

# Material Safety Data Sheet

## TBC 85% WATER

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### 1. PRODUCT AND COMPANY DESCRIPTION

Dongguan Baoxu Chemical Technology.,Ltd.  
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#### Emergency Phone Numbers:

FOR EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT CONTACT: 86-769-22821082

#### For Product Information:

(609) 860-4000

#### Chemical Name or Synonym:

4-TERTIARYBUTYL CATECHOL (85% IN WATER)

#### Molecular Formula:

$C_{10}H_{14}O_2$

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Reg Number	OSHA Hazard	Percentage
4-TERTIARYBUTYL CATECHOL	98-29-3	Y	~ 85
WATER	7732-18-5	N	~15

### 3. HAZARDS IDENTIFICATION

#### A. EMERGENCY OVERVIEW:

##### Physical Appearance and Odor:

amber viscous liquid, phenol-like odor.

##### Warning Statements:

DANGER! FLAMMABLE LIQUID. HARMFUL IF INHALED, SWALLOWED OR ABSORBED THROUGH SKIN. CORROSIVE TO EYES, SKIN, RESPIRATORY TRACT AND METALS. SENSITIZER. CAN CAUSE CHRONIC HEALTH EFFECTS, SUSPECT CANCER HAZARD. CONTAINS MATERIAL WHICH MAY CAUSE CANCER.

#### B. POTENTIAL HEALTH EFFECTS:

**Acute Eye:**

Corrosive. Causes burns, irreversible eye damage.

**Acute Skin:**

Harmful if absorbed through skin. Corrosive. Sensitizer. Can cause skin depigmentation.

**Acute Inhalation:**

Harmful if inhaled. Can cause serious damage to lung tissue and respiratory tract, May cause headache, loss of coordination, disturbed vision.

**Acute Ingestion:**

Harmful if ingested. Can cause burns to mouth and esophagus, May cause nausea, vomiting, headache, loss of coordination, blurred vision, Aspiration of the swallowed or vomited product can cause severe pulmonary complications.

**Chronic Effects:**

This product contains ingredients that are considered to be probable or suspected human carcinogens (see Section 11 - Chronic). Because methanol is eliminated slowly from the body, it can build up causing stupor, cramps, damage to liver, kidneys and heart, and visual difficulties such as spotted vision, sensitivity to light, eye tenderness and blindness. Recovery is not always complete and symptoms may recur without additional exposure.

## 4. FIRST AID MEASURES

**FIRST AID MEASURES FOR ACCIDENTAL:****Eye Exposure:**

Hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes. Seek immediate medical attention, preferably with an ophthalmologist. If the physician is not immediately available, eye irrigation should be continued for an additional 15 minutes. If it is necessary to transport the patient to a physician and the eye needs to be bandaged, use a dry sterile cloth pad and cover both eyes.

**Skin Exposure:**

In case of contact, immediately wash with plenty of soap and water for at least 15 minutes. Particular attention should be paid to hair, nose, ears and other areas not easily cleaned. Seek immediate medical attention. Remove contaminated clothing and shoes while washing. Clean contaminated clothing and shoes before re-use or discard if they cannot be thoroughly cleaned. Heavily contaminated shoes and clothing should be discarded in a manner which limits further exposure. Launder contaminated clothing separately. Also see Note to Physician.

**Inhalation:**

Remove victim from immediate source of exposure and assure that the victim is breathing. If breathing is difficult, administer oxygen, if available. If victim is not breathing, administer CPR (cardio-pulmonary resuscitation). Seek immediate medical attention.

**Ingestion:**

If victim is conscious and alert, give 2-3 glasses of water to drink and do not induce vomiting. Material may enter lungs and cause severe damage. Do not give anything by mouth to an unconscious victim. Seek immediate medical attention. Do not leave victim unattended. To prevent aspiration of swallowed product, lay victim on side with head lower than waist. Persons attending the victim should avoid direct contact with heavily contaminated clothing and vomitus. Wear impervious gloves while decontaminating skin and hair. Also see Note To Physician.

**MEDICAL CONDITIONS POSSIBLY AGGRAVATED BY EXPOSURE:**

Skin contact may aggravate existing skin disease. Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis.

**NOTES TO PHYSICIAN:**

All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Treat symptomatically. No specific antidote available.

The following is recommended for overexposure to phenol and phenol-like materials:

#### SKIN EXPOSURE

Immediately, wash all exposed skin with a large volume of water or isopropyl alcohol. The following PVP Treatment has been used successfully to minimize the effects of skin contact with and to reduce absorption through the skin of phenol-like materials. This recommendation is based on the ability of PVP to strongly complex phenol compounds and anecdotal reports of its effectiveness in treating phenol burns. (Reference: Handbook of Water Soluble Gums and Resins, Chapter 21, Polyvinylpyrrolidone, McGraw Hill, 1980.)

