

PRODUCT INFORMATION



Linoleic Acid-d₁₁ methyl ester

Item No. 31289

Formal Name: 9Z,12Z-octadecadienoic-14,14,15,15,16,16,17,17,18,18,18-d₁₁ acid, methyl ester

Synonyms: C18:2 (cis-9,12)-d₁₁ methyl ester, Methyl Linoleate-d₁₁, Methyl cis-9,12-Octadecadienoate-d₁₁, SFE 19:2-d₁₁, Telfairic Acid-d₁₁ methyl ester

MF: C₁₉H₂₃D₁₁O₂

FW: 305.5

Chemical Purity: ≥98% (Linoleic Acid methyl ester)

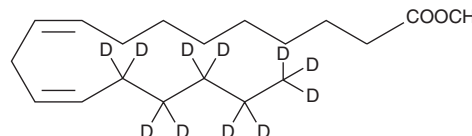
Deuterium

Incorporation: ≥99% deuterated forms (d₁-d₁₁); ≤1% d₀

Supplied as: A solution in ethanol

Storage: -20°C

Stability: ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Linoleic acid-d₁₁ methyl ester is intended for use as an internal standard for the quantification of linoleic acid methyl ester (Item No. 20603) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

Linoleic acid-d₁₁ methyl ester is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as DMSO and dimethyl formamide purged with an inert gas can be used. The solubility of linoleic acid-d₁₁ methyl ester in these solvents is approximately 100 mg/ml.

Description

Linoleic acid methyl ester is an esterified form of linoleic acid (Item Nos. 90150 | 90150.1 | 21909). It has been found in several types of animal fat biodiesel and biodiesel synthesized from beef tallow, soybean oil, and babassu oil blends.^{1,2} It has been used as a substrate to measure the antioxidant activity of β-carotene (Item No. 16837) against free radical-induced lipid peroxidation.³

References

1. Sander, A., Koščak, M.A., Kosir, D., *et al.* The influence of animal fat type and purification conditions on biodiesel quality. *Renewable Energy* **118**, 752-760 (2018).
2. Teixeira, G.A.A., Maia, A.S., and Santos, I.M.G. Biodiesels from beef tallow/soybean oil/babassu oil blends. Correlation between fluid dynamic properties and TMDSC data. *J. Therm. Anal. Calorim.* **106**(2), 563-567 (2011).
3. Tsuchihashi, H., Kigoshi, M., Iwatsuki, M., *et al.* Action of β-carotene as an antioxidant against lipid peroxidation. *Arch. Biochem. Biophys.* **323**(1), 137-147 (1995).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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