

# Product Information

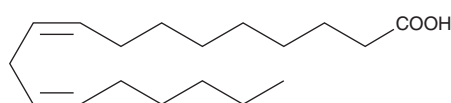


## Linoleic Acid Quant-PAK

Catalog No. 10006834

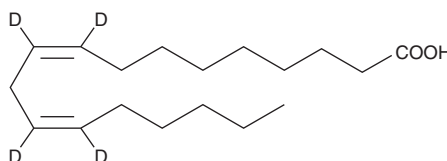
### Linoleic Acid

**CAS Registry No.:** 60-33-3  
**Formal Name:** 9Z,12Z-octadecadienoic acid  
**Synonym:** Telfairic acid  
**MF:** C<sub>18</sub>H<sub>32</sub>O<sub>2</sub>  
**FW:** 280.5  
**Purity:** ≥99%  
**Stability:** ≥2 years at -20°C  
**Supplied as:** A solution in ethanol



### Linoleic Acid-d<sub>4</sub>

**CAS Registry No.:** 79050-23-0  
**Formal Name:** 9Z,12Z-octadecadienoic-9,10,12,13-d<sub>4</sub> acid  
**Synonym:** Telfairic acid-d<sub>4</sub>  
**MF:** C<sub>18</sub>H<sub>28</sub>D<sub>4</sub>O<sub>2</sub>  
**FW:** 284.5  
**Chemical Purity:** ≥98%  
**Deuterium Incorporation:** ≤1% d<sub>0</sub>  
**Stability:** ≥1 year at -20°C  
**Supplied as:** A solution in methyl acetate



This linoleic acid Quant-PAK contains 50 µg of linoleic acid-d<sub>4</sub> and 2-4 mg of linoleic acid (please see the vial for exact amount and concentration). For long term storage, we suggest that linoleic acid and linoleic acid-d<sub>4</sub> be stored as supplied at -20°C. They should be stable for at least one year.

Linoleic acid 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 in these solvents is approximately 100 mg/ml.

Linoleic acid-d<sub>4</sub> is supplied as a solution in methyl acetate. To change the solvent, simply evaporate the methyl acetate under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as ethanol, DMSO, and dimethyl formamide purged with an inert gas can be used. The solubility of linoleic acid-d<sub>4</sub> in these solvents is approximately 100 mg/ml.

Linoleic acid-d<sub>4</sub> contains four deuterium atoms at the 9, 10, 12, 13 positions. It is intended for use as an internal standard for the quantification of linoleic acid by stable isotope dilution mass spectrometry. The accuracy of the sample weight in the linoleic acid-d<sub>4</sub> vial is between 5% over and 2% under the weight indicated on the vial. For better precision we have provided a precisely weighed unlabeled linoleic acid, with the precise weight (2-4 mg) indicated on the vial. Using this vial the deuterated standard can be quantified by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Linoleic acid is an essential fatty acid and one of the most abundant polyunsaturated fatty acids in the western diet. Deficiencies in linoleic acid are linked to defective wound healing, growth retardation, and dermatitis.<sup>1,2</sup> Linoleic acid is metabolized by arachidonate 5-lipoxygenase (LO) and 15-LO to form 9(S)- and 13(S)-HODE, respectively.<sup>3</sup>

### References

1. Soyland, E., Fund, J., Rajka, G., *et al.* *N. Engl. J. Med.* **328**, 1812-1816 (1993).
2. Hashimoto, A., Katagiri, M., Torii, S., *et al.* *Prostaglandins* **36**, 3-15 (1988).
3. Vick, B.A. Oxygenated fatty acids of the lipoxygenase pathway, Chapter 5, *in* Lipid Metabolism in Plants. Moore, T.S., Jr., editor. CRC Press, Boca Raton, 167-191 (1993).

### Related Products

Linoleic Acid - Cat. No. 90150 • Linoleic Acid-d<sub>4</sub> - Cat. No. 390150 • Docosahexaenoic Acid Quant-PAK - Cat. No. 10006829 • ω-3 Arachidonic Acid Quant-PAK - Cat. No. 10006833 • Arachidonic Acid Quant-PAK - Cat. No. 10006835

**WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

### MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent *via* email to your institution.

### WARRANTY AND LIMITATION OF REMEDY

Cayman Chemical Company makes **no warranty or guarantee** of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman **warrants only** to the original customer that the material will meet our specifications at the time of delivery.

Cayman will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have **any obligation or liability**, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed about their possible existence.

This limitation of liability does not apply in the case of intentional acts or negligence of Cayman, its directors or its employees.

Buyer's **exclusive remedy** and Cayman's sole liability hereunder shall be limited to a refund of the purchase price, or at Cayman's option, the replacement, at no cost to Buyer, of all material that does not meet our specifications.

Said refund or replacement is conditioned on Buyer giving written notice to Cayman within thirty (30) days after arrival of the material at its destination. Failure of Buyer to give said notice within thirty (30) days shall constitute a waiver by Buyer of all claims hereunder with respect to said material.

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