

Product Information

2-Methyl-2-butanol

Product Number **A 1685**
Store at Room Temperature

Product Description

Molecular Formula: C₅H₁₂O
Molecular Weight: 88.15
CAS Number: 75-85-4
Boiling point: 102.5 °C (765 torr)¹
Density: 0.8084 g/ml (20 °C)
Synonyms: *tert*-pentyl alcohol, *t*-amyl alcohol

2-methyl-2-butanol (*tert*-amyl alcohol) is an organic solvent that is used in such areas as organic synthesis and biotransformation. Applications in synthesis include its use in the thermolysin catalyzed solid state synthesis of the peptide Z-L-Phe-L-Leu-NH₂, the surfactant-subtilisin Carlsberg mediated coupling of N-acetyl-L-phenylalanine ethyl ester with alaninamide, the trialkylphosphine-catalyzed cyclization of 1,6- or 1,7-diaactivated 1,5-hexadienes or 1,6-heptadienes via the vinylogous intramolecular Morita-Baylis-Hillman reaction, and the ring closure of β -ammonio 5-hexenyl radicals to form nitrogen bridgehead bicyclic heterocycles.^{2,3,4,5}

The effect of *tert*-amyl alcohol and related compounds on ligand binding to the γ -aminobutyric acid_A (GABA_A) receptor in rat brain membranes has been investigated.⁶ The isolation of strains of *Mycobacterium austroafricanum* and of a novel methylotrophic bacterium that degrade *tert*-amyl alcohol has been described.^{7,8}

Precautions and Disclaimer

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

Preparation Instructions

This product is miscible in water (0.05 ml/ml, v/v), yielding a clear, colorless solution. It is also miscible with alcohol, ether, benzene, chloroform, and glycerol.¹

References

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3. Okazaki, S., et al., Surfactant-protease complex as a novel biocatalyst for peptide synthesis in hydrophilic organic solvents. *Enzyme Microb. Technol.*, **26(2-4)**, 159-164 (2000).
4. Frank, S. A., et al., The vinylogous intramolecular Morita-Baylis-Hillman reaction: synthesis of functionalized cyclopentenes and cyclohexenes with trialkylphosphines as nucleophilic catalysts. *J. Am. Chem. Soc.*, **124(11)**, 2404-2405 (2002).
5. Della, E. W., and Knill, A. M., Synthesis of Nitrogen Bridgehead Bicyclic Heterocycles via Ring-Closure of β -Ammonio 5-Hexenyl Radicals. *J. Org. Chem.*, **61(21)**, 7529-7533 (1996).
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7. Francois, A., et al., Biodegradation of methyl *tert*-butyl ether and other fuel oxygenates by a new strain, *Mycobacterium austroafricanum* IFP 2012. *Appl. Environ. Microbiol.*, **68(6)**, 2754-2762 (2002).
8. Piveteau, P., et al., Biodegradation of *tert*-butyl alcohol and related xenobiotics by a methylotrophic bacterial isolate. *Appl. Microbiol. Biotechnol.*, **55(3)**, 369-373 (2001).

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