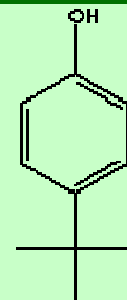


4-*tert*-BUTYLPHENOL

PRODUCT IDENTIFICATION

CAS NO.	98-54-4
EINECS NO.	202-679-0
FORMULA	(CH ₃) ₃ CC ₆ H ₄ OH
MOL WT.	150.22
H.S. CODE	2907.19
TOXICITY	Oral rat LD50: 2951 mg/kg
SYNONYMS	Butylphen; 1-hydroxy-4- <i>tert</i> -butylbenzene;



ucar butylphenol 4-t; Phenol, 4-(1,1-dimethylethyl)-; PTBP; p-*terc*.Butylfenol

PRICE

CLASSIFICATION

PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	almost white solid
MELTING POINT	98 C
BOILING POINT	237 C
SPECIFIC GRAVITY	0.908
SOLUBILITY IN WATER	Insoluble (soluble in alcohol and ether)
pH	
VAPOR DENSITY	
AUTOIGNITION	510 C
REFRACTIVE INDEX	
NFPA RATINGS	Health: 2; Flammability: 1; Reactivity: 0
FLASH POINT	113 C
STABILITY	Stable under ordinary conditions

APPLICATIONS

Antioxidant is a substance added in small quantities to hydrocarbons which are susceptible to oxidation, such as rubbers, plastics, foods, and oils to inhibit or slow oxidative processes, while being itself oxidized. Antioxidants work in two different ways. In primary antioxidants (also called free-radical scavengers), antioxidative activity is implemented by the donation of an electron or hydrogen atom to a radical derivative. These antioxidants are usually hindered amines (p-Phenylene diamine, trimethyl dihydroquinolines, alkylated diphenyl amines) or substituted phenolic compounds with one or more bulky functional groups such as a tertiary butyl at 2,6 position commonly. Butylated hydroxytoluene (BHT) is a common example of hindered phenolic antioxidant. The reaction rate, or carbocation stability, in S_N1 mechanism is 3° > 2° > 1° > CH₃ (no S_N1) so, tertiary alkyl moiety exists in lots of phenolic antioxidant compounds. Primary antioxidants are free radical scavengers which combine with peroxy radicals and break autocatalytic cycle. In secondary antioxidants (also called peroxide decomposers), activity is implemented by the removal of an oxidative catalyst and the consequent prevention of the initiation of oxidation. Examples of peroxide decomposer type of antioxidant are trivalent phosphorous and divalent sulfurcontaining compound such as sulfides, thiodipropionates and organophosphites. Synergistic effect is expected when primary antioxidants are used together with secondary antioxidants as primary antioxidants are not very effective against the degradation by UV oxidation. Sometimes, chelating agents are added to scavenge metal impurities which can initiate decomposition.

Tert-butyl-Phenol is an intermediate for varnish and lacquer resins, antioxidants, oil field additives, fragrances and stabilizers.

SALES SPECIFICATION

APPEARANCE	off white flake
PURITY	98.5% min
MELTING POINT	96 - 98 C
PHENOL	0.1% max
WATER	0.1% max

TRANSPORTATION

PACKING	25kgs in Bag
HAZARD CLASS	6.1
UN NO.	2229 or 2811