

PRODUCT DATA SHEET

Methyl 22-hydroxydocosanoate

Catalog number: 1819

Common Name: *omega*-Hydroxy C22:0
methyl ester

Source: synthetic

Solubility: chloroform, warm ethanol, ethyl
ether

CAS number: 38646-51-4

Molecular Formula: C₂₃H₄₆O₃

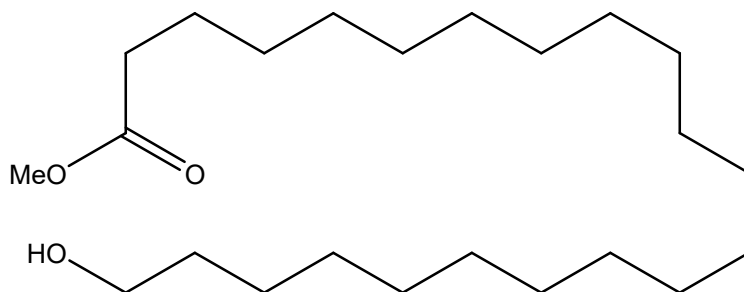
Molecular Weight: 371

Storage: room temperature

Purity: TLC > 98%, GC > 98%; identity
confirmed by MS

TLC System: hexane/ethyl ether
(60:40 by vol.)

Appearance: solid



Application Notes:

Omega-oxidation is a minor fatty acid pathway used for fatty acid metabolism and usually occurs in the smooth endoplasmic reticulum. Docosanoic acid is enzymatically converted to the 22-hydroxydocosanoic acid as well as to the docosanoic dicarboxylic acid as part of the *omega*-oxidation metabolic pathway.¹ 22-Hydroxydocosanoic acid is the major aliphatic constituent of green cotton fibers but a very minor component of white cotton fibers.² Stimulation of *omega*-hydroxylation has been proposed as a method for treating X-linked adrenoleukodystrophy, a disease that is characterized by elevated levels of very long chain fatty acids.³

Selected References:

1. R. Sanders et al. "Evidence for two enzymatic pathways for omega-oxidation of docosanoic acid in rat liver microsomes" *Journal of Lipid Research*, Vol. 46(5) pp. 1001-1008, 2005
2. L. Yatsu, K. Espelie, P. Kolattukudy "Ultrastructural and chemical evidence that the cell wall of green cotton fiber is suberized" *Plant Physiology*, Vol. 73(2) pp. 521-524, 1983
3. R. Sanders et al. "Omega-Oxidation of Very Long-Chain Fatty Acids in Human Liver Microsomes: Implications for X-Linked Adrenoleukodystrophy" *Journal of Biological Chemistry*, Vol. 281 pp. 13180-13187, 2006

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