

PRODUCT DATA SHEET

PUFA-3 (qualitative)

Catalog No: 1177

Common Name: Polyunsaturated fatty acids mixture

Source: natural, Menhaden oil

Storage: -20°C

Solubility: alcohols, hexane, chloroform

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

GC Conditions

Column: Omegawax 250 30m x 0.25mm x 0.25µm

Oven: 205°C isothermal

Carrier: helium @ 30cm/sec.

Detector: FID, 260 °C

Injector: 250°C

<u>Elution Order</u>	<u>Carbon Number</u>	<u>Elution Order</u>	<u>Carbon Number</u>
1	C14:0	12	C18:3ω4
2	C16:0	13	C18:3ω3
3	C16:1ω7	14	C18:4ω3
4	C16:2ω4	15	C20:1ω9
5	C16:3ω4	16	C20:4ω6
6	C16:4ω1	17	C20:4ω3
7	C18:0	18	C20:5ω3
8	C18:1ω9	19	C21:5ω3
9	C18:1ω7	20	C22:5ω3
10	C18:2ω6	21	C22:6ω3
11	C18:2ω4		

Application notes:

This polyunsaturated fatty acid mixture contains 18 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 Menhaden fish oil and is an excellent standard for identifying unknown omega fatty acids in samples.¹ Research has shown a reduction in some cancers with the use of fish oils² but it can cause bacterial complications.³ 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. Thomas C. Y. Hsleh, Stephen S. Williams, Warinda Vejaphan and Samuel P. Meyers "Characterization of volatile components of menhaden fish (Brevoortia tyrannus) oil" *Journal of the American Oil Chemists' Society*, Jan. Vol. 66:1 pp. 114-117, 1989
2. Yu Shao, Lani Pardini and Ronald S. Pardini "Dietary Menhaden Oil Enhances Mitomycin C Antitumor Activity Toward Human Mammary Carcinoma MX-1" *Lipids*, Nov. Vol. 30:11 pp. 1035, 1995
3. K. L. Fritsche, L. M. Shahbazian, C. Feng and J. N. Berg "Dietary fish oil reduces survival and impairs bacterial clearance in C3H/Hen mice challenged with *Listeria monocytogenes*" *Clinical Science*, 92(95-101), 1997

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