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Effective Date: 12/12/01**Material Safety Data Sheet**

MSDS No: 2608

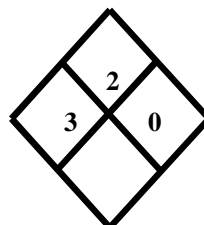
1. PRODUCT IDENTIFICATION

Trade Name: TERTIARY BUTYL CATECHOL, 85% IN METHANOL

Chemical Family: Phenol

Formula: C10H14O2

Intended Use: Stabilizer



NFPA RATING

Health:	3*
Flammability:	2
Reactivity:	0
Personal Protection:	

HMIS RATING

2. COMPOSITION / INFORMATION ON INGREDIENTS

O S H A	CAS No.	CHEMICAL IDENTITY	EXPOSURE LIMITS				MFR.	CARCINOGEN STATUS		
			ACGIH		OSHA			IARC	NTP	OSHA
			TWA	STEL	PEL	STEL				
*	67-56-1	Methyl Alcohol Common Name: Concentration Methanol 15.00 % by wt	200 ppm	250 ppm	200 ppm	NE	NE	NR	NR	NR
*	98-29-3	4-(1,1-Dimethylethyl) 1,2-benzenediol Tertiary Butyl Catechol 85.00 % by wt	NE	NE	NE	NE	NE	NR	NR	NR

NE = Not Established NR = Not Reviewed * = OSHA Hazardous Ingredient

Reference Notes: Refer to Section 8, Subheading "Exposure Guidelines", for additional information concerning exposure limits.

3. HAZARDS IDENTIFICATION

Emergency Overview: Appearance: Colorless Light Yellow Liquid Phenolic odor

FLAMMABLE liquid and vapor.
 CORROSIVE to skin and eyes.

CORROSIVE. Ingestion (swallowing) may cause severe and permanent damage to the mouth, throat, and stomach. Contact may cause skin sensitization, an allergic reaction which becomes evident on re-exposure to this material. May be harmful or fatal if swallowed, inhaled or absorbed through skin.
Will cause blindness.

Route(s) of Entry: Eye contact, ingestion, inhalation, and skin contact.

Acute Exposure: EYES: Direct contact with this material causes severe eye irritation. Corrosive. Direct contact with eyes will cause severe burns and may cause permanent damage, including blindness. Vapors cause eye irritation.

INGESTION: TOXIC. This material may be fatal if swallowed. Corrosive and may cause severe and permanent damage to mouth, throat, and stomach. May cause metabolic acidosis and visual system damage, progressing from visual blurring to complete blindness. Aspiration into lungs may cause chemical pneumonia and lung damage. Effects of exposure by ingestion may also include those indicated by the inhalation route.

INHALATION: Harmful if inhaled. Inhalation of vapor or aerosol causes irritation of the respiratory tract (nose, throat, and lungs). Inhalation of vapor or aerosol may cause central nervous system depression with symptoms that include headache, excitation, euphoria, drowsiness, light-headedness, nausea, impaired judgement, confusion, blurred vision, fatigue, tremors, convulsions, loss of coordination, dizziness, loss of consciousness, coma, respiratory arrest and death, depending on the concentration and duration of exposure.

SKIN: Harmful if absorbed through skin. Contact causes skin irritation. Corrosive. Contact causes skin burns. Contact may cause skin sensitization, an allergic reaction which becomes evident on re-exposure to this material.

Acute or chronic overexposure to this material or its components may cause systemic toxicity, including adverse effects to the following: liver, brain, kidney, eye, cardiovascular and central nervous systems.

Chronic Exposure: Overexposure to methanol may cause systemic toxicity, including adverse effects to the liver, brain, kidney, eye, cardiovascular and central nervous systems. It may also cause adverse reproductive and/or developmental effects. Pregnant women may be at risk from exposure. Ingestion of alcoholic beverages by pregnant women is associated with fetal alcohol syndrome in offspring. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage (sometimes referred to as solvent or painter's syndrome). Intentional misuse by deliberately concentrating and inhaling this component may be harmful or fatal.

Carcinogenicity: This material does not contain 0.1% or more of any chemical listed by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), or regulated by the Occupational Safety and Health Administration (OSHA) as a carcinogen.

