



Dulcette Technologies LLC

## **MATERIAL SAFETY DATA SHEET**

### 01. **CHEMICAL PRODUCT AND COMPANY IDENTIFICATION:**

- Product Name : "M-TBHQ"  
- Manufacturer/Supplier : CAMLIN FINE CHEMICALS LIMITED  
Plot No. F/ 11 & F/12, WICEL,  
MIDC, Marol, Central Road,  
Opp. SEEPZ Main Gate,  
Andheri (East), Mumbai – 400 093,  
INDIA  
- MSDS prepared by : CAMLIN FINE CHEMICALS LIMITED  
- Chemical Name : Tert-Butyl Hydroquinone  
- Synonym(s) : Tert-butyl Hydroquinone  
- Molecular Formula : C<sub>10</sub>H<sub>14</sub>O<sub>2</sub>  
- Molecular Weight : 166.22  
- Product Use : Antioxidant

### 02. **COMPOSITION/INFORMATION ON INGREDIENTS:**

- Weight % - Component - (CAS Registry No.)  
98.0 mono-Tert-butylhydroquinone (001948-33-0)

### 03. **HAZARDS IDENTIFICATION:**

WARNING !  
CAUSES SKIN AND EYE IRRITATION  
POWDERED MATERIAL MAY FORM EXPLOSIVE DUST-AIR MIXTURES

HMIS Hazard Ratings: Health - 2, Flammability - 1, Chemical  
Reactivity - 0  
NFPA Hazard Ratings: Health - 2, Flammability - 1, Chemical  
Reactivity - 0

**NOTE:** HMIS and NFPA ratings involve data and interpretations that may vary from company to company. They are intended only for rapid, general identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this material, all the information contained in this MSDS must be considered.

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04. **FIRST-AID MEASURES:**

Inhalation: Move to fresh air. Treat symptomatically. Get medical attention if symptoms persist.

Eyes: Immediately flush with plenty of water for at least 15 minutes. Get medical attention.

Skin: Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.

Ingestion: Seek medical advice.

05. **FIRE FIGHTING MEASURES:**

Extinguishing Media: Water spray, Dry chemical.

Special Fire-Fighting Procedures: Wear self-contained breathing apparatus and protective clothing.

Hazardous Combustion Products: Carbon Dioxide, Carbon Monoxide.

Unusual Fire and Explosion Hazards: Powdered material may form explosive dust-air mixtures.

06. **ACCIDENT RELEASE MEASURES:**

Sweep up and place in a container for chemical waste.

07. **HANDLING AND STORAGE:**

Personal Precautionary Measures: Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

**Prevention of Fire and Explosion:** Keep from contact with oxidizing materials. Minimize dust generation and accumulation. Refer to NFPA Pamphlet No. 654, "Prevention of Fire and Dust Explosions in the Chemical, Dye, Pharmaceutical and Plastics Industries:."

Storage: Keep container closed.



08. **EXPOSURE CONTROLS/PERSONAL PROTECTION:**

Exposure Limits:

ACGIH Threshold Limit Value (TLV): not established

OSHA (USA) Permissible Exposure Limit (PEL, 1989 Table Z-1-A values or section-specific standards): not established.

Ventilation: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to condition. Supplementary local exhaust ventilation, closed systems, or respiratory protection may be needed in special circumstances such as poorly ventilated spaces, mechanical generation of dusts, heating, drying etc.

Respiratory Protection: If engineering controls do not maintain airborne concentrations to an acceptable level, an approved respirator must be worn.

Respiratory Type: Dust. If respirators are used, a program should be instituted to assure compliance with OSHA Standard 29 CFR 1910.134.

Eye Protection: Wear safety glasses with side shields (or goggles).

Skin Protection: Wear impervious gloves and protective clothing appropriate for the risk of exposure.

Recommend Decontamination Facilities: eye bath, washing facilities.



09. **PHYSICAL AND CHEMICAL PROPERTIES:**

- Physical Form: Solid (Crystal)
- Color: Tan
- Odor: Slight
- Odor threshold: not available
- Specific Gravity at 20°C (68°F) (water=1): 1.05
- Vapor Pressure: negligible
- Vapor Density (Air=1): not applicable
- Evaporation Rate: negligible
- Boiling Point: 295°C (563°F)
- Melting Point: 125°C (257°F)
- Viscosity: not available
- Solubility in Water: moderate
- pH not available
- Octanol/Water Partition Coefficient: logP=1.52, P=33
- Flash Point (Cleveland open cup): 171°C (340°F)
- Lower Explosive Limit: not available
- Upper Explosive Limit: not available
- Autoignition Temperature (ASTM D 2155): 457°C (855°F)
- Sensitivity to Mechanical Impact: insensitive at 550 inch pounds.
- Sensitivity to Static Discharge: not available.

