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## 21 Author

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## 22 Date of Revision

4 May 2017.

# Butylated Hydroxytoluene

## 1 Nonproprietary Names

BP: Butylated Hydroxytoluene

PhEur: Butylhydroxytoluene

USP–NF: Butylated Hydroxytoluene

## 2 Synonyms

*Agidol*; BHT; 2,6-bis(1,1-dimethylethyl)-4-methylphenol; butylhydroxytoluene; butylhydroxytoluenum; *Dalpac*; dibutylated hydroxytoluene; 2,6-di-tert-butyl-p-cresol; 3,5-di-tert-butyl-4-hydroxytoluene; E321; *Embanox BHT*; *Impruvol*; *Ionol CP*; *Nipanax BHT*; *OHS28890*; *Sustane*; *Tenox BHT*; *Topanol*; *Vianol*.

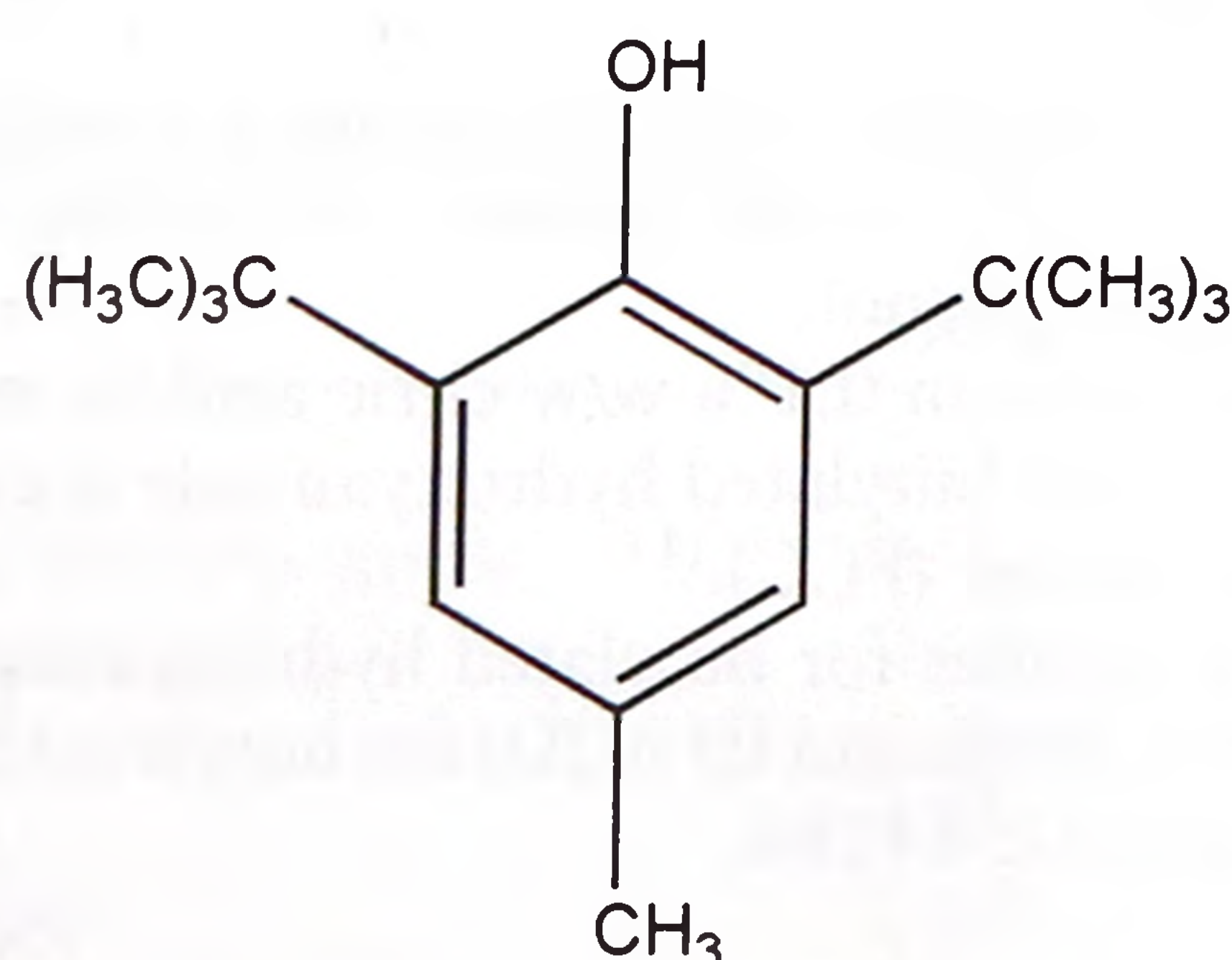
## 3 Chemical Name and CAS Registry Number

2,6-Di-tert-butyl-4-methylphenol [128-37-0]

## 4 Empirical Formula and Molecular Weight

C<sub>15</sub>H<sub>24</sub>O 220.35

## 5 Structural Formula



## 6 Functional Category

Antioxidant.

## 7 Applications in Pharmaceutical Formulation or Technology

Butylated hydroxytoluene is used as an antioxidant (see Table I) in cosmetics, foods, and pharmaceuticals.<sup>(1–5)</sup> It is mainly used to delay or prevent the oxidative rancidity of fats and oils and to prevent loss of activity of oil-soluble vitamins.<sup>(6)</sup>

**Table I:** Antioxidant uses of butylated hydroxytoluene.

Antioxidant use	Concentration (%)
β-Carotene	0.01
Edible vegetable oils	0.01
Essential oils and flavoring agents	0.02–0.5
Fats and oils	0.02
Fish oils	0.01–0.1
Inhalations	0.01
IM injections	0.03
IV injections	0.0009–0.002
Topical formulations	0.0075–0.1
Vitamin A	10 mg per million units

## 8 Description

Butylated hydroxytoluene occurs as a white or pale yellow crystalline solid or powder with a faint characteristic phenolic odor.

## 9 Pharmacopeial Specifications

See Table II.

## 10 Typical Properties

*Boiling point* 265°C  
*Density (bulk)* 0.48–0.60 g/cm<sup>3</sup>  
*Density (true)* 1.031 g/cm<sup>3</sup>  
*Flash point* 127°C (open cup)  
*Melting point* 70°C  
*Moisture content* ≤0.05%