PVP (polyvinylpyrrolidone) Treatment: Either apply directly a water paste of PVP or neutralizing solution of 40 grams PVP, 1/2 gallon water and 1/2 gallon isopropyl alcohol. For contact over 10% of body, treat by removing clothes and shoes under a shower and then wrapping in PVP-soaked towels. Transport to hospital for observation and further treatment. Keep a supply of PVP solution on hand.

For a discussion of an alternative treatment using polyethylene glycol, see Clinical Toxicology of Commercial Products (5th), Gosselin, et al. pp. III-344 to 348 (1984).

#### INGESTION

If conscious, give a slurry of activated charcoal in water if not previously administered. Then perform gastric lavage with water. DO NOT USE ALCOHOL for gastric lavage. The use of a stomach tube may be contraindicated if corrosion is evident.

Administer milk, egg albumin, egg white, or olive oil as demulcents. Maintain victim in recumbent position. Apply external heat to keep warm. Keep victim quiet. Give fluids to restore electrolyte balance. Morphine may be given for pain. Treat shock if indicated. Stimulants PRN, especially for CV embarrassment. Treat liver and kidney damage if indicated. Give antibiotics, oxygen and artificial respiration if indicated.

## 5. FIRE FIGHTING MEASURES

#### FIRE HAZARD DATA:

##### Flash Point:

35 C (95 F). Flammability Class: FLAMMABLE.

##### Method Used:

Closed cup

##### Flammability Limits (vol/vol%):

Lower:

No Data

Upper:

No Data

##### Extinguishing Media:

Recommended (small fires): dry chemical, carbon dioxide, Recommended (large fire): alcohol foam, universal foam, water spray, Not recommended: water jet (frothing possible).

##### Special Fire Fighting Procedures:

Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing. Cool containers exposed to fire with water.

##### Unusual Fire and Explosion Hazards:

Product will burn under fire conditions. Containers may explode (due to the build-up of pressure) when exposed to extreme heat. Vapors may travel a considerable distance to a source of ignition and flash back along vapor trail. Under fire conditions, toxic, corrosive fumes are emitted.

##### Hazardous Decomposition Materials (Under Fire Conditions):

phenol

oxides of carbon

##### Autoignition Temperature:

## 6. ACCIDENTAL RELEASE MEASURES

### **Evacuation Procedures and Safety:**

Wear appropriate protective gear for the situation. See Personal Protection information in Section 8. Ventilate closed spaces before entering. Eliminate all sources of ignition until the area is determined to be free from explosion or fire hazards.

### **Containment of Spill:**

Stop leak if it can be done without risk. Follow procedure described below under Cleanup and Disposal of Spill. Dike spill using absorbent or impervious materials such as earth, sand or clay. Collect and contain contaminated absorbent and dike material for disposal.

### **Cleanup and Disposal of Spill:**

Use non-sparking tools. Carefully neutralize spill with a 2-5% solution of soda ash. Pump any free liquid into an appropriate closed container (see Section 7: Handling and Storage). Recover as much liquid product as possible. Absorb with an inert absorbent. Sweep up and place in an appropriate closed container (see Section 7: Handling and Storage). Clean up residual material as appropriate. Collect washings for disposal. Decontaminate tools and equipment following cleanup. Ventilate area. The material should be properly packaged and disposed of in compliance with applicable regulations.

### **Environmental and Regulatory Reporting:**

Do not flush to drain. Spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

## 7. HANDLING AND STORAGE

### **Minimum/Maximum Storage Temperatures:**

Not Available

### **Handling:**

Do not get on skin or in eyes. Do not breathe vapors and mists. Do not ingest. Use nonsparking tools and grounded/bonded equipment and containers when transferring. Product should be handled in a closed building or tank equipped with alkali scrubbers. Never use a welding or cutting torch on or near any container (even empty). An explosion can result.

### **Storage:**

Discolors on prolonged exposure to air. Store in tightly closed containers. Recommended container material: epoxy-coated steel, stainless steel, Store in an area that is dry, cool, well-ventilated, away from ignition sources, Certain state and local regulations may limit storage quantities, arrangements and locations. These regulations should be considered for storage and handling of this and any other flammable liquid.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### **Introductory Remarks:**

These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. While developing safe handling procedures, do not overlook the need to clean equipment and piping systems for maintenance and repairs. Waste resulting from these procedures should be handled in accordance with Section 13: Disposal Considerations.

