

PRODUCT DATA SHEET

GLC-90 Mixture (quantitative)

Catalog number: 1103
Solvent: methylene chloride
Storage: -20°C
Concentration: 50mg/ml
Volume: 1ml
Source: synthetic

GC Conditions:
Column: SP2330 or RTX2330, 30 x 0.25mm x 0.2µm
Oven: 165°C (hold 4 min.) to 200°C @ 5°C/min.
Carrier: helium @ 20cm/sec.
Detector: FID, 250°C
Injector: 220°C

Elution Order	Carbon Number	Component Name	% Conc. by weight
1	C13:0	Methyl tridecanoate	20
2	C15:0	Methyl pentadecanoate	20
3	C17:0	Methyl heptadecanoate	20
4	C19:0	Methyl nonadecanoate	20
5	C21:0	Methyl heneicosanoate	20

Application Notes:

This fatty acid mixture contains odd numbered long-chain fatty acids in methylene chloride for the qualitative identification and quantitation of unknowns. Odd numbered long-chain fatty acids occur in small amounts in mammals but are found in much larger amounts in bacteria, some plants, and some lower animals. Due to difficulties in their identification the properties and functions of odd numbered fatty acids have not been fully studied, but with better analytical techniques and high purity standards they are now gaining more prevalence in research.¹ Odd numbered fatty acids are found in small amounts acylated to various sphingolipids where they have unique properties and functions.² Microbial fatty acid profiles, which often contain significant amounts of odd numbered fatty acids, are unique from one species to another and can therefore be used in the determination of bacterial identity.^{3,4,5}

All materials are analyzed to verify their identity and to determine their purity. All analytes are 99% pure. This standard is accurately prepared by gravimetric technique (+/- 0.5%) and all glassware is class A rated. Ampules are purged with nitrogen/argon before and after filling and chilled before being flame sealed. Store ampules sealed as received and process without delay immediately after opening the ampule.

Selected References:

1. T. Rezanka and K. Sigler "Odd-numbered very-long-chain fatty acids from the microbial, animal and plant kingdoms" *Progress in Lipid Research*, vol. 48 pp. 206-238, 2009
2. A. Hajra and N. Radin "Biosynthesis of the cerebroside odd-numbered fatty acids" *Journal of Lipid Research*, vol. 3 pp. 327-332, 1962
3. M. Or-Rashid, N. Odongo and B. McBride, "Fatty acid composition of ruminal bacteria and protozoa, with emphasis on conjugated linoleic acid, vaccenic acid, and odd-chain and branched-chain fatty acids" *Journal of Animal Science* vol. 85 pp. 1228, 2007
4. Y-M Zhang, S. White, and C. Rock "Inhibiting Bacterial Fatty Acid Synthesis" *The Journal of Biological Chemistry* vol. 281 pp. 17541, 2006
5. N. Rozès, S. Garbay, M. Denayrolles, A. Lonvaud-Funel "A rapid method for the determination of bacterial fatty acid composition" *Applied Microbiology* vol. 3(17) pp. 126, 1993

This product is to be used for research only. It is not intended for drug or diagnostic use, human consumption or to be used in food or food additives. Matreya assumes no liability for any use of this product by the end user. We believe the information, offered in good faith, is accurate.