4. FIRST AID MEASURES

Eye Contact: IMMEDIATELY FLUSH EYES with large quantities of clean water for at least 15 minutes. GET IMMEDIATE MEDICAL ATTENTION.

Skin Contact: Wash with soap and water. Immediately flush skin with water for at least 15 minutes while removing contaminated clothing. Get immediate medical attention. Wash contaminated clothing before reuse or discard the contaminated clothing (See Section 13 for Disposal Considerations).

Ingestion: DO NOT INDUCE VOMITING. CORROSIVE HAZARD: this material may cause further damage if vomiting is induced. Immediately give the victim one or two glasses of water or milk to drink. Never give anything by mouth to an unconscious person. GET IMMEDIATE MEDICAL ATTENTION. Aspiration of this material into the lungs can cause serious

damage and chemical pneumonitis. If spontaneous vomiting occurs, keep head below hips to prevent aspiration and monitor for breathing difficulty.

Inhalation: Remove victim to fresh air. Keep warm and quiet. If not breathing, give artificial respiration. If breathing is difficult, give oxygen by trained personnel. GET IMMEDIATE MEDICAL ATTENTION.

Note to Physician: Corrosive material; gastric lavage is hazardous and if used should be performed under endotracheal or esophagosopic control. If spontaneous vomiting has occurred, the patient should be monitored for symptoms of pneumonitis, as this effect may be delayed up to 48 hours.

5. FIRE FIGHTING MEASURES

Flash Point:	39° C (102 ° F)
Flash Point Method Used:	TCC
Flammable Limits in Air (Lower):	6 % in air Methanol
Flammable Limits in Air (Upper):	36.5 % in air Methanol
Autoignition:	385° C (725 ° F) Methanol

General Hazards: Flammable liquid. Containers of this material may build up pressure if exposed to heat (fire). See information in Fire Fighting Instructions (below) in this section.

Fire Fighting Extinguishing Media: Use carbon dioxide, foam, dry chemical or water fog to extinguish fire.

Fire Fighting Equipment: Wear self-contained breathing apparatus (SCBA) and full fire-fighting protective clothing. Thoroughly decontaminate all protective equipment after use.

Fire Fighting Instructions: Evacuate all persons from the fire area to an explosion-protected location. Move non-burning material, as feasible, to a safe location as soon as possible. Fire fighters should be protected from potential explosion hazard while extinguishing the blaze. Containers of this material may build up pressure if exposed to heat (fire). Use water spray to cool fire-exposed containers. Use water spray to disperse vapors if a spill or leak has not ignited. DO NOT extinguish a fire resulting from the flow of this flammable liquid until the flow of liquid is effectively shut off. This precaution will help prevent the accumulation of an explosive vapor-air mixture after the initial fire is extinguished. The vapor or gas released from this material may burn with an invisible (colorless) flame. Fire fighting equipment should be thoroughly decontaminated after use. See Section 13 for disposal considerations.

Fire and Explosion Hazards: FLAMMABLE LIQUID. Vapors can form an explosive mixture with air. Vapor can travel to a source of ignition (spark or flame) and flash back. May burn with invisible flame.

Hazardous Combustion Products: Combustion may produce carbon monoxide, carbon dioxide and irritating or toxic vapors and gases.

6. ACCIDENTAL RELEASE MEASURES

Accidental Release Measures: FOR SMALL SPILLS: Remove all sources of ignition. NO SMOKING. Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Use non-sparking (non-metallic) tools to clean up spill.

FOR LARGE SPILLS: Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). NO SMOKING. Persons not wearing protective equipment (see Section 8) should be excluded from the area of the spill until clean-up has been

completed. Stop spill at source. Prevent spilled material from contaminating soil or entering drains, sewers, streams or other bodies of water. Prevent spilled material from spreading. Immediately notify authorities of any reportable spill as may be required pursuant to regulations. See Section 15 for applicable CERCLA reportable quantities. Pump or vacuum transfer spilled product to clean containers for recovery. Absorb unrecoverable product. Transfer contaminated absorbent, soil and other waste materials to waste containers for disposal. See Section 13 for disposal considerations.

