

PRODUCT DATA SHEET

Methyl 2-hydroxydecanoate

Catalog number: 1759

Common names: 2-Hydroxy C10:0 methyl ester; *alpha*-Hydroxydecanoate

Source: synthetic

Solubility: methanol, chloroform

CAS number: 71271-24-4

Molecular Formula: C₁₁H₂₂O₃

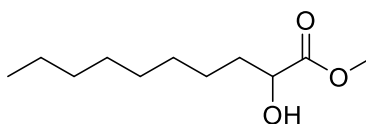
Molecular Weight: 202

Storage: -20°C

Purity: TLC >98%, GC >98%

TLC System: chloroform/methanol (95:5 by vol.)

Appearance: solid



Application Notes:

This product is a high purity 2-hydroxy fatty acid methyl ester that is ideal as a standard and for biological systems. *alpha*-Hydroxy fatty acids are abundant in nervous tissues and are components of cerebroside and sulfatide, which are mostly found in the myelin of nervous tissues. They are common in cosmetics, skin creams, and lotions. 2-hydroxy acids display complex monolayer phase behavior due to the additional hydrogen bonding afforded by the presence of the second hydroxy group and therefore play an important role in the membrane structure.¹ *alpha*-Oxidation of 2-hydroxy fatty acids to CO₂ and saturated acids occurs in the peroxisome and is unique from the *alpha*-oxidation of *beta*-carbon branched fatty acids such as phytanic acid. Cells from Zellweger syndrome and peroxisome-deficient cells are unable to undergo *alpha*-oxidation although patients with other peroxisomal disorders such as X-linked adrenoleukodystrophy, Refsum disease, and rhizomelic chondrodysplasia punctata are able to.²

Selected References:

1. C. Lendrum et al. "Nonequilibrium 2-Hydroxyoctadecanoic Acid Monolayers: Effect of Electrolytes" *Langmuir*, vol. 27 pp. 4430-4438, 2011
2. R. Sandhir, M. Khan, and I. Singh "Identification of the Pathway of α -Oxidation of Cerebronic Acid in Peroxisomes" *Lipids*, Vol. 35(10) pp. 1127-1133, 2000

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