

**SAFETY DATA SHEET**

according to the Global Harmonized System (and with all of the information required by the HPR)

Revision Date 06/15/2018

Version 2.4

**SECTION 1. Identification****Product identifier**

Product number	822021
Product name	2,6-Di-tert-butyl-4-methylphenol for synthesis
CAS-No.	128-37-0

**Relevant identified uses of the substance or mixture and uses advised against**

Identified uses	Chemical for synthesis
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**Details of the supplier of the safety data sheet**

Company	Millipore (Canada) Ltd   109 Woodbine Downs Blvd. Unit 5   Etobicoke   Ontario M9W 6Y1   Canada   General Inquiries: +1 800-645-5476   Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5) MilliporeSigma is a business of Merck KGaA, Darmstadt, Germany.
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Emergency telephone	800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week
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**SECTION 2. Hazards identification****GHS-Labeling**

Not a dangerous substance according to GHS.

**Other hazards**

None known.

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

Formula	C <sub>15</sub> H <sub>24</sub> O (Hill)
Molar mass	220.35 g/mol
Remarks	WHMIS hazardous composition: No ingredients are hazardous according to the CPR criteria.

**SECTION 4. First aid measures****Description of first-aid measures***Inhalation*

After inhalation: fresh air.

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### *Skin contact*

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower.

### *Eye contact*

After eye contact: rinse out with plenty of water. Remove contact lenses.

### *Ingestion*

After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

Never give anything by mouth to an unconscious person.

### **Most important symptoms and effects, both acute and delayed**

We have no description of any toxic symptoms.

### **Indication of any immediate medical attention and special treatment needed**

No information available.

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

### **Extinguishing media**

#### *Suitable extinguishing media*

Water, Foam, Carbon dioxide (CO<sub>2</sub>), Dry powder

#### *Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

### **Special hazards arising from the substance or mixture**

Combustible.

Vapors are heavier than air and may spread along floors.

Forms explosive mixtures with air on intense heating.

Development of hazardous combustion gases or vapors possible in the event of fire.

### **Advice for firefighters**

#### *Special protective equipment for fire-fighters*

In the event of fire, wear self-contained breathing apparatus.

#### *Further information*

Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## **SECTION 6. Accidental release measures**

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

Advice for non-emergency personnel: Avoid inhalation of dusts. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment see section 8.

### **Environmental precautions**

Do not let product enter drains.

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

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Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

## SECTION 7. Handling and storage

### Precautions for safe handling

Observe label precautions.

### Conditions for safe storage, including any incompatibilities

Tightly closed. Dry.

Store below +30°C (+86°F).

## SECTION 8. Exposure controls/personal protection

### Exposure limit(s)

#### Ingredients

Basis	Value	Threshold limits	Remarks
<i>butyl hydroxytoluene (BHT) 128-37-0</i>			
CAD AB OEL	Time Weighted Average (TWA):	10 mg/m <sup>3</sup>	
CAD BC OEL	Time Weighted Average (TWA):	2 mg/m <sup>3</sup>	Form of exposure: Vapor and aerosol, inhalable.
CAD MB OEL	Time Weighted Average (TWA):	2 mg/m <sup>3</sup>	Form of exposure: Inhalable fraction and vapor.
CAD ON OEL	Time Weighted Average (TWA):	2 mg/m <sup>3</sup>	Form of exposure: Inhalable fraction and vapor.
OEL (QUE)	Time Weighted Average (TWA):	10 mg/m <sup>3</sup>	

### Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

### Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

### Hygiene measures

Change contaminated clothing. Wash hands after working with substance.

### Eye/face protection

Safety glasses

### Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

### Other protective equipment:

protective clothing

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## *Respiratory protection*

required when dusts are generated.

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## SECTION 9. Physical and chemical properties

Physical state	crystalline
Color	white
Odor	odorless
Odor Threshold	Not applicable
pH	No information available.
Melting point	156 - 158 °F (69 - 70 °C)
Boiling point/boiling range	509 °F (265 °C) at 1,013 hPa
Flash point	261 °F (127 °C) Method: DIN 51758
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapor pressure	0.02 hPa at 68 °F (20 °C)  2.4 hPa at 212 °F (100 °C)
Relative vapor density	7.6
Density	1.05 g/cm <sup>3</sup> at 68 °F (20 °C)
Relative density	No information available.
Water solubility	< 0.001 g/l at 77 °F (25 °C)

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Partition coefficient: n-octanol/water  
log Pow: 5.10  
(experimental)  
(Lit.) Potential bioaccumulation

Autoignition temperature  
No information available.

Decomposition temperature  
No information available.

Viscosity, dynamic  
No information available.

Explosive properties  
Not classified as explosive.

