Propyl gallate

Product Number P 3130
Store at Room Temperature

**Product Description**

Molecular Formula: C_{10}H_{12}O_{5}
Molecular Weight: 212.2
CAS Number: 121-79-9
Melting Point: 150 °C
P_{K_a}: 8.11
λ_{max}: 272 nm (1 M HCl)
Extinction Coefficient: E_{mM} = 10.2 (272 nm, 1 M HCl)
Partition Coefficient: 32 (octanol:water), 17 (oleyl alcohol:water)
Synonyms: n-propyl gallate; 3,4,5-trihydroxybenzoic acid propyl ester; gallic acid propyl ester

Propyl gallate is a compound with antioxidant properties that is used in the production of cosmetics, fats, oils, ethers, emulsions, and waxes. A review of the use of propyl gallate and other compounds as antioxidants has been published. A discussion of in vivo toxicology studies of propyl gallate and other gallic acid esters has been reported. The synthesis of propyl gallate by transesterification of tannic acid with tannase from *Aspergillus niger van Teighem* has been described.

Propyl gallate has been used to probe the cyanide-insensitive alternative oxidase pathway of oxygen uptake in seeds of *Orobanche aegyptiaca*. A study of cultured lens epithelial cells treated with H_{2}O_{2} has indicated that propyl gallate dismutates superoxide ion in a catalytic manner and thus mimics superoxide dismutase activity. Propyl gallate (1 mM) has been utilized to probe the activity of plastid oxidase from *Arabidopsis thaliana* as expressed in tobacco. A report has investigated the utility of propyl gallate with a gold cluster/fluorochrome-labeled antibody probe for immunofluorescence microscopy and immunoelectron microscopy.

**Precautions and Disclaimer**

For Laboratory Use Only. Not for drug, household or other uses.

**Preparation Instructions**

This product is soluble in ethanol (50 mg/ml), with heat as needed, yielding a clear, colorless to faint yellow solution. It is soluble in water (3.5 mg/ml).

**Storage/Stability**

This product darkens in the presence of iron and iron salts.

**References**

1. The Merck Index, 12th ed., Entry# 8044.