

## PRODUCT DATA SHEET

### 22-Hydroxydocosanoic acid

**Catalog number:** 1818

**Common Name:** *omega*-Hydroxy C22:0 fatty acid

**Source:** synthetic

**Solubility:** chloroform/methanol, 2:1

**CAS number:** 506-45-6

**Molecular Formula:** C<sub>22</sub>H<sub>44</sub>O<sub>3</sub>

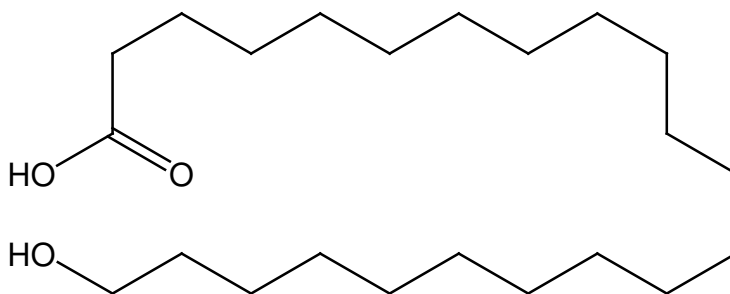
**Molecular Weight:** 356

**Storage:** room temperature

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

**TLC System:** chloroform/methanol/acetic acid (97:3:1 by vol.)

**Appearance:** solid



### **Application Notes:**

This product is a high purity *omega*-hydroxy long chain fatty acid that is ideal as a standard and for biological studies. *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.<sup>1</sup> 22-Hydroxydocosanoic acid is the major aliphatic constituent of green cotton fibers but a very minor component of white cotton fibers.<sup>2</sup> 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.<sup>3</sup>

### **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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