

Certificate of Analysis

Description: Supelco 37 Component FAME Mix, 1x1ml, Varied conc. in dichloromethane

Part Number: CRM47885

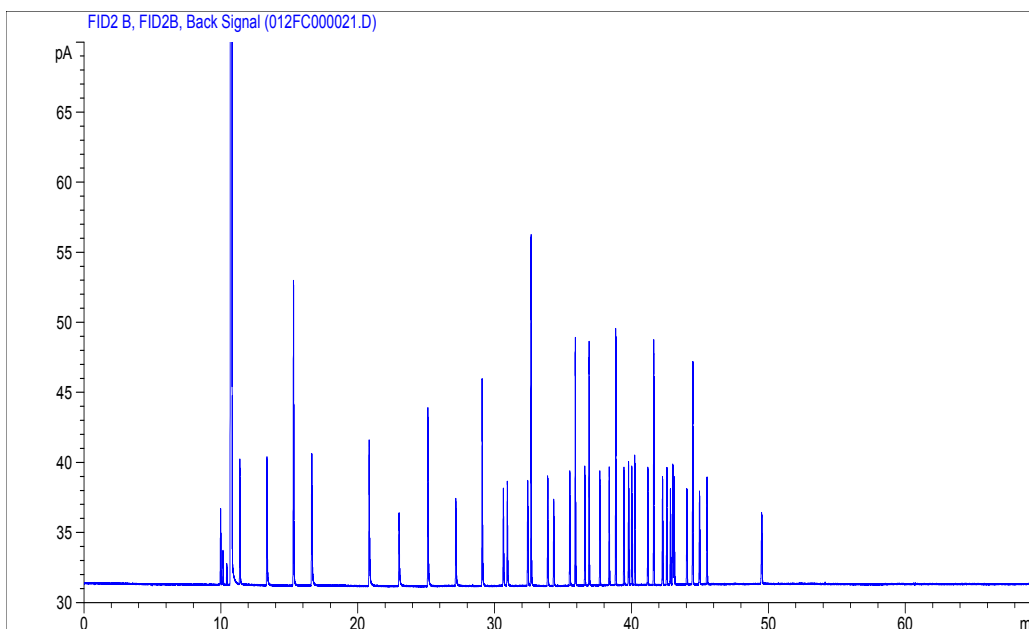
Lot Number: XA17032V

Expiration Date: November 2018

Storage: Freeze

Analytical Method Parameters:

Column: SP 2560 100m x 0.25mm x 0.2µm
100°C (5min) to 240°C (30min) at 4°C/min
Detector: FID, 260°C
Injection Volume: 1µl



Elution	Analyte	Lot Number	CAS Number	Chromatographic Purity %	Certified Gravimetric Conc. µg/ml	Expanded Uncertainty µg/ml	Analytical Conc. µg/ml
1.	Methyl butyrate	LC07315	623-42-7	99.9	399.6	±21	416.4
2.	Methyl hexanoate	LC02577	106-70-7	99.9	399.6	±15	415.4
	Internal Standard	N/A	N/A	N/A	N/A	N/A	N/A
4.	Methyl octanoate	LB97319	111-11-5	99.9	399.6	±13	421.7
5.	Methyl decanoate	LC04160	110-42-9	99.9	399.6	±13	412.9
6.	Methyl undecanoate	LC03679	1731-86-8	99.9	199.8	±6.6	213.2
7.	Methyl laurate	LB97659	111-82-0	99.9	399.6	±13	425.7
8.	Methyl tridecanoate	LC02846	1731-88-0	98.7	197.4	±5.9	203.8
9.	Methyl tetradecanoate	LC16280	124-10-7	99.9	399.7	±12	423.1
10.	Myristoleic Acid Methyl Ester	LB96087	56219-06-8	99.6	199.2	±5.2	204.2
11.	Methyl pentadecanoate	LC02852	7132-64-1	99.9	199.8	±6.9	210.2
12.	cis-10-Pentadecenoic acid methyl ester	LC14326	90176-52-6	99.0	198.0	±7.0	212.0
13.	Methyl palmitate	LC02625	112-39-0	99.9	599.4	±21	623.7
14.	Methyl Palmitoleate	LC05477	1120-25-8	99.9	199.8	±7.3	209.3
15.	Methyl heptadecanoate	LC05285	1731-92-6	99.6	199.3	±5.1	164.5



Cert# AT-1607



Cert# AR-1606

Produced in double accredited laboratory fulfilling
ISO/IEC 17025 and ISO Guide 34

