

## PRODUCT DATA SHEET

### PUFA-2 (qualitative)

**Catalog No:** 1081

**Common Name:** Polyunsaturated fatty acids methyl esters mixture

**Source:** natural, porcine

**Solubility:** alcohols, hexane, chloroform

**Storage:** -20°C

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

<u>Elution Order</u>	<u>Carbon Number</u>
1	C14:0
2	C16:0
3	C16:1 $\omega$ 7
4	C18:0
5	C18:1 $\omega$ 9
6	C18:1 $\omega$ 7
7	C18:2 $\omega$ 6
8	C18:3 $\omega$ 6

### GC Conditions

**Column:** Omegawax 250 30m x 0.25mm x 0.25 $\mu$ m

**Oven:** 200°C isothermal

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

**Detector:** FID, 260 °C

**Injector:** 250°C

<u>Elution Order</u>	<u>Carbon Number</u>
9	C18:3 $\omega$ 3
10	C20:1 $\omega$ 9
11	C20:2 $\omega$ 6
12	C20:3 $\omega$ 6
13	C20:4 $\omega$ 6
14	C20:5 $\omega$ 3
15	C22:4 $\omega$ 6
16	C22:5 $\omega$ 3
17	C22:6 $\omega$ 3

### **Application notes:**

This polyunsaturated fatty acid mixture contains 14 naturally occurring omega fatty acids and 3 saturated fatty acids. They are all methyl esters for the qualitative identification of unknowns. The product is a naturally occurring mixture from hog ovaries 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. 463-467, 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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