

## PRODUCT DATA SHEET

### Methyl heptanoate

**Catalog number:** 1197

**Common name:** C7:0 Methyl ester; Enanthate

**Source:** natural, plant

**Solubility:** chloroform, ethanol, ethyl ether

**CAS number:** 106-73-0

**Molecular Formula:** C<sub>8</sub>H<sub>16</sub>O<sub>2</sub>

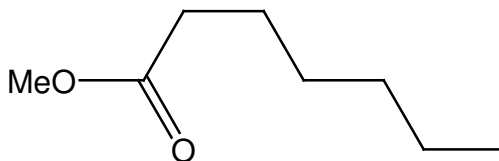
**Molecular Weight:** 144

**Storage:** room temperature

**Purity:** TLC: 99%, GC: 99%

**TLC System:** hexane/ethyl ether (80:20)

**Appearance:** liquid



### **Application Notes:**

This fatty acid methyl ester is ideal as a standard and for biological systems. Heptanoic acid is an odd-numbered medium-chain fatty acid that occurs only in small amounts in most biological systems and is therefore ideal as an internal standard. Being a medium-chain fatty acid it can enter easily into cells across the cell membrane and is therefore often found esterified to synthetic drugs.<sup>1</sup> Although heptanoic acid itself contributes to the rancid smell of cooking oils<sup>2</sup> some esters of heptanoic acid have been used in fragrances and artificial flavors.<sup>3</sup> Genetic disorders of the mitochondria long-chain fatty acid *beta*-oxidation pathway can result in the accumulation of toxic long-chain fatty acid oxidation products; Medium-chain fatty acid triglycerides containing both even and odd-numbered fatty acids have been shown to be able to decrease the build-up of these long-chain fatty acid oxidation products.<sup>4</sup>

### **Selected References:**

1. L. Grislain et al. "Metabolism of amineptine in rat, dog and man" *Eur J Drug Metab Pharmacokinet.*, vol. 15 pp. 339-345, 1990
2. R. Aparicio et al. "Detection of Rancid Defect in Virgin Olive Oil by the Electronic Nose" *J. Agric. Food Chem.*, vol. 48 pp. 853-860, 2000
3. George A. Burdock, Giovanni Fenaroli (Prof. Dr.), *Flavor ingredients*, CRC Press, 2004
4. P. Jones, Y. Butt, and M. Bennett "Effects of odd-numbered medium-chain fatty acids on the accumulation of long-chain 3-hydroxy-fatty acids in long-chain L-3-hydroxyacyl CoA dehydrogenase and mitochondrial trifunctional protein deficient skin fibroblasts" *Mol Genet Metab.*, vol. 81 pp96-99, 2004

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