

Omega-3 and Omega-6 Fatty Acids in Botanical Oils

Art. ID	NIST-8183
Unit	4 x 1.2 mL
Deliverydetails	No Dangerous Good /not restricted

Description

This Reference Material (RM) is intended primarily for use in evaluating analytical methods and chromatographic instrumentation for the determination of fatty acids in botanical oils and similar matrices. A unit of RM 8183 consists of a total of four ampoules, one each of four seed oils: (8183-1 Borage [*Borago officinalis*], 8183-2 Evening Primrose [*Oenothera biennis*], 8183-3 Flax [*Linium usitatissimum*], and 8183-4 Perilla [*Perilla frutescens*]). Each ampoule contains approximately 1.2 mL of oil under argon. Due to the original NIST fatty acid determinations in SRM 3274 not being sufficiently traceable to the International System of Units (SI) through use of SRM 2377 Fatty Acid Methyl Esters in 2,2,4-Trimethylpentane as a calibrant, SRM 3274 no longer meets international quality standards (ISO 17034) for serving as a certified reference material. However, the material continues to meet ISO 17034 standards as a reference material and is thus being offered as RM 8183. /// Sample value(s) - please ask for current report of investigation.

Text/Information	Analyte/Parameter	CAS number	Concentration/Value	Unit	Method	Source
Borage	Tetradecanoic acid (Myristic acid) (C14:0)	[544-63-8]	0,62 ± 0,11	mg/g		
Borage	Pentadecanoic acid (C15:0)	[1002-84-2]	0,074 ± 0,008	mg/g		
Borage	Hexadecanoic acid (Palmitic acid) (C16:0)	[57-10-3]	110 ± 12	mg/g		
Borage	(Z)-9-Hexadecenoic acid (Palmitoleic acid) (C16:1 n-7)	[373-49-9]	1,77 ± 0,14	mg/g		
Borage	Heptadecanoic acid (Margaric acid) (C17:0)	[506-12-7]	0,500 ± 0,086	mg/g		
Borage	Octadecanoic acid (Stearic acid) (C18:0)	[57-11-4]	33,1 ± 4,0	mg/g		
Borage	(Z)-9-Octadecenoic acid (Oleic acid) (C18:1 n-9)	[112-80-1]	148,7 ± 8,7	mg/g		
Borage	(E)-9-Octadecenoic acid (Elaidic acid) (t-C18:1 n-9)	[112-79-8]	0,117 ± 0,020	mg/g		
Borage	(Z)-11-Octadecenoic acid (Vaccenic acid) (C18:1 n-7)	[506-17-2]	5,76 ± 0,18	mg/g		
Borage	(Z,Z)-9,12-Octadecadien	[60-33-3]	374 ± 35	mg/g		

	oic acid (Linoleic acid) (C18:2 n-6)			
Borage	(Z,Z,Z)-9,12,15-Octadecatrienoic acid (alpha-Linolenic acid) (C18:3 n-3)	[463-40-1]	3,45 ± 0,63	mg/g
Borage	(Z,Z,Z)-6,9,12-Octadecatrienoic acid (gamma-Linolenic acid) (C18:3 n-6)	[506-26-3]	251 ± 24	mg/g
Borage	Eicosanoic acid (Arachidic acid) (C20:0)	[506-30-9]	2,13 ± 0,46	mg/g
Borage	Heneicosanoic acid (C21:0)	[2363-71-5]	2,36 ± 0,32	mg/g
Borage	Docosanoic acid (Behenic acid) (C22:0)	[112-85-6]	1,509 ± 0,070	mg/g
Borage	Tetracosanoic acid (Lignoceric acid) (C24:0)	[557-59-5]	0,334 ± 0,074	mg/g
Borage	(Z)-15-Tetracosenoic acid (C24:1)	[506-37-6]	7,80 ± 0,61	mg/g
Evening Primrose	Octanoic acid (Caprylic acid) (C8:0)	[124-07-2]	0,053 ± 0,010	mg/g
Evening Primrose	Tetradecanoic acid (Myristic acid) (C14:0)	[544-63-8]	0,363 ± 0,030	mg/g
Evening Primrose	Pentadecanoic acid (C15:0)	[1002-84-2]	0,099 ± 0,011	mg/g
Evening Primrose	Hexadecanoic acid (Palmitic acid) (C16:0)	[57-10-3]	58,2 ± 6,1	mg/g
Evening Primrose	(Z)-9-Hexadecenoic acid (Palmitoleic acid) (C16:1 n-7)	[373-49-9]	0,402 ± 0,043	mg/g
Evening Primrose	Heptadecanoic acid (Margaric acid) (C17:0)	[506-12-7]	0,188 ± 0,008	mg/g
Evening Primrose	Octadecanoic acid (Stearic acid) (C18:0)	[57-11-4]	18,30 ± 0,838	mg/g
Evening Primrose	(Z)-9-Octadecenoic acid (Oleic acid) (C18:1 n-9)	[112-80-1]	68,9 ± 3,7	mg/g

