

PRODUCT DATA SHEET

Heptanoic acid

Catalog number: 1196

Synonyms: C7:0 Fatty acid

Source: natural, plant

Solubility: chloroform, ethanol, ethyl ether

CAS number: 111-14-8

Molecular Formula: C₇H₁₄O₂

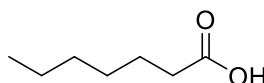
Molecular Weight: 130

Storage: room temperature

Purity: TLC: 99%, GC >99%

TLC System: hexane/ethyl ether/acetic acid
(80:20:1 by vol.)

Appearance: liquid



Application Notes:

This high purity fatty acid 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.¹ Although heptanoic acid itself contributes to the rancid smell of cooking oils² some esters of heptanoic acid have been used in fragrances and artificial flavors.³ Genetic disorders of the mitochondria long-chain fatty acid *beta*-oxidation 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.⁴

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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