

# SAFETY DATA SHEETS

According to the UN GHS revision 9

Version: 1.0  
Creation Date: July 15, 2019  
Revision Date: July 15, 2019

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## SECTION 1: Identification

### 1.1 GHS Product identifier

**Product name** 2-tert-butylphenol

### 1.2 Other means of identification

**Product number** -  
**Other names** o-reft-Butyl phenol; ortho-tert-butylphenol; Butylphenol

### 1.3 Recommended use of the chemical and restrictions on use

**Identified uses** Industrial and scientific research use.  
**Uses advised against** no data available

### 1.4 Supplier's details

**Company** Shanghai Yien Chemical Technology Co., Ltd  
**Address** Building 6, 28 Yingong Road, Fengxian District, Shanghai  
Chemical Industry Zone, Shanghai, 201400, China  
**Telephone** +86-400-133-2688

### 1.5 Emergency phone number

**Emergency phone number** +86-400-133-2688  
**Service hours** Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

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## SECTION 2: Hazard identification

### 2.1 Classification of the substance or mixture

Acute toxicity - Category 4, Oral  
Acute toxicity - Category 3, Dermal  
Skin corrosion, Sub-category 1B  
Serious eye damage, Category 1  
Acute toxicity - Category 4, Inhalation  
Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 2

### 2.2 GHS label elements, including precautionary statements

**Pictogram(s)**



**Signal word** Danger  
**Hazard statement(s)** H302 Harmful if swallowed

H311 Toxic in contact with skin  
 H314 Causes severe skin burns and eye damage  
 H332 Harmful if inhaled  
 H411 Toxic to aquatic life with long lasting effects

**Precautionary statement(s)**

**Prevention**

P264 Wash ... thoroughly after handling.  
 P270 Do not eat, drink or smoke when using this product.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...  
 P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
 P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
 P271 Use only outdoors or in a well-ventilated area.  
 P273 Avoid release to the environment.

**Response**

P301+P317 IF SWALLOWED: Get medical help.  
 P330 Rinse mouth.  
 P302+P352 IF ON SKIN: Wash with plenty of water/...  
 P316 Get emergency medical help immediately.  
 P321 Specific treatment (see ... on this label).  
 P361+P364 Take off immediately all contaminated clothing and wash it before reuse.  
 P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
 P363 Wash contaminated clothing before reuse.  
 P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P305+P354+P338 IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P317 Get medical help.  
 P391 Collect spillage.

**Storage**

P405 Store locked up.

**Disposal**

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

**2.3 Other hazards which do not result in classification**

no data available

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**SECTION 3: Composition/information on ingredients**

**3.1 Substances**

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
2-tert-butylphenol	2-tert-butylphenol	88-18-6	201-807-2	100%

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**SECTION 4: First-aid measures**

**4.1 Description of necessary first-aid measures**

**If inhaled**

Fresh air, rest. Half-upright position. Refer for medical attention.

**Following skin contact**

Remove contaminated clothes. Rinse skin with plenty of water or shower. Refer for medical attention .

**Following eye contact**

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

### **Following ingestion**

Rinse mouth. Give one or two glasses of water to drink. Do NOT induce vomiting. Refer for medical attention .

### **4.2 Most important symptoms/effects, acute and delayed**

no data available

### **4.3 Indication of immediate medical attention and special treatment needed, if necessary**

no data available

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## **SECTION 5: Fire-fighting measures**

### **5.1 Suitable extinguishing media**

If material involved in fire: Extinguish fire using agent suitable for type of surrounding fire. (Material itself does not burn or burns with difficulty.) Keep run-off water out of sewers and water sources. Butyl phenols, liquid

### **5.2 Specific hazards arising from the chemical**

Combustible. Above 80°C explosive vapour/air mixtures may be formed.

### **5.3 Special protective actions for fire-fighters**

Use powder, carbon dioxide, foam.

