Methyl 3-hydroxyoctadecanoate

**Catalog number:** 1744  
**Synonyms:** 3-Hydroxy C18:0 methyl ester  
**Source:** synthetic  
**Solubility:** ethanol, methanol  
**CAS number:** 2420-36-2  
**Molecular Formula:** C\(_{19}\)H\(_{38}\)O\(_3\)

**Molecular Weight:** 315  
**Storage:** -20°C  
**Purity:** TLC: >98%; GC: >98%; identity confirmed by MS  
**TLC System:** hexane/ethyl ether (70:30)  
**Appearance:** solid

**Application Notes:**

This 3-hydroxyoctadecanoic acid methyl ester is a high purity standard that is ideal for analysis and biological systems. 3-Hydroxyoctadecanoic acid is found in many plants and animals as well as in bacteria and other organisms. One of the transformation products formed from stearoyl-CoA in rat liver is 3-hydroxyoctadecanoic acid and consists of both the L(+) and the D(-) enantiomers. \(^1\) 3-Hydroxy fatty acids are intermediates in fatty acid biosynthesis and have been found to be converted to the omega-fatty acid by the enzyme CYP4F11 and then into dicarboxylic acids \textit{in vivo}. \(^2\) 3-hydroxy fatty acids are used as biomarkers for fatty acid oxidative disorders of both the long- and short-chain 3-hydroxy-acyl-CoA dehydrogenases. \(^3\) Polyhydroxyalkenoates of 3-hydroxy fatty acids are polyesters produced by bacteria fermentation and are used for carbon and energy storage. These polyhydroxyalkenoates are of interest in studies regarding the synthesis, properties and mechanisms of bacteria. Short chain-length polyhydroxyalkenoate monomers such as 3-hydroxy fatty acids may have pharmaceutical properties. \(^4,5\)

**Selected References:**


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