10. **STABILITY AND REACTIVITY:**

- Stability: stable
- Incompatibility: Material can react with strong oxidizing agents.
- Hazardous Polymerization: will not occur.

11. **TOXICOLOGICAL INFORMATION:**

Effects of Exposure:

Inhalation: Low hazardous for usual industrial handling or commercial handling by trained personnel.

Eyes: Causes irritation.

Skin: Causes irritation.

Ingestion: Expected to be a low ingestion hazard.



Acute Toxicity Data:

Oral LD-50 (male rat): 951 mg/kg  
Oral LD-50 (female rat): 1131 mg/kg  
Inhalation LC-50: not available  
Dermal LD-50 (guinea pig) : >1000 mg/kg  
Skin irritation (guinea pig): moderate  
Repeated skin application (guinea pig): moderate irritation  
Skin sensitization (guinea pig): slight  
Eye irritation (rabbit): moderate to strong.

Definitions for the following section(s): LOEL = lowest- observed-effect level,  
NOAEL = no observed-adverse-effect level, NOEL = no- observed-effect level.

Chronic Toxicity Data:

Oral study (2 years, dog): NOEL = 0.5% in diet  
Oral study (20 months, rat): NOEL = 0.5% in diet

Reproductive Toxicity Data:

Oral study (rat): NOEL for development toxicity = 0.5% in diet; NOEL for  
maternal/paternal fertility = 0.5% in diet.

12. **ECOLOGICAL INFORMATION:**

Introduction: This environmental effects summary is written to assist in addressing emergencies created by an accidental spill which might occur during the shipment of this material, and, in general, it is not meant to address discharges to sanitary sewers or publicly owned treatment works.



Data for this material have been used to estimate its environmental impact. It has the following properties: a high biochemical oxygen demand and a potential to cause oxygen depletion in aqueous systems, a high potential to affect some aquatic organisms, a moderate potential to affect the germination and/or early growth of some plants, a high potential to biodegrade (low persistence) with unacclimated micro-organisms from activated sludge.

After dilution with a large amount of water, followed by secondary waste treatment, this material is not expected to cause adverse environmental effects.

Oxygen Demand Data:

ThOD : 2.45 g oxygen/g  
COD: 2.2 g oxygen/g  
BOD-5 at 5 mg/L: 0.07 g oxygen/g  
BOD-20 at 2 mg/L: 2.0 g oxygen/g

Acute/Aquatic Effects Data:

96-h LC-50 (fathead minnow): 0.6 mg/L  
96-h LC-50 (daphnid): 3.2 mg/L

7-Day Plant Germination Effects - No-adverse-effect concentration:

Lettuce: 10 mg/L  
Raddish: 10 mg/L  
Ryegrass: 10 mg/L

7-Day Plant Seedling Effects - No-adverse-effect concentration:

Corn: 10 mg/L  
Lettuce: 10 mg/L  
Marigold: 10 mg/L  
Raddish: 10 mg/L

13. **DISPOSAL CONSIDERATIONS:**

Discharge, treatment, or disposal may be subject to national, state or local laws. Incinerate. Since emptied containers retain product residue, follow label warnings even after container is emptied.



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14. **TRANSPORT:**

Suitable for all forms of transport including passenger aircraft.

15. **REGULATORY INFORMATION:**

**Federal and State Regulations:** TSCA 8(b)

inventory: mono-tertButylhydroquinone

**Other Regulations:** Not available.

**Other Classifications:**

**WHMIS (Canada):** Not controlled under WHMIS (Canada).

**DSCL (EEC):**

R22- Harmful if swallowed.

R36/38- Irritating to eyes and skin.

**HMS (U.S.A.):**

**Health Hazard:** 2

**Fire Hazard:** 1

**Reactivity:** 0

**Personal Protection:** E

**National Fire Protection Association**

**(U.S.A.):**

**Health:** 2

**Flammability:** 1

**Reactivity:** 0

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**Specific hazard:**

**Protective Equipment:**

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

16. **OTHER INFORMATION:**

**CAUTION:** FOR MANUFACTURING, PROCESSING OR REPACKING BY TRAINED PERSONNEL.

The information contained herein is based on current knowledge and experience; no responsibility is accepted that the information is sufficient or correct in all cases. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers and the protection of the environment.

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