7. HANDLING AND STORAGE

Signal Word: W A R N I N G

Handling Information: Avoid inhalation and contact with eyes, skin, and clothing. Wash hands thoroughly after handling and before eating or drinking. Remove and wash contaminated clothing before reuse. Use with adequate ventilation. An eyewash station and a safety shower should be readily accessible to workers wherever this material is stored or used. Ground and bond containers when transferring the material to prevent static electricity sparks which could ignite the vapor. Use spark-proof tools and explosion-proof equipment.

Empty containers may retain product residue (liquid and/or vapor). Do not pressurize, cut, weld, braze, solder, drill, grind, or expose these containers to heat, flame, sparks, static electricity, or other sources of ignition as the container may explode and may cause injury or death. Empty drums should be completely drained and properly bunged. Empty drums should be promptly returned to a drum reconditioner or properly disposed.

Storage Information: Keep away from ignition sources: flames, pilot lights, electrical sparks, and sparking tools. NO SMOKING. Do not store in direct sunlight. Store separate from oxidizing materials, peroxides, and metal salts. Keep container closed when not in use. Methanol is corrosive to lead and aluminum.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines: The American Industrial Hygiene Association (AIHA) have established, for tertiary butyl catechol, a Workplace Environmental Exposure Level (WEEL) of 5 mg/m³ Time Weighted Average (TWA), with a skin notation, for an 8 hour exposure.

The US Occupational Safety and Health Administration (OSHA) has established, for Methanol, a Permissible Exposure Limit (PEL) of 200 ppm or 260 mg / m³ for an 8-hour Time Weighted Average (TWA).

The American Conference of Governmental Industrial Hygienists (ACGIH) has established, for Methanol, a Threshold Limit Value (TLV) of 200 ppm for an 8-hour TWA and a Short Term Exposure Limit (STEL) of 250 ppm. The ACGIH TLV includes the skin designation for potential skin absorption.

Engineering Controls: The use of general or local exhaust ventilation may be required to maintain exposures below the regulatory or recommended occupational exposure limits. See occupational exposure limits in Section 2 and under Exposure Guidelines in Section 8.

Eye Protection: Wear 1) safety glasses with side shields and a faceshield or 2) goggles and a faceshield. Facilities storing or utilizing this material should be equipped with an eyewash station and safety shower.

Skin Protection: Gloves made of Viton® should provide protection against skin contact. Gloves made of other materials may NOT provide adequate protection. Consult your supplier of personal protective equipment for additional instructions on proper usage.

Respiratory Protection: Engineering or administrative controls should be implemented to reduce exposure. A NIOSH/MSHA approved air purifying respirator with organic vapor cartridge or canister may be necessary under certain circumstances where airborne concentrations are expected to exceed exposure limits. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. Protection provided by air purifying respirators is limited. Use a positive pressure air-supplied respirator if 1) there is any potential for an uncontrolled release, 2) exposure levels are not known, or 3) during other circumstances where air purifying respirators may not provide adequate protection. See Section 2 and 8 for applicable occupational exposure limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Color:	Colorless to Light Yellow
Odor:	Phenolic
Odor Threshold:	100 ppm Methanol
Physical State:	Liquid
Solubility in Water:	0.5 g/100 g water
Vapor Pressure:	96 mm Hg at 68°F (20 °C) Methanol
Specific Gravity:	1.03 (Water = 1) at 25°C (77 °F)
Boiling Point:	68° C (154 ° F) Methanol
Freezing Point:	Not available
Evaporation Rate:	> 1 (BuAc=1) Methanol
Vapor Density:	1.11 (AIR=1) Methanol
% Volatile:	15 % by weight
VOC Content:	154.5 grams/liter (calculated)product as supplied
pH:	3.5 - 3.7

10. STABILITY AND REACTIVITY

Stability: This material is stable during storage and during its intended use. Elevated temperatures will cause product to dealkylate and rearrange to quinone type compounds.

Incompatibility: Avoid contact with oxidizing materials such as peroxides, chlorates, and permanganates. Methanol is corrosive to lead, zinc and aluminum. Incompatible with some rubber materials.

Hazardous Decomposition Products: Thermal decomposition of tertiary butyl catechol may produce quinones and flammable butylenes.

