

# PRODUCT INFORMATION

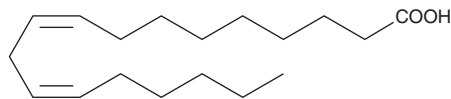


## Linoleic Acid Quant-PAK

Item No. 10006834

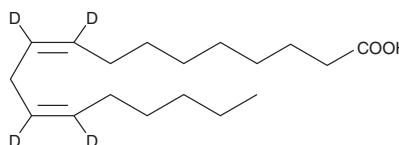
### Linoleic Acid

**CAS Registry No.:** 60-33-3  
**Formal Name:** 9Z,12Z-octadecadienoic acid  
**Synonym:** C18:2(9Z,12Z), C18:2 n-6, FA 18:2, 9,12-Octadecadienoic Acid, 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 neat oil



### 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:** C18:2(9Z,12Z)-d<sub>4</sub>, C18:2 n-6-d<sub>4</sub>, FA 18:2-d<sub>4</sub>, 9,12-Octadecadienoic Acid-d<sub>4</sub>, 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:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>4</sub>); ≤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).

Linoleic acid is supplied as a neat oil. A stock solution may be made by dissolving the linoleic acid in the solvent of choice, which should be purged with an inert gas. Linoleic acid is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of linoleic acid in these solvents is approximately 100 mg/ml. Linoleic acid is also miscible in ethanol.

Linoleic acid-d<sub>4</sub> is intended for use as an internal standard for the quantification of linoleic acid (Item No. 90150) 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-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 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).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 02/09/2024

#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897  
[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM