



京极易化工有限公司

JIYI CHEMICAL (BEIJING) CO., LTD.

MATERIAL SAFETY DATA SHEET

2,4-DI-TERT-BUTYLPHENOL (2,4-DTBP)

1. CHEMICAL PRODUCT&COMPANY IDENTIFICATION

MANUFACTURER/SUPPLIER: JIYI CHEMICAL (BEIJING) CO., LTD.

PRODUCT IDENTIFIER: 2,4-di-tert-butylphenol (2,4-DTBP)

Chemical Name / Class 2,4-DI-TERTIARY-BUTYLPHENOL (CAS # 96-76-4)

PRODUCT DESCRIPTION: 2,4-di-tert-butylphenol: $\geq 99\%$ (w/w)

2,6-di-tert-butylphenol: $\leq 0.2\%$ (w/w)

2,4,6-tri-tert-butylphenol: $\leq 0.5\%$ (w/w)

PRODUCT USE: Chemical intermediate

2. COMPOSITION/IFORMATION ON INGREDIENTS

Ingredient Name	CAS Number	Weight Range	UN No.	Hazard Class
2,4-di-tert-butyl phenol	96-76-4	> 98 %	3077	9

*[NOTE: An * in a HMIS field indicates this material may potentially involve certain chronic health issues such as cancer.]

This material may also be applicable to the SARA 311/312 regulations. Thus, it may require you to file appropriate governmental reports if the total amount of this material, or any of the listed constituents, in your possession ever exceeds the regulations' threshold values.

3. HAZARDS IDENTIFICATION

Hazard Statements

ANSI signal word for this material is: DANGER

Per SARA 312 regulations this material represents the following health hazard(s): acute chronic

EMERGENCY OVERVIEW

To work safely with this material: keep away from heat and ignition sources do not get in eyes, on skin or clothing do not breath in material's vapors, dust, or fumes keep container closed use with adequate ventilation -- do not enter any confined spaces without first verifying air quality wash thoroughly after handling.



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Risks

Health Dangers

eye burns skin burns

Health Warnings

lung irritant

Health Cautions

may cause nervous system effects may affect mucous membranes may cause gastrointestinal disturbances

4. FIRST AID MEASURES

EYE CONTACT:	Immediately flush with plenty of water for at least 15 minutes. If symptoms develop, seek medical advice.
SKIN CONTACT:	Immediately wash with plenty of soap and water. If symptoms develop, seek medical advice.
INGESTION:	Do not induce vomiting contains petroleum distillates and/or aromatic solvents. If conscious, washout mouth and give water to drink. Get medical attention.
INHALATION:	Remove to fresh air, treat symptomatically. Get medical attention.
NOTE TO PHYSICIAN:	Based on the individual reactions of the patient, the physician's judgment should be used to control symptoms and clinical condition.

5. FIRST FIGHTING MEASURES

FLASH POINT:	>115°C / 239 ° F (PMCC)
EXTINGUISHING MEDLA:	Alcohol foam, Carbon dioxide, Foam, Dry powder, other extinguishing agent suitable for Class B fires, For large fires, use water spray or fog, thoroughly drenching the burning material. Water mist may be used to cool closed containers.
UNSUITABLE EXTINGUISHING MEDLA:	Do not use water unless flooding amounts are available.
FIRE AND EXPLOSION HAZARD:	Low Fire Hazard liquids may bum upon heating to temperatures at or above the flash point. May evolve oxides of carbon (COx) under fire conditions.
SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING:	In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES



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PERSONAL PRECAUTIONS:

Restrict access to area as appropriate until clean-up operation. Stop or reduce any leaks if it is safe to do so. Ventilate spill area if possible. Do not touch spilled material. Remove sources of ignition. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Use personal protective equipment recommended in section 8 (Exposure Controls/Personal Protection) Notify appropriate government, occupational health and safety and environmental authorities.

METHODS FOR CLEANING

UP :SMALL SPILLS:

Soak up spill with absorbent material. Place residues in a suitable, covered, properly labeled container. Wash affected area.

LARGE SPILLS:

Contain liquid using absorbent material, by digging trenches or by diking. Reclaim into recovery or salvage drums or tank truck for proper disposal. Clean contaminated surfaces with water or aqueous cleaning agents. Contact an approved waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with regulations indicated in section 13 (Disposal Considerations).

ENVIRONMENTAL PRECAUTIONS:

Do not contaminate surface water.

7. HANDLING AND STORAGE

HANDLING:

Use with adequate ventilation. Keep the containers closed when not in use. Do not take internally. Do not get in eyes, on skin, on clothing. Have emergency equipment (for fires, spills, leaks, etc.) readily available.

STORAGE CONDITIONS:

Store away from heat and sources of ignition. Store separately from oxidizers. Store the containers tightly closed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls:

Ventilation should be sufficient to effectively remove, and prevent buildup of, any vapors, dusts, or fumes that may be generated during handling or thermal processing.

Personal Protective Equipment: Eyes/Face

Wear safety glasses with side shields; chemical goggles (if splashing is possible). Wear a face shield if a splash hazard exists. Select & use eye protection per a competent health & safety professional using: OSHA [29 CFR 1910.133] or Europe's [EN166].

Personal Protective Equipment: Skin

Use appropriate hand protection. Wear impervious gloves for prolonged contact.

Personal Protective Equipment: Respiratory



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Maintain material's vapors, fumes, or particulate levels below any levels of concern including, for solids, considering the material as a particulate not otherwise classified [nuisance dust] @ 10 mg/m³. Select & use

respirators per a competent health & safety professional using: OSHA (29 CFR 1910.134); ANSI (Z88.2-1992); or Europe's [EN 149].

Personal Protective Equipment: General

Utilize good industrial hygiene practices.

Exposure Guidelines

All PPE use is to be determined by a qualified person.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE:	Solid.
APPEARANCE:	White to yellow
SPECIFIC GRAVITY:	0.92 @ 68 °F / 20 °C
DENSITY:	7.7 lb/gal
SOLUBILITY IN WATER:	Slightly soluble [10-25%]
BOILING POINT:	505 °F / 263 °C
Melting Point:	54 °C
VAPOR PRESSURE:	1 @ 84 C
Molecular Formula:	C ₁₄ -H ₂₂ -O
Molecular Weight:	206.36

10. STABILITY AND REACTIVITY

Conditions to Avoid

Avoid ignition sources where dust is produced.

Hazardous Decomposition

Upon decomposition this product emits carbon monoxide, carbon dioxide, and/or low molecular weight hydrocarbons.

Hazardous Polymerization

Will not occur under normal conditions.

Chemical Stability

Stable under normal conditions.

Incompatibilities

2,4-di-tert-butylphenol may react with strong oxidizers.

11. TOXICOLOGICAL INFORMATION

The following results are for the hazardous components.

ACUTE ORAL TOXICITY:

Species	LD50	Test Descriptor
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Rat	1,500 mg/kg	Hazardous component Aromatic solvent
Rating:		Non-Hazardous
PRIMARY SKIN IRRITATION:		
Draize Score		Test Descriptor
>5.1 / 8.0.		Hazardous component (Aromatic solvent)
Rating:		Severely irritating
PRIMARY EYE IRRITATION:		
Draize Score		Test Descriptor
>3.1 / 110.0		Hazardous component (Aromatic solvent)
Rating:		Moderately irritating
SENSITIZATION:		This product is not expected to be a sensitizer.
CARCINOGENICITY:		None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Governmental Industrial Hygienists (ACGIH).
HUMAN HAZARD CHARACTERIZATION:		Based on our hazard characterization, the potential human hazard is: Moderate

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL EFFECTS: No toxicity studies have been conducted on this product.

ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION

Based on our hazard characterization, the potential environmental hazard is :Moderate

If released into the environment, see CERCLA/SUPERFUND in section 15.

13. DISPOSAL INFORMATION

If this product becomes a waste, it is not a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR261, since it does not have the characteristics of Subpart C, nor is it listed under Subpart D.

As a non-hazardous waste, it is not subject to national regulation. Consult state or local regulation for any additional handling, treatment or disposal requirements. For disposal, contact a properly licensed waste treatment, storage, disposal or recycling facility.

14. TRANSPORTATION INFORMATION

Comments

NOTE: The data in this section are provided as a guide for the overall classification of the product. However, transportation classifications may be subject to change as, for example, with changes in package size. Consult shipper requirements under IMO, ICAO (IATA), TDG and 49 CFR to assure regulatory compliance.

Additionally, please address any questions you have concerning the cleaning of containers, or vessels, to the Transportation & Regulatory Affairs Specialist with Beijing Ji Yi Chemical and Industry Co., Ltd. at (86)86-



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10-89389018. Remember that the reuse, treatment, or disposal, of any related residuals or wastes must be in accordance with all national province and local environmental regulations.

SURFACE TRANSPORTATION (HIGHWAY/RAIL)

BULK-- TANK

TRUCK/TANK CAR

Shipping Name: ALKYLPHENOLS, SOLID, N.O.S., MOLTEN

Hazard Class: 9

Identification Number: UN3077

Packing Group: PG III

DRUM(s)/BAG(s)

INTERMEDIATE BULK

CONTAINER

Shipping Name: ALKYLPHENOLS, SOLID, N.O.S., MOLTEN

Hazard Class: 9

Identification Number: UN3077

Packing Group: PG III

IMDG CODE (WATER)

BULK-- TANK

TRUCK/TANK CAR

Shipping Name: ALKYLPHENOLS, SOLID, N.O.S., MOLTEN

Hazard Class: 9

Identification Number: UN3077

Packing Group: PG III

DRUM(s)/BAG(s)

INTERMEDIATE BULK

CONTAINER

Shipping Name: ALKYLPHENOLS, SOLID, N.O.S., MOLTEN

Hazard Class: 9

Identification Number: UN3077

Packing Group: PG III

ICAO/IATA (AIR)

BULK-- TANK



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TRUCK/TANK CAR

Shipping Name: Please call for shipping information

INTERMEDIATE BULK

CONTAINER

Shipping Name: Please call for shipping information

PAIL(s)/CAN(s)

Shipping Name: ALKYLPHENOLS, SOLID, N.O.S., MOLTEN

Hazard Class: 9

Identification Number: UN3077

Packing Group: PG III

15. REGULATORY INFORMATION

National Safety Regulations, <http://www.chemnet.com/> antioxidant products list.

No additional information is available.

International Regulations

U.S. Federal Regulations

Inventory - Canada - Domestic Substances List

2,4-di-tert-butylphenol 96-76-4 C14H22O

Inventory - European Inventory of Existing Commercial Chemical Substances

2,4-di-tert-butylphenol 96-76-4 202-532-0; C14H22O

Inventory - Japan - Existing and New Chemical Substances (ENCS)

2,4-di-tert-butylphenol 96-76-4 3-521; 3-526

16. OTHER INFORMATION

Disclaimer

The health and safety information is that available to BJCI as of the date published and BJCI makes no representation of the information's completeness or accuracy. Any data provided is based on either: reference sources, testing performed on a representative sample(s), or professional judgement. The physical data should not be construed as either representing specifications or a guaranteed analysis. This material has been classified in accordance with the hazard criteria of the Controlled Products Regulation and the MSDS contains information required by Controlled Products Regulation. BJCI provides its MSDS in two languages (Chinese & English) using English as the secondary language. While BJCI uses reasonable efforts to provide accurate translations, BJCI assumes no liability, or responsibility, for errors, omissions or ambiguities in any translations. BJCI expects those persons who receive this MSDS to exercise their independent professional judgement, or consult with a competent health/safety professional, to determine how to utilize this material safely. This includes, but is not exclusive to, the material's appropriateness for a specific use, the type of personal protection equipment necessary, and the use of engineering controls. In no event is BJCI liable for any damages whatsoever arising out of your use of this material based upon



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information obtained from this MSDS including: direct, indirect, incidental, consequential or punitive claims or damages.

Revision Date: March, 2011

Jiyi Chemical (Beijing) Co., Ltd.

Reference,

- 1.) Jiyi's "Production Safety Operation Regulation",
- 2.) Jiyi's Fire Protection Emergency Management Counterplan,
- 3.) Jiyi's Environment Protection Emergency Management Counterplan,
- 4.) Great Lakes Chemical (Europe)

MATERIAL SAFETY DATA SHEET 2,4-DTBP Date 27/06/1995

- 5.) Schenectady International, In.

MATERIAL SAFETY DATA SHEET 2,4-DI-TERT-BUTYLPHENOL (2,4-DTBP)