Elution	Analyte	Lot Number	CAS Number	Chromatographic Purity %	Certified Gravimetric Conc. µg/ml	Expanded Uncertainty µg/ml	Analytical Conc. µg/ml
16.	cis-10-Heptadecenoic acid methyl ester	LC04717	75190-82-8	99.9	199.9	±7.7	207.3
17.	Methyl octadecanoate	LB97274	112-61-8	99.9	399.6	±16	414.3
18.	trans-9-Elaidic acid methyl ester	LC15380	1937-62-8	99.9	199.8	±8.5	205.6
19.	cis-9-Oleic acid methyl ester	LC02936	112-62-9	99.9	399.6	±17	421.8
20.	Linolelaidic acid methyl ester	LC15670	2566-97-4	99.9	199.8	±7.2	197.8
21.	Methyl Linoleate	LC06225	112-63-0	98.9	197.8	±7.3	211.4
22.	Methyl Arachidate	LC05925	1120-28-1	99.9	399.6	±17	415.8
23.	gamma-Linolenic acid methyl ester	LC06942	16326-32-2	99.9	199.8	±7.6	206.2
24.	Methyl cis-11-eicosenoate	LC13359	2390-09-2	99.6	199.3	±8.3	205.5
25.	Methyl Linolenate	LC03119	301-00-8	99.9	199.9	±8.1	209.0
26.	Methyl heneicosanoate	LC03443	6064-90-0	99.9	199.8	±8.2	207.0
27.	cis-11,14-Eicosadienoic acid methyl ester	LC13790	2463-02-7	99.9	199.9	±8.4	207.2
28.	Methyl docosanoate	LC03090	929-77-1	99.7	398.8	±18	413.5
29.	cis-8,11,14-Eicosatrienoic acid methyl ester	LC11925	21061-10-9	99.9	199.9	±6.5	198.9
30.	Methyl Erucate	LB99614	1120-34-9	99.9	199.8	±8.5	208.8
31.	cis-11,14,17-Eicosatrienoic acid methyl ester	LB94324	55682-88-7	96.8	199.9	±9.1	180.2
32.	Methyl tricosanoate	LC06065	2433-97-8	99.6	199.2	±8.3	207.6
33.	Methyl cis-5,8,11,14-Eicosatetraenoic	LC15184	2566-89-4	99.9	199.9	±8.4	205.0
34.	cis-13-16-Docosadienoic acid methyl ester (22:2)	LC06471	61012-47-3	99.9	199.9	±6.2	180.3
35.	Methyl lignocerate	LC07615	2442-49-1	99.9	399.6	±20	433.0
36.	Methyl cis-5,8,11,14,17-Eicosapentaenoate	LC10715	2734-47-6	99.9	199.8	±7.3	196.5
37.	Methyl Nervonate	LC03085	2733-88-2	99.9	199.8	±8.9	213.4
38.	All cis-4,7,10,13,16,19-Docosahexaenoate	LC06943	2566-90-7	99.9	199.8	±15	216.8



Cert# AT-1607



Cert# AR-1606

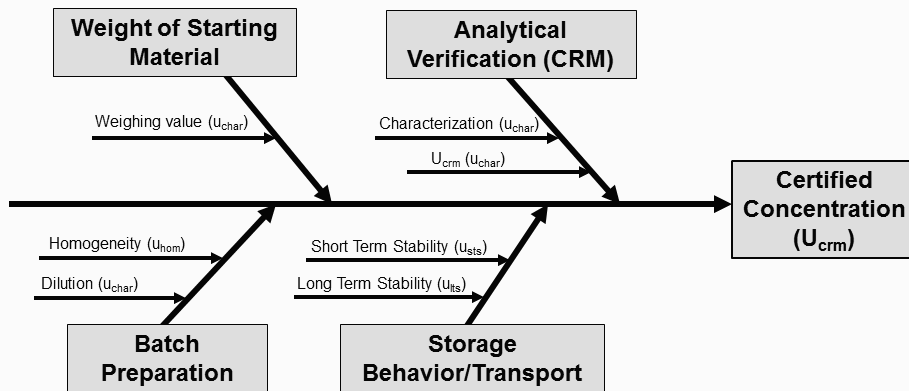
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Notes:

- NIST traceable weights are used to verify balance calibration with the preparation of each lot. Concentration of analyte in solution is µg/ml.
- Certified value is the gravimetric concentration weighed at room temperature and verified analytically by comparison to an independent Certified Reference Material. Uncertainty of the gravimetric concentration in this document is expressed as Expanded Uncertainty (U_{crm}) corresponding to the 95% confidence interval. U_{crm} is derived from the combined standard uncertainty multiplied by the coverage factor $k = 2$. The components of combined standard uncertainty include the uncertainties due to characterization, homogeneity, long-term stability and short-term stability. The components due to stability are generally considered to be negligible unless otherwise indicated by stability studies.
- Homogeneity was assessed in accordance with ISO Guide 35. Completed units were sampled using a random stratified sampling protocol. The results of chemical analysis were then compared by Single Factor Analysis of Variance (ANOVA). The uncertainty due to homogeneity was derived from the ANOVA. Heterogeneity was not detected under the conditions of the ANOVA.
- Product intended for laboratory use only. Supelco warrants that its products conform to the information contained in this publication. Purchaser must determine the suitability of the product for its particular use. Please see the latest catalog or order invoice and packing slip for additional terms and conditions of sale.
- Depending on column batch lot, peaks methyl cis-5,8,11,14-eicosatetraenoic and methyl tricosanoate may elute in a different order. Elution order is confirmed at the time of QC analysis.

Cause-Effect Diagram for Uncertainty Contributions



$$U_{crm} = k\sqrt{u_{char}^2 + u_{hom}^2 + u_{sts}^2 + u_{lts}^2}$$

Test Date: November 16, 2015
Form: CRM47885

Duane Funk

Duane Funk
QC Manager