Evening Primrose	(Z)-11-Octadecenoic acid (Vaccenic acid) (C18:1 n-7)	[506-17-2]	5,95 ± 0,37	mg/g
Evening Primrose	(Z,Z)-9,12-Octadecadienoic acid (Linoleic acid) (C18:2 n-6)	[60-33-3]	742 ± 24	mg/g
Evening Primrose	(Z,Z,Z)-9,12,15-Octadecatrienoic acid (alpha-Linolenic acid) (C18:3 n-3)	[463-40-1]	2,72 ± 0,51	mg/g
Evening Primrose	(Z,Z,Z)-6,9,12-Octadecatrienoic acid (gamma-Linolenic acid) (C18:3 n-6)	[506-26-3]	99,9 ± 4,1	mg/g
Evening Primrose	Eicosanoic acid (Arachidic acid) (C20:0)	[506-30-9]	2,71 ± 0,37	mg/g
Evening Primrose	(Z)-11-Eicosenoic acid (Gondoic acid) (C20:1 n-9)	[5561-99-9]	1,84 ± 0,12	mg/g
Evening Primrose	(Z,Z,Z,Z)-5,8,11,14-Eicosatetraenoic acid (Arachidonic acid) (C20:4 n-6)	[506-32-1]	0,022 ± 0,002	mg/g
Evening Primrose	Heneicosanoic acid (C21:0)	[2363-71-5]	0,132 ± 0,029	mg/g
Evening Primrose	Docosanoic acid (Behenic acid) (C22:0)	[112-85-6]	0,91 ± 0,25	mg/g
Evening Primrose	Tetracosanoic acid (Lignoceric acid) (C24:0)	[557-59-5]	0,369 ± 0,060	mg/g
Flax	(Z)-11-Octadecenoic acid (Vaccenic acid) (C18:1 n-7)	[506-17-2]	5,61 ± 0,16	mg/g
Flax	(Z)-9-Hexadecenoic acid (Palmitoleic acid) (C16:1 n-7)	[373-49-9]	0,383 ± 0,031	mg/g
Flax	(Z)-9-Octadecenoic acid (Oleic acid) (C18:1 n-9)	[112-80-1]	165,7 ± 6,2	mg/g

Flax	(Z,Z)-9,12-Octadecadienoic acid (Linoleic acid) (C18:2 n-6)	[60-33-3]	171 ± 11	mg/g
Flax	(Z,Z,Z)-6,9,12-Octadecatrienoic acid (gamma-Linolenic acid) (C18:3 n-6)	[506-26-3]	1,55 ± 0,25	mg/g
Flax	(Z,Z,Z)-9,12,15-Octadecatrienoic acid (alpha-Linolenic acid) (C18:3 n-3)	[463-40-1]	579 ± 30	mg/g
Flax	(Z,Z,Z,Z)-5,8,11,14-Eicosatetraenoic acid (Arachidonic acid) (C20:4 n-6)	[506-32-1]	0,633 ± 0,029	mg/g
Flax	Docosanoic acid (Behenic acid) (C22:0)	[112-85-6]	0,62 ± 0,13	mg/g
Flax	Dodecanoic acid (Lauric acid) (C12:0)	[143-07-7]	0,016 ± 0,001	mg/g
Flax	Eicosanoic acid (Arachidic acid) (C20:0)	[506-30-9]	1,04 ± 0,15	mg/g
Flax	Heptadecanoic acid (Margaric acid) (C17:0)	[506-12-7]	0,212 ± 0,011	mg/g
Flax	Hexadecanoic acid (Palmitic acid) (C16:0)	[57-10-3]	44,8 ± 5,0	mg/g
Flax	Octadecanoic acid (Stearic acid) (C18:0)	[57-11-4]	30,4 ± 2,4	mg/g
Flax	Pentadecanoic acid (C15:0)	[1002-84-2]	0,151 ± 0,016	mg/g
Flax	Tetracosanoic acid (Lignoceric acid) (C24:0)	[557-59-5]	0,308 ± 0,059	mg/g
Flax	Tetradecanoic acid (Myristic acid) (C14:0)	[544-63-8]	0,271 ± 0,008	mg/g
Perilla	Octanoic acid (Caprylic acid) (C8:0)	[124-07-2]	0,021 ± 0,002	mg/g
Perilla	Decanoic acid (Capric acid) (C10:0)	[334-48-5]	0,020 ± 0,011	mg/g
Perilla	Tetradecanoic acid (Myristic acid) (C14:0)	[544-63-8]	0,206 ± 0,025	mg/g

	istic acid) (C14:0)			
Perilla	Pentadecanoic acid (C15:0)	[1002-84-2]	0,061 ± 0,009	mg/g
Perilla	Hexadecanoic acid (Palmitic acid) (C16:0)	[57-10-3]	56,4 ± 5,5	mg/g
Perilla	(Z)-9-Hexadecenoic acid (Palmitoleic acid) (C16:1 n-7)	[373-49-9]	0,776 ± 0,081	mg/g
Perilla	Heptadecanoic acid (Margaric acid) (C17:0)	[506-12-7]	0,159 ± 0,040	mg/g
Perilla	Octadecanoic acid (Stearic acid) (C18:0)	[57-11-4]	20,9 ± 1,1	mg/g
Perilla	(Z)-9-Octadecenoic acid (Oleic acid) (C18:1 n-7)	[112-80-1]	166,8 ± 7,8	mg/g
Perilla	(Z)-11-Octadecenoic acid (Vaccenic acid) (C18:1 n-7)	[506-17-2]	7,89 ± 0,22	mg/g
Perilla	(Z,Z)-9,12-Octadecadienoic acid (Linoleic acid) (C18:2 n-6)	[60-33-3]	160 ± 14	mg/g
Perilla	(Z,Z,Z)-9,12,15-Octadecatrienoic acid (alpha-Linolenic acid) (C18:3 n-3)	[463-40-1]	629 ± 28	mg/g
Perilla	(Z,Z,Z)-6,9,12-Octadecatrienoic acid (gamma-Linolenic acid) (C18:3 n-6)	[506-26-3]	2,08 ± 0,48	mg/g
Perilla	Eicosanoic acid (Arachidic acid) (C20:0)	[506-30-9]	1,21 ± 0,26	mg/g
Perilla	Heneicosanoic acid (C21:0)	[2363-71-5]	0,083 ± 0,004	mg/g
Perilla	(Z)-15-Tetracosenoic acid (C24:1)	[506-37-6]	0,084 ± 0,003	mg/g