

## PRODUCT DATA SHEET

### Methyl docosahexaenoate (all *cis*-4,7,10,13,16,19)

**Catalog No:** 1041

**Common Name:** C22:6 (all *cis*-4,7,10,13,16,19) Methyl ester; Methyl ester of *omega*-3 fatty acid

**Source:** natural, plant

**Solubility:** chloroform, hexane, ethyl ether

**CAS No:** 2566-90-7

**Molecular Formula:** C<sub>23</sub>H<sub>34</sub>O<sub>2</sub>

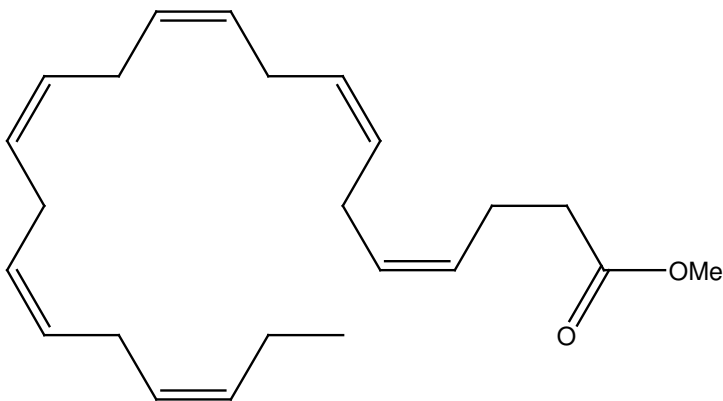
**Molecular Weight:** 342

**Storage:** -20°C

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

**TLC System:** hexane/ethyl ether  
(85:15 by vol.)

**Appearance:** liquid



### **Application Notes:**

This product is the methyl ester form of the naturally occurring docosahexaenoic acid (DHA) and is an ideal standard for gas chromatography. DHA is a major component of fish oils, animal phospholipids, and algae. Supplements of this acid are widely popular due to possible improvements in cognitive and behavioral functions, sight defects, inflammation disorders, and cancer.<sup>1</sup> It is essential to many neurological functions and is present in very high levels in the mammalian brain, brain synaptosomal plasma membranes and synaptic vesicles. It is essential for the early neural development of mammals<sup>2</sup> and it inhibits the prostaglandin synthase-cyclooxygenase enzymes. DHA is the precursor of the docosanoids, which have potent anti-inflammatory and immuno-regulatory actions. In the retina it is a major structural component of the photoreceptor outer segment membranes. DHA can depress prostaglandin E<sub>2</sub> production and, along with EPA, has been shown to cause a significant growth inhibition of human lung carcinoma.<sup>3</sup>

### **Selected References:**

1. F. Muskiet et al. "Is Docosahexaenoic Acid (DHA) Essential? Lessons from DHA Status Regulation, Our Ancient Diet, Epidemiology and Randomized Controlled Trials" *The Journal of Nutrition*, Vol. 134 pp. 183-186, 2004
2. N. Salem et al. "Mechanisms of Actions of Docosahexaenoic Acid in the Nervous System" *Lipids*, Vol. 36:9 pp. 945-959, 2001
3. M. de Brava et al. "Effects of an Eicosapentaenoic and Docosahexaenoic Acid Concentrate on a Human Lung Carcinoma Grown in Nude Mice" *Lipids*, Vol. 26:11 pp. 866-870, 1991

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