Assistance with selection, use and maintenance of worker protection equipment is generally available from equipment manufacturers.

**Exposure Guidelines:**

Exposure limits represent regulated or recommended worker breathing zone concentrations measured by validated sampling and analytical methods, meeting the regulatory requirements. The following limits apply to this material, where, if indicated, S=skin and C=ceiling limit:

**4-TERTIARYBUTYL CATECHOL**

	Notes	TWA	STEL
AIHA	C	2 mg/cu m	

**METHANOL**

	Notes	TWA	STEL
ACGIH	S	200 ppm	250 ppm
OSHA	S	200 ppm	325 mg/cu m
OSHA	S	260 mg/cu m	250 ppm

**CATECHOL**

	Notes	TWA	STEL
ACGIH	S	5 ppm	
OSHA	S	5 ppm	
OSHA	S	20 mg/cu m	

**Engineering Controls:**

Where engineering controls are indicated by use conditions or a potential for excessive exposure exists, the following traditional exposure control techniques may be used to effectively minimize employee exposures: local exhaust ventilation at the point of generation, enclosed system design.

**Respiratory Protection:**

When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industrial recommendations.

Under normal conditions, in the absence of other airborne contaminants, the following devices should provide protection from this material up to the conditions specified by the appropriate OSHA, WHMIS or ANSI standard(s): Air-purifying (half-mask/full-face) respirator with cartridges/canister approved for use against organic vapors.

**Eye/Face Protection:**

Eye and face protection requirements will vary dependent upon work environment conditions and material handling practices. Appropriate ANSI Z87 approved equipment should be selected for the particular use intended for this material.

Eye contact should be prevented through use of chemical safety glasses with side shields or splash proof goggles. An emergency eye wash must be readily accessible to the work area. Face contact should be prevented through use of a face shield.

**Skin Protection:**

Skin contact must be prevented through the use of permeation resistant clothing, gloves and footwear, selected with regard for use conditions and exposure potential. An emergency shower must be readily accessible to the work area. Consideration must be given both to durability as well as permeation resistance.

**Work Practice Controls:**

Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material:

- (1) Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.
- (2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet.
- (3) Wash exposed skin promptly to remove accidental splashes or contact with this material.

Maintain PVP solution (see Note To Physician) in work area.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

Physical and Chemical properties here represent typical properties of this product. Contact the business area using the Product Information phone number in Section 1 for its exact specifications.

**Physical Appearance:**

amber viscous liquid.

**Odor:**

phenol-like odor.

**pH:**

Not Applicable

**Specific Gravity:**

1.037 at 20 C (68 F).

**Water Solubility:**

sparingly soluble 0.2 wt/wt% at 25 C (77 F).

**Melting Point Range:**

8 to 9 C (46 to 48 F)

**Boiling Point Range:**

65 C (149 F) at 760 mmHg

**Vapor Pressure:**

130 mmHg at 20 C (68 F)

**Vapor Density:**

Not Available

## 10. STABILITY AND REACTIVITY

**Chemical Stability:**

This material is stable under normal handling and storage conditions described in Section 7.

**Conditions To Be Avoided:**

extreme heat  
light  
open flame  
spark  
static electricity  
air

**Materials/Chemicals To Be Avoided:**

air  
iron  
strong bases  
strong acids  
strong oxidizing agents  
acid chlorides  
acid anhydrides

**The Following Hazardous Decomposition Products Might Be Expected:**

**Decomposition Type: thermal**

oxides of carbon

**Hazardous Polymerization Will Not Occur.**

## Avoid The Following To Inhibit Hazardous Polymerization:

not applicable

## 11. TOXICOLOGICAL INFORMATION

### Acute Eye Irritation:

No test data found for product.

### Acute Skin Irritation:

#### Toxicological Information and Interpretation:

skin - skin irritation, rabbit. Corrosive. Data for 4-tertiary butyl catechol.

### Acute Dermal Toxicity:

#### Toxicological Information and Interpretation:

LD50 - lethal dose 50% of test species, 1331 mg/kg, rat. Data for 4-tertiary butyl catechol.

### Acute Respiratory Irritation:

No test data found for product.

### Acute Inhalation Toxicity:

#### Toxicological Information and Interpretation:

LC50 - lethal concentration 50% of test species, 64000 ppm/4 hr, rat. Data for methanol.

### Acute Oral Toxicity:

#### Toxicological Information and Interpretation:

LD50 - lethal dose 50% of test species, 815 mg/kg, rat. Data for 4-tertiary butyl catechol.

LD50 - lethal dose 50% of test species, 5628 mg/kg, rat. Data for methanol.

