



Product Information

1-Octadecanol

Product Number **S 5751**
Store at Room Temperature

Product Description

Molecular Formula: $C_{18}H_{38}O$
Molecular Weight: 270.5
CAS Number: 112-92-5
Melting Point: 56-60 °C (general product);
59.4-59.8 °C (pure 1-Octadecanol)¹
Synonyms: stearyl alcohol, stenol, octadecyl alcohol,
stearol, n-octadecanol¹

1-Octadecanol is a long chain primary alcohol that is used in the production of emulsions, textile oils, antifoam agents, and lubricants. Other large scale applications include the manufacture of alkyl amines, tertiary amines, ethoxylates, halides/mercaptans, and polymerization stabilizers. It generally occurs as a mixture of solid alcohols whose primary constituent is 1-octadecanol.¹ It occurs naturally in sperm whale oil and has been isolated from the hyperthermophilic bacterium *Pyrococcus furiosus*.^{1,2}

A study on the effects of various long chain alcohols, including 1-octadecanol, on the activity of firefly luciferase has been reported.³ 1-Octadecanol has been used to model the plant epicuticular wax layer for an investigation by differential scanning calorimetry and Fourier transform infrared spectroscopy.⁴

The use of 1-octadecanol to prepare microsphere formulations for such compounds as paclitaxel and indomethacin has been described.^{5,6}

Precautions and Disclaimer

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

Preparation Instructions

This product is soluble in ethanol (100 mg/ml), with heat as needed, yielding a clear, colorless solution. It is also soluble in ether, benzene, and acetone.¹

References

1. The Merck Index, 12th ed., Entry# 8960.
2. Nishihara, M., et al., Straight-chain fatty alcohols in the hyperthermophilic archaeon *Pyrococcus furiosus*. *Extremophiles*, **4(5)**, 275-277 (2000).
3. Ueda, I., and Suzuki, A., Is there a specific receptor for anesthetics? Contrary effects of alcohols and fatty acids on phase transition and bioluminescence of firefly luciferase. *Biophys. J.*, **75(2)**, 1052-1057 (1998).
4. Carreto, L., et al., Thermotropic mesomorphism of a model system for the plant epicuticular wax layer. *Biophys J.*, **82(1 Pt 1)**, 530-540 (2002).
5. Liggins, R. T., and Burt, H. M., Paclitaxel loaded poly(L-lactic acid) microspheres: properties of microspheres made with low molecular weight polymers. *Int. J. Pharm.*, **222(1)**, 19-33 (2001).
6. Karasulu, E., et al., Extended release lipophilic indomethacin microspheres: formulation factors and mathematical equations fitted drug release rates. *Eur. J. Pharm. Sci.*, **19(2-3)**, 99-104 (2003).

GCY/RXR 12/03

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