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## Material Safety Data Sheet

### Di-tert-butyl Peroxide MSDS

#### Section 1: Chemical Product and Company Identification

**Product Name:** Di-tert-butyl peroxide,DTBP

**CAS#:** 110-05-4

**RTECS:** ER2450000

**Synonym:** T-BUTYL PEROXIDE;TERT-BUTYL PEROXIDE

**Chemical Formula:** C<sub>8</sub>H<sub>18</sub>O<sub>2</sub>

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#### Section 2: Composition and Information on Ingredients

**Composition:**

Name	CAS # %	By Weight
Di-tert-butyl peroxide	110-05-4	100G

**Toxicological Data on Ingredients:** DTBP: ORAL (LD<sub>50</sub>): Acute: 4100 mg/kg [Rat].

#### Section 3: Hazards Identification

**Potential Acute Health Effects:** Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.

**Potential Chronic Health Effects:**

CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. Repeated or prolonged exposure is not known to aggravate medical condition.

## Section 4: First Aid Measures

### Eye Contact:

Causes eye irritation. Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Cold water may be used. Do not use an eye ointment. Seek medical attention.

### Skin Contact:

Causes skin irritation. After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cold water may be used.

Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.

### Serious Skin Contact:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

**Inhalation:** Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid. DO NOT use mouth-to-mouth respiration. Seek immediate medical attention.

**Serious Inhalation:** May cause respiratory tract irritation. Vapors may cause dizziness or suffocation

### Ingestion:

Never give anything by mouth to an unconscious person. Get medical aid. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water. Seek immediate medical attention.

**Serious Ingestion:** Not available.

## Section 5: Fire and Explosion Data

**Flammability of the Product:** Flammable.

**Auto-Ignition Temperature:** Not available.

**Flash Points:** 18°C (34°F).

**Products of Combustion:** These products are carbon oxides (CO, CO<sub>2</sub>).

**Fire Hazards in Presence of Various Substances:** Strong oxidizer. Contact with combustible materials may cause a fire.

### Explosion Hazards in Presence of Various Substances:

May explode from heat or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard.

### Fire Fighting Media and Instructions:

SMALL FIRE: Use DRY chemical, carbon dioxide, water spray or alcohol-resistant foam. LARGE FIRE: Use water spray, fog or foam. Do not use water jet. Contact professional fire-fighters.

**Special Remarks on Fire Hazards:** Not available.

**Special Remarks on Explosion Hazards:** Not available.

## Section 6: Accidental Release Measures

**Small Spill:**

Absorb spill with inert material, (e.g., dry sand or earth), then place into a chemical waste container. Clean up spills immediately, using the appropriate protective equipment. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. A vapor suppressing foam may be used to reduce vapors.

**Large Spill:**

Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

**Section 7: Handling and Storage****Precautions:**

Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe dust. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes, and clothing.

**Storage:**

Keep container dry. Keep in a cool place. Ground all equipment containing material. Keep container tightly closed. Keep in a cool, well-ventilated place. Combustible materials should be stored away from extreme heat and away from strong oxidizing agents.

**Section 8: Exposure Controls/Personal Protection****Engineering Controls:**

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

**Personal Protection:**

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. Skin: Wear appropriate protective gloves to prevent skin exposure. Clothing: Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

**Personal Protection in Case of a Large Spill:**

Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

**Exposure Limits:** Not available.

## Section 9: Physical and Chemical Properties

**Physical state and appearance:** Transparent liquid without impurities.

**Odor:** aromatic odor.

**Taste:** Not available.

**Molecular Weight:** 146.23 g/mole.

**Color:** Colorless.

**Assay:** 99%.

**Boiling Point:** 109°C. (210°F)

**Melting Point:** -30°C.(-58°F)

**Storage Temperature:** -30~+40°C.

**Specific Gravity:** 0.8

**Vapor Pressure:** 40 mm Hg ( 20°C.)

**Refractive Index:** n<sub>20</sub>/D 1.389

**Stability:** May decompose explosively if heated, subjected to shock, or treated with reducing agents. Highly flammable. Refrigerate.

**Solubility:** Insoluble.

**Usage:** Used for crosslinking agent of unsaturated polyester and silicone rubber , also used as a polymerization initiator.

## Section 10: Stability and Reactivity Data

**Stability:** Unstable.

**Instability Temperature:** Not available.

**Conditions of Instability:** May decompose explosively if heated, subjected to shock, or treated with reducing agents. Highly flammable. Refrigerate.

**Incompatibility with various substances:** Copper alloys, reducing agents.

**Corrosivity:** Non-corrosive in presence of glass.

**Special Remarks on Reactivity:** Not available.

**Special Remarks on Corrosivity:** Not available.

## Section 11: Toxicological Information

**Routes of Entry:** Eye contact. Inhalation. Ingestion.

**Toxicity to Animals:** Acute oral toxicity (LD<sub>50</sub>): Acute: 4100 mg/kg [Rat].

**Chronic Effects on Humans:** Not available.

**Other Toxic Effects on Humans:** Hazardous in case of skin contact (irritant), of ingestion, of inhalation.

**Special Remarks on Toxicity to Animals:** Not available.

**Special Remarks on Chronic Effects on Humans:** Not available.

**Special Remarks on other Toxic Effects on Humans:** Not available.

## Section 12: Ecological Information

**Ecotoxicity:** Not available.

**BOD5 and COD:** Not available.

**Products of Biodegradation:**

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

**Toxicity of the Products of Biodegradation:** The products of degradation are more toxic.

**Special Remarks on the Products of Biodegradation:** Not available.

### Section 13: Disposal Considerations

**Waste Disposal:** State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

### Section 14: Transport Information

#### Domestic (Land, D.O.T.)

**Proper Shipping Name:** Tert-Butyl peroxybenzoate

**Hazard Class:** 5.2

**UN/NA:** UN 3107

**Packing Group:** II

**Information reported for product/size:** 100G

#### International (Water, I.M.O.)

**Proper Shipping Name:** Tert-Butyl peroxybenzoate

**Hazard Class:** 5.2

**UN/NA:** UN3107

**Packing Group:** II

**Information reported for product/size:** 100G

### Section 15: Other Regulatory Information

**FPA Ratings:** Combustible, Flammability, Reactivity,

**Label Hazard Warning:** ANGER! CORROSIVE. CAUSES BURNS TO HEAT.SPARKS,FLAMES,OXIDIZER OF CONTACT. HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN.COMBUSTIBLE LIQUID. DANGEROUS WHEN WET.

#### Label Precautions:

Keep away from heat, sparks, flame and moisture.

Do not get in eyes, on skin, or on clothing..

Keep container closed.

Use only with adequate ventilation.

Wash thoroughly after handling.

#### Label First Aid:

In case of contact, wipe off excess material from skin then immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. In all cases get

medical attention immediately.

**Product Use:**

Polymerization initiator for polyethylene, polystyrene, polyacrylates, and polyesters, chemical intermediate.

**Protective Equipment:**

Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Splash goggles.

## Section 16: Other Information

**References:** Not available.

**Other Special Considerations:** Not available.

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