

# PRODUCT DATA SHEET

## PUFA-1 (qualitative)

**Catalog No:** 1093

**Common Name:** Polyunsaturated fatty acid methyl esters mixture 1

**Source:** natural, fish oil

**Solubility:** alcohols, hexane, chloroform

**Storage:** -20°C

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

### GC Conditions

**Column:** SP-2330 30m x 0.25mm x 0.2µm

**Oven initial:** 150°C **Hold time:** 8 min.

**Oven final:** 190°C **Hold time:** 15 min.

**Program rate:** 3°C/minute

**Carrier:** Helium @ 30cm/sec.

**Detector:** FID, 250 °C

**Injector:** 200°C

<u>Elution Order</u>	<u>Carbon Number</u>
1	C14:0
2	C16:0
3	C16:1ω7
4	C18:1ω9
5	C18:1ω7
6	C18:2ω6
7	C20:1ω9

<u>Elution Order</u>	<u>Carbon Number</u>
8	C18:4ω3
9	C22:1ω11
10	C22:1ω9
11	C20:5ω3
12	C22:5ω3
13	C22:6ω3

### **Application notes:**

This polyunsaturated fatty acid mixture contains 11 naturally occurring omega fatty acids and 2 saturated fatty acids. They are all methyl esters for the qualitative identification of unknowns. The product is a naturally occurring mixture from fish oil and is an excellent standard for identifying unknown omega fatty acids in samples. Because it is extracted from natural materials, relative peak sizes for the mix may vary from lot to lot. This is a qualitative mixture and should not be used for quantitative purposes.

### **Selected References:**

1. Z. Li, T. Gu, B. Kelder and J. J. Kopchick "Analysis of fatty acids in mouse cells using reversed-phase high-performance liquid chromatography" *Chromatographia*, Oct. Vol. 54 pp. 463-46, 2001
2. Peter Andrew Megdal, Neal A. Craft and Garry J. Handelman "A Simplified Method to Distinguish Farmed (*Salmo salar*) from Wild Salmon: Fatty Acid Ratios Versus Astaxanthin Chiral Isomers" *Lipids*, June, Vol. 44(6) pp. 569-576, 2009
3. L. D. Metcalfe, A. A. Schmitz, J. R. Pelka "The Rapid Preparation of Fatty Acid Esters from Lipids for Gas Chromatographic Analysis" *Analytical Chemistry*, March, Vol. 38(3) pp. 514-515, 1966

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