### Chronic Toxicity:

This product contains the substances that are considered to be "probable" or "suspected" human carcinogens as follows:

Ingredient Name	Regulatory Agency Listing Carcinogen			
	OSHA	IARC	NTP	ACGIH
CATECHOL	No	2B	No	No

Toxicological Information and Interpretation - MUTAGENICITY, Salmonella. Ames Test: Negative. Data for methanol.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicological Information:

No data found for product.

#### Ecotoxicological Information and Interpretation:

EC50 - effective concentration 50% of test species, < 10 mg/l/48 hr, Daphnia magna. Data for 4-tertiary butyl catechol.

EC50 - effective concentration 50% of test species, 7600 mg/l/24 hr, Daphnia magna. Data for methyl alcohol.

### Chemical Fate Information:

No data found for product.

## 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Method:**

Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Please be advised that state and local requirements for waste disposal may be more restrictive or otherwise different from federal laws and regulations. Consult state and local regulations regarding the proper disposal of this material.

**Container Handling and Disposal:**

Any containers or equipment used should be decontaminated immediately after use.

**EPA Hazardous Waste - YES**

**EPA RCRA HAZARDOUS WASTE CODES:**

"C" Corrosive; "I" Ignitable.

## 14. TRANSPORTATION INFORMATION

**Transportation Status: IMPORTANT! Statements below provide additional data on listed DOT classification.**

The listed Transportation Classification does not address regulatory variations due to changes in package size, mode of shipment or other regulatory descriptors.

**US Department of Transportation**

Hazard Class..... 3

Shipping Name:

FLAMMABLE LIQUID, TOXIC, CORROSIVE, N.O.S.

Technical Shipping Name:

(METHANOL, 4-TERTIARY BUTYL CATECHOL)

ID Number..... UN3286

Packing Group.... II

Emergency Guide #.... 131

## 15. REGULATORY INFORMATION

**Inventory Status**

<b>Inventory</b>	<b>Status</b>
UNITED STATES (TSCA)	Y
CANADA (DSL)	Y
EUROPE (EINECS/ELINCS)	Y
AUSTRALIA (AICS)	Y
JAPAN (MITI)	Y
SOUTH KOREA (KECL)	Y

Y = All ingredients are on the inventory.

E = All ingredients are on the inventory or exempt from listing.

P = One or more ingredients fall under the polymer exemption or are on the no longer polymer list. All other ingredients are on the inventory or exempt from listing.

N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing.

**FEDERAL REGULATIONS****Inventory Issues:**

All functional components of this product are listed on the TSCA Inventory.

**SARA Title III Hazard Classes:**

Fire Hazard - YES  
Reactive Hazard - NO

Release of Pressure - NO  
 Acute Health Hazard - YES  
 Chronic Health Hazard - YES

**SARA 313 Chemicals**

METHANOL (~15%) CATECHOL (<0.7%)

**SARA Extremely Hazardous Substances (EHS)/CERCLA Hazardous Substances**

Ingredient	CERCLA/SARA RQ	SARA EHS TPQ
METHANOL	5000 lbs	
CATECHOL	100 lbs	
UNLISTED HAZARDOUS WASTES - CHARACTERISTIC OF IGNITABILITY	100 lbs	
UNLISTED HAZARDOUS WASTES - CHARACTERISTIC OF CORROSIVITY	100 lbs	

**STATE REGULATIONS:**

This product contains the following components that are regulated under California Proposition 65:

Ingredient Name	Cancer List	Reprod. List	No Sign. Risk Lvl (ug/day) California	RPI
CATECHOL	Y	N	ND	ND

**16. OTHER INFORMATION**

**National Fire Protection Association Hazard Ratings--NFPA(R):**

- 3 Health Hazard Rating--Serious
- 3 Flammability Rating--Serious
- 0 Instability Rating--Minimal

**National Paint & Coating Hazardous Materials Identification System--HMIS(R):**

- 3 Health Hazard Rating--Serious
- 3 Flammability Rating--Serious
- 0 Reactivity Rating--Minimal

**Reason for Revisions:**

Change and/or addition made to Exposure Limits in Section 8.

**Key Legend Information:**

ACGIH - American Conference of Governmental Industrial Hygienists  
 OSHA - Occupational Safety and Health Administration  
 TLV - Threshold Limit Value  
 PEL - Permissible Exposure Limit  
 TWA - Time Weighted Average  
 STEL - Short Term Exposure Limit  
 NTP - National Toxicology Program  
 IARC - International Agency for Research on Cancer  
 ND - Not determined  
 RPI - Rhodia Established Exposure Limits

**Disclaimer:**

The information herein is given in good faith but no warranty, expressed or implied, is made.

**\*\* End of MSDS Document \*\***