Oxidizing properties  
none

Ignition temperature  
653 °F (345 °C)  
Method: DIN 51794

Bulk density  
450 kg/m<sup>3</sup>

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### SECTION 10. Stability and reactivity

#### Reactivity

Forms explosive mixtures with air on intense heating.  
A range from approx. 15 Kelvin below the flash point is to be rated as critical.  
The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

#### Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

#### Possibility of hazardous reactions

Violent reactions possible with:  
Peroxides, bases, sulfuric acid, Strong acids, Acid chlorides, Acid anhydrides, Oxidizing agents, Bases

#### Conditions to avoid

Strong heating.

#### Incompatible materials

Copper, copper compounds, brass, Mild steel

#### Hazardous decomposition products

no information available

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### SECTION 11. Toxicological information

#### Information on toxicological effects

*Likely route of exposure*  
Eye contact, Skin contact, Ingestion

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## *Acute oral toxicity*

LD50 Rat: > 6,000 mg/kg

OECD Test Guideline 401

## *Acute dermal toxicity*

LD50 Rat: > 2,000 mg/kg

OECD Test Guideline 402

## *Skin irritation*

Rabbit

Result: No skin irritation

OECD Test Guideline 404

## *Eye irritation*

Rabbit

Result: No eye irritation

OECD Test Guideline 405

## *Sensitization*

Patch test: human

Result: negative

(ECHA)

Sensitization test: Guinea pig

Result: negative

(IUCLID)

## *Genotoxicity in vivo*

Chromosome aberration test

Rat

Result: negative

(ECHA)

Micronucleus test

Mouse

Result: negative

(ECHA)

## *Genotoxicity in vitro*

Ames test

Salmonella typhimurium

Result: negative

(ECHA)

## *Specific target organ systemic toxicity - single exposure*

The substance or mixture is not classified as specific target organ toxicant, single exposure.

## *Specific target organ systemic toxicity - repeated exposure*

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

## *Aspiration hazard*

Regarding the available data the classification criteria are not fulfilled.

## **Carcinogenicity**

IARC

No ingredient of this product present at levels greater than or

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	equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.
NTP	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
ACGIH	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

## Further information

Hazardous properties cannot be excluded but are unlikely when the product is handled appropriately.

Handle in accordance with good industrial hygiene and safety practice.

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## SECTION 12. Ecological information

### Ecotoxicity

#### *Toxicity to fish*

semi-static test LC0 Danio rerio (zebra fish):  $\geq 0.57$  mg/l; 96 h

Analytical monitoring: yes

Directive 67/548/EEC, Annex V, C.1.

#### *Toxicity to daphnia and other aquatic invertebrates*

static test EC50 Daphnia magna (Water flea): 0.48 mg/l; 48 h

Analytical monitoring: yes

OECD Test Guideline 202

static test NOEC Daphnia magna (Water flea): 0.15 mg/l; 48 h

Analytical monitoring: yes

OECD Test Guideline 202

#### *Toxicity to algae*

static test EC50 Desmodesmus subspicatus (green algae):  $> 0.4$  mg/l; 72 h

Analytical monitoring: yes

Directive 67/548/EEC, Annex V, C.3. Limit Test

#### *Toxicity to bacteria*

EC0 Pseudomonas putida: 500 mg/l; 30 min (IUCLID)

static test EC50 activated sludge:  $> 10,000$  mg/l; 3 h

Analytical monitoring: yes

OECD Test Guideline 209

### Persistence and degradability

#### *Biodegradability*

$< 10$  %; 20 d

OECD Test Guideline 301D

Not readily biodegradable.

### Bioaccumulative potential

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*Partition coefficient: n-octanol/water*

log Pow: 5.10

(experimental)

(Lit.) Potential bioaccumulation

**Mobility in soil**

No information available.

*Additional ecological information*

Discharge into the environment must be avoided.

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**SECTION 13. Disposal considerations**

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

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**SECTION 14. Transport information**

**Land transport (DOT)**

UN number

UN 3077

Proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,  
N.O.S. (BUTYL HYDROXYTOLUENE)

Class

9

Packing group

III

Environmentally hazardous

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**Air transport (IATA)**

UN number

UN 3077

Proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,  
N.O.S. (BUTYL HYDROXYTOLUENE)

Class

9

Packing group

III

Environmentally hazardous

--

Special precautions for user

no

**Sea transport (IMDG)**

UN number

UN 3077

Proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,  
N.O.S. (BUTYL HYDROXYTOLUENE)

Class

9

Packing group

III

Environmentally hazardous

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Special precautions for user

yes

EmS

F-A S-F



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## SECTION 15. Regulatory information

### United States of America

### Canada

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR.

### Notification status

TSCA: All components of the product are listed in the TSCA-inventory.

DSL: All components of this product are on the Canadian DSL

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## SECTION 16. Other information

### Training advice

Provide adequate information, instruction and training for operators.

### Labeling

#### *Hazard pictograms*



#### *Signal Word*

Warning

#### *Hazard Statements*

H410 Very toxic to aquatic life with long lasting effects.

#### *Precautionary Statements*

##### Prevention

P273 Avoid release to the environment.

### Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

Revision Date 06/15/2018

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The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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