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ProductInformation

4-Phenylphenol

Product Number **13,434-1**
Store at Room Temperature

Replacement for Product Number H 7751

Product Description

Molecular Formula: $C_{12}H_{10}O$
Molecular Weight: 170.2
CAS Number: 92-69-3
Melting point: 164-165 °C[1]
Boiling point: 305-308 °C[1]
Synonyms: p-phenylphenol; 4-hydroxydiphenyl; biphenyl-4-ol; [1,1'-biphenyl]-4-ol[1]

4-Phenylphenol is a compound that is an intermediate in the manufacture of resins.[1] It is also an oxidation by-product that may be formed during the manufacturing of phenol. *In vivo*, 4-phenylphenol may undergo glucuronidation modification by a 4-hydroxybiphenyl UDP-glucuronyltransferase, which has been isolated from bovine liver microsomes.[2] 4-Phenylphenol has also been used as a sole carbon source to support the growth of *Pseudomonas* sp. strain FH12.[3]

4-Phenylphenol has also been investigated for its ability to mimic the effects of natural steroid hormones. A study in *Saccharomyces cerevisiae* of the structural features of phenolic compounds, including 4-phenylphenol, that contribute to their estrogenic effects has been reported.[4] 4-Phenylphenol and other aromatic compounds have been used in a study of MCF-7 cells to probe their effects on estrogen receptor binding, cell proliferation and regulation of estrogen sensitive proteins.[5] An HPLC assay for the detection of 4-phenylphenol and its metabolites after reaction in the presence of rat liver cells, human liver cells, and and kidney cells has been published.[6]

Precautions and Disclaimer

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

Preparation Instructions

This product is soluble in methanol (50 mg/ml), yielding a clear, colorless solution.

References

1. The Merck Index, 12th ed., Entry# 7459.
2. Kanehara, H., et al., Purification and properties of 4-hydroxybiphenyl UDP-glucuronyltransferase from bovine liver microsomes. J. Biochem. (Tokyo), **112(5)**, 578-582 (1992).
3. Higson, F. K., and Focht, D. D., Bacterial metabolism of hydroxylated biphenyls. Appl. Environ. Microbiol., **55(4)**, 946-952 (1989).
4. Routledge, E. J., and Sumpter, J. P., Structural features of alkylphenolic chemicals associated with estrogenic activity. J. Biol. Chem., **272(6)**, 3280-3288 (1997).
5. Olsen, C. M., et al., Effects of the environmental oestrogens bisphenol A, tetrachlorobisphenol A, tetrabromobisphenol A, 4-hydroxybiphenyl and 4,4'-dihydroxybiphenyl on oestrogen receptor binding, cell proliferation and regulation of oestrogen sensitive proteins in the human breast cancer cell line MCF-7. Pharmacol. Toxicol., **92(4)**, 180-188 (2003).
6. Powis, G., et al., A high-performance liquid chromatography assay for measuring integrated biphenyl metabolism by intact cells: its use with rat liver and human liver and kidney. Anal. Biochem., **167(1)**, 191-198 (1987).

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