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## **SECTION 6: Accidental release measures**

### **6.1 Personal precautions, protective equipment and emergency procedures**

Personal protection: chemical protection suit including self-contained breathing apparatus. Do NOT let this chemical enter the environment. Collect leaking liquid in sealable plastic containers. Carefully collect remainder. Then store and dispose of according to local regulations.

### **6.2 Environmental precautions**

Personal protection: chemical protection suit including self-contained breathing apparatus. Do NOT let this chemical enter the environment. Collect leaking liquid in sealable plastic containers. Carefully collect remainder. Then store and dispose of according to local regulations.

### **6.3 Methods and materials for containment and cleaning up**

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

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## **SECTION 7: Handling and storage**

### **7.1 Precautions for safe handling**

NO open flames. Above 80°C use a closed system and ventilation. Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

### **7.2 Conditions for safe storage, including any incompatibilities**

Separated from strong oxidants, strong bases, acid anhydrides, acid chlorides, metals and food and feedstuffs.

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## **SECTION 8: Exposure controls/personal protection**

### **8.1 Control parameters**

### Occupational Exposure limit values

no data available

### Biological limit values

no data available

## 8.2 Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

## 8.3 Individual protection measures, such as personal protective equipment (PPE)

### Eye/face protection

Wear face shield or eye protection in combination with breathing protection.

### Skin protection

Protective gloves. Protective clothing.

### Respiratory protection

Use ventilation, local exhaust or breathing protection.

### Thermal hazards

no data available

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## SECTION 9: Physical and chemical properties and safety characteristics

<b>Physical state</b>	Liquid.
<b>Colour</b>	Clear.
<b>Odour</b>	no data available
<b>Melting point/freezing point</b>	< -25 °C. Atm. press.:Ca. 1 atm.
<b>Boiling point or initial boiling point and boiling range</b>	223.3 °C. Atm. press.:Ca. 101 kPa.
<b>Flammability</b>	Combustible.
<b>Lower and upper explosion limit/flammability limit</b>	no data available
<b>Flash point</b>	102 °C. Atm. press.:101.3 kPa.
<b>Auto-ignition temperature</b>	360 °C. Atm. press.:Ca. 1 atm.
<b>Decomposition temperature</b>	no data available
<b>pH</b>	no data available
<b>Kinematic viscosity</b>	kinematic viscosity (in mm <sup>2</sup> /s) = 14.7. Temperature:20°C.;kinematic viscosity (in mm <sup>2</sup> /s) = 5.8. Temperature:40°C.
<b>Solubility</b>	SOL IN ALCOHOL; VERY SOL IN ETHER; SOL IN ALKALI, CARBON TETRACHLORIDE
<b>Partition coefficient n-octanol/water</b>	log Pow = 3.3. Temperature:23 °C.
<b>Vapour pressure</b>	Ca. 0.48 mBar. Temperature:38 °C.
<b>Density and/or relative density</b>	Ca. 0.98 g/cm <sup>3</sup> . Temperature:20 °C.
<b>Relative vapour density (air = 1):</b>	5.2
<b>Particle characteristics</b>	no data available

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## SECTION 10: Stability and reactivity

## 10.1 Reactivity

Reacts violently with strong oxidants, bases, acid anhydrides and acid chlorides. Attacks copper and its alloys.

## 10.2 Chemical stability

no data available

## 10.3 Possibility of hazardous reactions

The vapour is heavier than air.

## 10.4 Conditions to avoid

no data available

## 10.5 Incompatible materials

no data available

## 10.6 Hazardous decomposition products

no data available

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## SECTION 11: Toxicological information

### Acute toxicity

- Oral: LD50 - rat (male/female) - 789 mg/kg bw.
- Inhalation: no data available
- Dermal: LD50 - rat (male) - 1 373 mg/kg bw.

### Skin corrosion/irritation

no data available

### Serious eye damage/irritation

no data available

### Respiratory or skin sensitization

no data available

### Germ cell mutagenicity

no data available

### Carcinogenicity

no data available

### Reproductive toxicity

no data available

### STOT-single exposure

The substance is corrosive to the skin and eyes. The vapour is irritating to the respiratory tract. Corrosive on ingestion.

