMATION****DOT (US)**

<b>UN number:</b> UN3107	<b>Proper Shipping Name:</b> Organic peroxide type E, liquid	<b>Class or Division:</b> 5.2 Organic peroxide	<b>Packing Group:</b> II
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**IATA**

<b>UN number:</b> UN3107	<b>Proper Shipping Name:</b> Organic peroxide type E, liquid	<b>Class or Division:</b> 5.2 Organic peroxide
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**IMDG**

<b>UN number:</b> UN3107	<b>Proper Shipping Name:</b> Organic peroxide type E, liquid	<b>Class or Division:</b> 5.2 Organic peroxide
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**EmS number:** F-J, S-R

**15. REGULATORY INFORMATION****Toxic Substance Control Act (TSCA 8b.):**

This product is ON the EPA Toxic Substances Control Act (TSCA) inventory.

**US Federal Regulations****CERCLA Hazardous substance and Reportable Quantity:**

<b>SARA 313:</b>	Not Listed
<b>SARA 302:</b>	Not Listed

**State Regulations****State Right-to-Know**

<b>Massachusetts</b>	Listed
<b>New Jersey</b>	Listed
<b>Pennsylvania</b>	Listed
<b>California Proposition 65:</b>	Not Listed

**Other Information****NFPA Rating:**

<b>Health:</b>	1
<b>Flammability:</b>	3
<b>Instability:</b>	1

**HMIS Classification:**

<b>Health:</b>	1
<b>Flammability:</b>	3
<b>Physical:</b>	1

**International Inventories**

<b>Canada: DSL</b>	On DSL
<b>EC-No:</b>	203-733-6

**16. OTHER INFORMATION**

**Revision date:** 07/06/2018

**Revision number:** 1

TCI chemicals are for research purposes only and are NOT intended for use as drugs, food additives, households, or pesticides. The information herein is believed to be correct, but does not claim to be all inclusive and should be used only as a guide. Neither the above named supplier nor any of its affiliates or subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All chemical reagents must be handled with the recognition that their chemical, physiological, toxicological, and hazardous properties have not been fully investigated or determined. All chemical reagents should be handled only by individuals who are familiar with their potential hazards and who have been fully trained in proper safety, laboratory, and chemical handling procedures. Although certain hazards are described herein, we can not guarantee that these are the only hazards which exist. Our SDS are based only on data available at the time of shipping and are subject to change without notice as new information is obtained. Avoid long storage periods since the product is subject to degradation with age and may become more dangerous or hazardous. It is the responsibility of the user to request updated SDS for products that are stored for extended periods. Disposal of unused product must be undertaken by qualified personnel who are knowledgeable in all applicable regulations and follow all pertinent safety precautions including the use of appropriate protective equipment (e.g. protective goggles, protective clothing, breathing equipment, face mask, fume hood). For proper handling and disposal, always comply with federal, state and local regulations.