

PRODUCT DATA SHEET

Docosapentaenoic acid (all *cis*-7,10,13,16,19)

Catalog number: 1175

Common names: C22:5 (all *cis*-7,10,13,16,19)
Fatty acid; DPAn-3

Source: semisynthetic

Solubility: chloroform, hexane, ethyl ether

CAS number: 24880-45-3

Molecular Formula: C₂₂H₃₄O₂

Molecular Weight: 330

Storage: -20°C

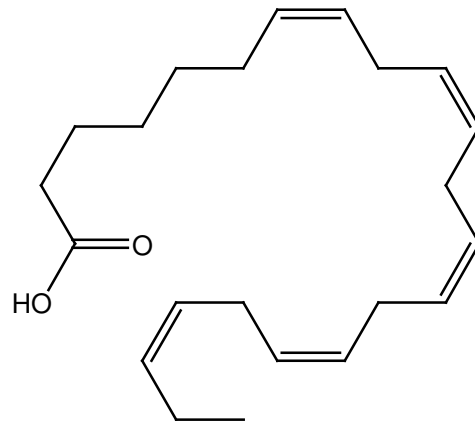
Purity: TLC >98%, GC: 99%

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

Appearance: liquid

Application Notes:

This product is a high purity docosapentaenoic acid (DPA) that is ideal as a standard and for biological systems. Very long-chain polyunsaturated *omega*-3 fatty acids such as DPA are thought to influence memory and cognition, protect neurons, and reduce inflammation. Docosapentaenoic acid is an intermediate in the *in vivo* synthesis of docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA), polyunsaturated fatty acids that have been demonstrated as critical for many biological functions. DPA in humans is converted to EPA much more readily than to DHA. In animals and humans DPA is usually found acylated to phospholipids. *Omega*-3 fatty acids such as DPA and DHA have been shown to reduce the risk of acute coronary events in humans.¹ Seal oil has been suggested as more efficient than fish oil at promoting healthy plasma lipid profiles and lowering thrombotic risk, possibly due to its high DPA and EPA content.² DPA is more effective in inhibition of aggregation in platelets obtained from rabbit blood than EPA and DHA and it possesses greater endothelial cell migration ability than EPA, which is important in wound-healing processes.³ Recently DPA has been found to down-regulate the expression of genes involved in fat synthesis in liver cells.⁴



Selected References:

1. T. Rissanen, MSc, RD et al. "Fish Oil-Derived Fatty Acids, Docosahexaenoic Acid and Docosapentaenoic Acid, and the Risk of Acute Coronary Events" *Journal of the American Heart Association*, pp. 2677-2679, November 2000
2. N. Mann et al. "Effects of Seal Oil and Tuna-Fish Oil on Platelet Parameters and Plasma Lipid Levels in Healthy Subjects" *Lipids*, Vol. 45(8) pp. 669-681, 2010
3. G. Kaur et al. "Docosapentaenoic acid (22:5n-3): A review of its biological effects" *Progress in Lipid Research*, vol. 50 pp. 28-34, 2011
4. G. Kaur et al. "Docosapentaenoic acid (22:5n-3) down-regulates the expression of genes involved in fat synthesis in liver cells" *Prostaglandins, Leukotrienes and Essential Fatty Acids*, vol. 85 pp. 155-161, 2011

This product is to be used for research only. It is not intended for drug or diagnostic use, human consumption or to be used in food or food additives. Matreya assumes no liability for any use of this product by the end user. We believe the information, offered in good faith, is accurate.