Hazardous Polymerization: Hazardous polymerization will not occur.

Conditions to Avoid: Ignition sources. Contamination by those materials referred to under Incompatibility. Temperatures above ambient.

11. TOXICOLOGICAL INFORMATION

Acute Eye Toxicity: Methanol: 40 mg (rabbit) moderate response, 100 mg/24 hrs (rabbit) moderate response.

Acute Skin Toxicity: Tertiary butyl catechol: dermal LD50 (mouse), 2100 mg / kg. Methanol: dermal LD50 (rabbit) 1.58 g/kg; Skin irritation: Draize (rabbit) 20 mg/24 hr. moderate reaction.

Acute Inhalation Toxicity: Methanol: inhalation LC50 (rat) 64,000 ppm / 4 hr.

Acute Oral Toxicity: Tertiary butyl catechol: oral LD50 (rat), 2820 mg / kg; LD50 (mouse), 990 mg / kg. Methanol: oral LD50 (rat) 5,628 mg / kg; (mouse) 7,300 mg / kg; (rabbit) 14,200 mg / kg.

Chronic/Carcinogenicity: This material does not contain 0.1% or more of any chemical listed by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), or regulated by the United States Occupational Safety and Health Administration (OSHA) as a carcinogen.

The American Conference of Governmental Industrial Hygienists (ACGIH) has adopted the listing of Methanol as "A4-Not Classifiable as a Human Carcinogen." There is inadequate data on which to classify the agent in terms of its carcinogenicity in humans and/or animals.

Reproduction: Methanol is reported to cause birth defects in rats exposed to high levels of vapors (20,000 ppm).

Mutagenicity: Methanol is reported to show limited evidence of mutagenicity (mouse lymphoma forward mutation assay) when tested by the in vitro method. There is no information by the in vivo method.

Negative results were obtained in an Ames Test conducted on tertiary butyl catechol.

12. ECOLOGICAL INFORMATION

Ecotoxicity: Methanol: LC50 (Fathead minnow), 29400 mg / L / 96 hr tertiary Butyl Catechol: LC50 (Dryzias latipes), 3.9 ppm / 24 hrs.; 2.7 ppm / 48 hrs.

Environmental Fate: It is reported that methanol is expected to be biodegradable in soil and water. Evaporation from dry surfaces can be expected to occur. Aquatic hydrolysis, oxidation, photolysis, adsorption to sediment, and bioconcentration are not significant. Atmospheric methanol can also react with nitrogen dioxide in polluted air to yield methyl nitrite.

Tertiary butyl catechol is not readily biodegradable and is highly toxic to fish.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method: RCRA HAZARDOUS WASTE: This material and containers that are not empty, if discarded, would be regulated as a hazardous waste under RCRA. Treatment and/or disposal must be completed at a RCRA-permitted Treatment, Storage and Disposal Facility (TSD). The storage and transportation of RCRA hazardous wastes are also regulated by the USEPA. For further information, contact your local, state, provincial, or federal agency.

"Empty containers", as defined under 40 CFR 261.7 or other applicable state or provincial regulations or transportation regulations, are not classified as hazardous wastes.

RCRA Hazard Class: D001 (IGNITABLE): When discarded in its purchased form, this material would be regulated under 40 CFR 261.21 as EPA Hazardous Waste Number D001 based on the characteristic of ignitability.

14. TRANSPORT INFORMATION

DOT: Bulk and Non-Bulk

Proper Shipping Name:

Technical Shipping Name (If n.o.s.):

Hazard Class:

CORROSIVE LIQUID, FLAMMABLE, N.O.S.

