

MATERIAL SAFETY DATA SHEET

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Version 1.4

Section 1 - Product and Company Information

Product Name	4-TERT-BUTYLPHENOL, 99%
Product Number	B99901
Brand	ALDRICH
Company	Sigma-Aldrich
Street Address	3050 Spruce Street
City, State, Zip, Country	SAINT LOUIS MO 63103 US
Technical Phone:	314 771 5765
Emergency Phone:	414 273 3850 Ext. 5996
Fax:	800 325 5052

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
4-TERT-BUTYLPHENOL	98-54-4	No
Formula	C10H14O	
Synonyms	p-terc. Butylfenol (Czech) * Butylphen * p-tert-Butylphenol * 4-t-Butylphenol * 4-(1,1-Dimethylethyl)phenol * 1-Hydroxy-4-tert-butylbenzene * Phenol, 4-(1,1-dimethylethyl)- * PTBP * Ucar butylphenol 4-T flake * Ucar butylphenol 4-T	
RTECS Number:	SJ8925000	

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Irritant. Dangerous for the environment.
Risk of serious damage to eyes. Toxic to aquatic organisms, may
cause long-term adverse effects in the aquatic environment.

HMIS RATING

HEALTH: 2
FLAMMABILITY: 1
REACTIVITY: 0

NFPA RATING

HEALTH: 2
FLAMMABILITY: 1
REACTIVITY: 0

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is
conscious. Call a physician immediately. Do not induce vomiting.

INHALATION EXPOSURE

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

DERMAL EXPOSURE

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

EYE EXPOSURE

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

CONDITIONS OF FLAMMABILITY

Under fire conditions, material may decompose to form flammable and/or explosive mixtures in air.

FLASH POINT

235.4 °F 113 °C Method: closed cup

AUTOIGNITION TEMP

510 °C

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

Suitable: Carbon dioxide, dry chemical powder, or appropriate foam. Water may be ineffective.

FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s): Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING

User Exposure: Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE

Suitable: Keep tightly closed.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS

Safety shower and eye bath. Use only in a chemical fume hood.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Government approved respirator.

Hand: Compatible chemical-resistant gloves.

Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES

Wash contaminated clothing before reuse. Discard contaminated shoes. Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance	Physical State: Solid	
	Color: White	
	Form: Powder	
Property	Value	At Temperature or Pressure
Molecular Weight	150.22 AMU	
pH	N/A	
BP/BP Range	236 - 238 °C	760 mmHg
MP/MP Range	98 °C	
Freezing Point	N/A	
Vapor Pressure	1 mmHg	70 °C
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
SG/Density	0.908 g/cm ³	
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Surface Tension	N/A	
Partition Coefficient	Log Kow: 3.29	
Decomposition Temp.	N/A	
Flash Point	235.4 °F 113 °C	Method: closed cup
Explosion Limits	N/A	
Flammability	N/A	
Autoignition Temp	510 °C	
Refractive Index	N/A	
Optical Rotation	N/A	
Miscellaneous Data	N/A	
Solubility	N/A	

N/A = not available

Section 10 - Stability and Reactivity

STABILITY

Stable: Stable.

Materials to Avoid: Bases, Acid chlorides, Acid anhydrides, Oxidizing agents, Brass Copper, Copper alloys.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

Skin Contact: May cause skin irritation.
Skin Absorption: May be harmful if absorbed through the skin.
Eye Contact: Causes severe eye irritation.
Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.
Ingestion: May be harmful if swallowed.

SIGNS AND SYMPTOMS OF EXPOSURE

Exposure can cause: Dizziness. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

TOXICITY DATA

Oral
Rat
3250 UL/KG
LD50

Intraperitoneal
Rat
225 MG/KG
LD50

Intraperitoneal
Mouse
78 MG/KG
LD50

Skin
Rabbit
2520 UL/KG
LD50

Oral
Mammal
1500 mg/kg
LD50

Skin
Mammal
1580 mg/kg
LD50

IRRITATION DATA

Skin
Rabbit
500 mg
4H
Remarks: Mild irritation effect

Skin
Rabbit
500 mg
24H
Remarks: Mild irritation effect

Eyes
Rabbit
10 mg
Remarks: Severe irritation effect

Eyes
Rabbit
0.05 mg
24H
Remarks: Severe irritation effect

CHRONIC EXPOSURE - CARCINOGEN

Species: Hamster
Route of Application: Oral
Dose: 252 GM/KG
Exposure Time: 20W
Frequency: C
Result: Tumorigenic:Neoplastic by RTECS criteria.
Gastrointestinal:Tumors.

Section 12 - Ecological Information

ACUTE ECOTOXICITY TESTS

Test Type: LC50 Fish
Species: Pimephales promelas (Fathead minnow)
Time: 96 h
Value: 5.14 mg/l

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: Alkylphenols, solid, n.o.s.
[(including C2-C12 homologues)]
UN#: 2430
Class: 8
Packing Group: Packing Group III
Hazard Label: Corrosive
PIH: Not PIH

IATA

Proper Shipping Name: Alkylphenols, solid, n.o.s.
IATA UN Number: 2430
Hazard Class: 8
Packing Group: III

Section 15 - Regulatory Information

EU ADDITIONAL CLASSIFICATION

Symbol of Danger: Xi N
Indication of Danger: Irritant. Dangerous for the environment.
R: 41 51/53

Risk Statements: Risk of serious damage to eyes. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S: 26 39 61

Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear eye/face protection. Avoid release to the environment. Refer to special instructions/safety data sheets.

US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Irritant. Dangerous for the environment.

Risk Statements: Risk of serious damage to eyes. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear eye/face protection. Avoid release to the environment. Refer to special instructions/safety data sheets.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: No

TSCA INVENTORY ITEM: Yes

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: Yes

NDSL: No

Section 16 - Other Information

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2004 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.