### STOT-repeated exposure

no data available

### Aspiration hazard

Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly on spraying.

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## SECTION 12: Ecological information

### 12.1 Toxicity

- Toxicity to fish: LC50 - Oncorhynchus mykiss (previous name: Salmo gairdneri) - > 0.1 mg/L - 96 h.
- Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna - ca. 3.4 mg/L - 48 h.
- Toxicity to algae: EC50 - Desmodesmus subspicatus (previous name: Scenedesmus subspicatus) - 6.5 mg/L - 72 h.
- Toxicity to microorganisms: EC50 - activated sludge - > 10 mg/L - 3 h.

## 12.2 Persistence and degradability

Resting cells of a Pseudomonas strain obtained by selective enrichment with 4-hydroxybenzoate as the sole carbon source, were able to biodegrade 2-t-butylphenol (oxygen uptake rate 26 nmol O<sub>2</sub>/min/mg protein)(1). 4-t-Butylphenol (at 30 mg/l) was not biodegraded over a 2 week period using an activated sludge inoculum; in river and sea water 4-t-butylphenol showed 11% biodegradation over 3 days(3). By analogy to 4-t-butylphenol, 2-t-butylphenol may be recalcitrant to biodegradation in the environment(SRC).

## 12.3 Bioaccumulative potential

An estimated BCF value of 190 was calculated for 2-t-butylphenol(SRC), using an experimental log Kow of 3.31(1) and a recommended regression-derived equation(2). According to a recommended classification scheme(3), this BCF value suggests that bioconcentration in aquatic organisms may be an important fate process(SRC). This compound was rapidly taken up by zebra fish with a steady state concentration reached within 5 hours; the clearance phase required 6 hours(3).

## 12.4 Mobility in soil

The Koc of 2-t-butylphenol is estimated as approximately 1500(SRC), using an experimental log Kow of 3.31(1) and a regression-derived equation(2,SRC). According to a recommended classification scheme(3), this Koc value suggests that 2-t-butylphenol has low mobility in soil(SRC).

## 12.5 Other adverse effects

no data available

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## SECTION 13: Disposal considerations

### 13.1 Disposal methods

#### Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

#### Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

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## SECTION 14: Transport information

### 14.1 UN Number

ADR/RID: UN3145 (For reference only, please check.)

IMDG: UN3145 (For reference only, please check.)

IATA: UN3145 (For reference only, please check.)

### 14.2 UN Proper Shipping Name

ADR/RID:  
ALKYLPHENOLS, LIQUID, N.O.S. (including C2-C12 homologues) (For reference only, please check.)

IMDG: ALKYLPHENOLS, LIQUID, N.O.S. (including C2-C12 homologues) (For reference only, please check.)

IATA: ALKYLPHENOLS, LIQUID, N.O.S. (including C2-C12 homologues) (For reference only, please check.)

### 14.3 Transport hazard class(es)

ADR/RID: 8 (For reference only, please check.)

IMDG: 8 (For reference only, please check.)

IATA: 8 (For reference only, please check.)

### 14.4 Packing group, if applicable

ADR/RID: I (For reference only, please check.)

IMDG: I (For reference only, please check.)

IATA: I (For reference only, please check.)

### 14.5 Environmental hazards

ADR/RID: Yes

IMDG: Yes

IATA: Yes

### 14.6 Special precautions for user

no data available

### 14.7 Transport in bulk according to IMO instruments

no data available

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## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
2-tert-butylphenol	2-tert-butylphenol	88-18-6	201-807-2
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.
Korea Existing Chemicals List (KECL)			Listed.

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## SECTION 16: Other information

### Information on revision

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### Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

### References

- IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>
- HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: [http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)
- CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>
- Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

**Any questions regarding this SDS, Please send your inquiry to [sds@xixisys.com](mailto:sds@xixisys.com)**

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