TERTIARY BUTYL CATECHOL, METHANOL

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ID Number:	UN2920
Packing Group:	II
Label:	Corrosive, Flammable Liquid
Placard:	Corrosive, Flammable Liquid
ERG Number:	132
IATA: Non Bulk	
Proper Shipping Name:	CORROSIVE LIQUID, FLAMMABLE, N.O.S.
Technical Shipping Name (If n.o.s.):	TERTIARY BUTYL CATECHOL, METHANOL
Hazard Class:	8(3)
ID Number:	UN2920
Packing Group:	II
Label:	Corrosive, Flammable Liquid
Placard:	Corrosive, Flammable Liquid
ERG Number:	153
IMDG: Bulk and Non-Bulk	
Proper Shipping Name:	CORROSIVE LIQUID, FLAMMABLE, N.O.S.
Technical Shipping Name (If n.o.s.):	TERTIARY BUTYL CATECHOL, METHANOL
Hazard Class:	CLASS 8(3)
ID Number:	UN2920
Packing Group:	PG II
Label:	Corrosive, Flammable Liquid
Placard:	Corrosive, Flammable Liquid
ERG Number:	153
TDG: Bulk and Non-Bulk	
Proper Shipping Name:	CORROSIVE LIQUID, FLAMMABLE, N.O.S.
Technical Shipping Name (If n.o.s.):	TERTIARY BUTYL CATECHOL, METHANOL
Hazard Class:	CLASS 8(3)
ID Number:	UN2920
Packing Group:	PG II
Label:	Corrosive, Flammable Liquid
Placard:	Corrosive, Flammable Liquid
ERG Number:	153

15. REGULATORY INFORMATION

Clean Air Act -Hazardous Air Pollutants (HAP): Methanol (67-56-1) is listed under Section 112 as a Hazardous Air Pollutant (HAP).

Occupational Safety and Health Act (OSHA): This material is classified as a hazardous chemical under the criteria of the US Occupational Safety and Health Administration (OSHA) Hazard Communication Standard, 29 CFR 1910.1200.

SARA Title III: Section 304 - CERCLA: Methanol (CAS # 67-56-1): Reportable Quantity = 5,000 lb.

SARA Title III: Section 311/312 - Hazard Communication Standard (HCS): This material is classified as an IMMEDIATE HEALTH HAZARD, DELAYED HEALTH HAZARD, and FLAMMABILITY HAZARD under the US Superfund Amendment and Reauthorization Act (Section 311/312).

SARA Title III: Section 313 Toxic Chemical List (TCL): Methanol (67-56-1)

TSCA Section 8(b) - Inventory Status: All components of this material are listed on the US Toxic Substances Control Act (TSCA) inventory.

Australian Inventory Status: This product contains only chemicals which are currently listed on the Australian Inventory of Chemical Substances.

Canadian Inventory Status: All components of this material are listed on the Canadian Domestic Substances List (DSL).

Canadian WHMIS: This material is classified by the Canadian Workplace Hazardous Material Information System as: B3 (combustible liquid) D1A (materials causing immediate and serious toxic effects, very toxic material) E (corrosive material)

European Inventory Status (EINECS): All components are either listed or are exempt from being listed, on the EINECS chemical inventory.

Korean Inventory Status: This product contains only chemicals which are currently listed on the Korean Chemical Substances List.

California Proposition 65: This product is not known to contain any chemicals listed by the State of California (Safe Drinking Water and Toxic Enforcement Act of 1986) to cause cancer or reproductive toxicity.

New Jersey Right-to-Know: Methanol (CAS# 67-56-1) is listed on the New Jersey Right-To-Know List as a Special Hazardous Substance and an Environmentally Hazardous Substance.

Pennsylvania Right-to-Know: Tertiary butyl catechol (CAS# 98-29-3) is listed on the Pennsylvania Right-To-Know List. Methanol (CAS# 67-56-1) is listed on the Pennsylvania Right-To-Know List as an Environmental Hazard.

Additional Canadian Regulatory Information: The following chemicals are listed on the WHMIS Ingredient Disclosure List:
Tertiary butyl catechol (CAS# 98-29-3)
Methanol (CAS # 67-56-1)

The following chemical(s) are listed on the Canadian National Pollutant Release Inventory (NPRI):
Methanol (CAS # 67-56-1)

16. OTHER INFORMATION

MSDS No:	2608
Reason Issued:	Update to Section 11, Dermal LD50
Prepared By:	Product Safety & Compliance Department
Approved By:	
Title:	
Supersedes Date:	03/29/01

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Effective Date: 12/12/01

TERTIARY BUTYL CATECHOL, 85%
IN METHANOL

Dainippon Ink and Chemicals, Inc.
MSDS No: 2608

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