



SIGMA-ALDRICH

# Material Safety Data Sheet

Date Printed: 01/21/2009  
Date Updated: 02/02/2006  
Version 1.110

## Section 1 - Product and Company Information

**Product Name** 4-*tert*-Butylphenol, 99%  
**Product Number** B99901  
**Brand** Aldrich Chemical

**Company** Sigma-Aldrich  
**Street Address** 3050 Spruce Street  
**City, State, Zip, Country** SAINT LOUIS, MO 63103 US  
**Technical Phone:** 800-325-5832 **Emergency Phone:** 314-776-6555  
**Fax:** 800-325-5052

## Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313	EC no	Annex I Index Number
4-TERT-BUTYLPHENOL	98-54-4	No	202-679-0	

**Formula** C10H14O  
**Synonyms** p-*tert*-Butylphenol (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 4T

## Section 3 - Hazards Identification

**Emergency Overview**  
 Irritant. Dangerous for the environment.  
 Irritating to respiratory system and skin. Risk of serious damage to eyes. Toxic to aquatic organisms, may cause longterm adverse effects in the aquatic environment.

**HMS 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.

**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 contact, immediately wash skin with soap and copious amounts of water.

**Eye Exposure**  
 In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

## 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

**Autoignition Temp:** 510 °C

**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(s) of Personal Precaution(s)**  
 Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

**Methods for Cleaning Up**  
 Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

## Section 7 - Handling and Storage

**Handling User Exposure**  
 Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

**Storage Suitable**  
 Keep tightly closed.

## Section 8 - Exposure Controls / PPE

**Engineering Controls**  
 Safety shower and eye bath. Mechanical exhaust required.

**Personal Protective Equipment**  
**Respiratory**  
 Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows airpurifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator.  
**Hand**  
 Compatible chemical-resistant gloves.  
**Eye**  
 Chemical safety goggles.

RECEIVED

FEB 07 2005

Safety & Environmental

**General Hygiene Measures**  
Wash thoroughly after handling.

## Section 9 - Physical/Chemical Properties

Appearance	Color	Form
Physical State Solid	White	Powder
<b>Molecular Weight</b>	150.22 AMU	
Property	Value	At Temperature or Pressure
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/cm3	
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	
Partition Coefficient	Log Kow: 3.29	
Decomposition Temp.	N/A	
Flash Point °F	235.4 °F	Method: closed cup
Flash Point °C	113 °C	Method: closed cup
<b>Explosion Limits</b>	N/A	
<b>Flammability</b>	N/A	
<b>Autoignition Temp</b>	510 °C	
<b>Solubility</b>	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**  
Causes 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 is 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.

**RTECS Number:** SJ8925000

### 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

Hamster - Oral: 252 GM/KG 20W 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:** 96.0 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:** None  
**Non-Hazardous for Transport** This substance is considered to be nonhazardous for transport.

#### IATA

**Proper Shipping Name:** Environmentally hazardous substance, solid, n.o.s.  
**IATA UN Number:** 3077  
**Hazard Class:** 9  
**Packing Group:** III

### Section 15 - Regulatory Information

#### EU Additional Classification

**Symbol of Danger:** Xi N

#### Indication of Danger

Irritant. Dangerous for the environment.

**Risk Statements** R: 37/38 41 51/53

Irritating to respiratory system and skin. Risk of serious damage to eyes. Toxic to aquatic organisms, may cause longterm adverse effects in the aquatic environment.

**Safety Statements** S: 26 39 61

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

Irritating to respiratory system and skin. Risk of serious damage to eyes. Toxic to aquatic organisms, may cause longterm 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. SigmaAldrich 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 packaging for additional terms and conditions of sale. Copyright 2009 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

RECEIVED

FEB 07 2009

BY & RECEIVED  
13-11

0000008  
01222009  
1566

