

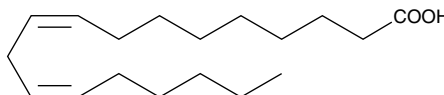
Product Information



Linoleic Acid (peroxide free)

Item No. 90150.1

CAS Registry No.:	60-33-3
Formal Name:	9Z,12Z-octadecadienoic acid
Synonym:	Telfairic Acid
MF:	C ₁₈ H ₃₂ O ₂
FW:	280.5
Purity:	≥98%
Stability:	≥1 year at -20°C
Supplied as:	A solution in ethanol/0.1% BHT
Misc:	Oxygen and light sensitive



Laboratory Procedures

For long term storage, we suggest that linoleic acid be stored as supplied at -20°C. It should be stable for at least one year. The linoleic acid is protected from autoxidation by the antioxidant BHT (2,6-Di-tert-butyl-4-methylphenol). Linoleic acid is also available without BHT (Item No. 90110).

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, dimethyl formamide, or acetonitrile purged with an inert gas or nitrogen can be used. Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations.

Organic solvent-free solutions of linoleic acid can be prepared using concentrated basic buffers (pH > 8.0 and ionic strength ≥ 0.1 M). Add 400 µl of cold buffer (0°C) per mg of linoleic acid and mix vigorously on a vortex mixer until all the linoleic acid is dissolved. Store aqueous solutions of linoleic acid on ice and use within 12 hours of preparation. Although the aqueous solutions of linoleic acid may be stable for more than 12 hours, we strongly recommend using a fresh preparation each day.

Linoleic acid is an essential fatty acid, and it has been shown that deficiencies of linoleic acid in humans is linked to coronary heart disease, growth retardation, skin lesions, and allergies.^{1,2,3} Linoleic acid is synthesized in plant tissues, and when ingested it is converted to arachidonate and other fatty acids in the n-6 series.³

References

1. Oliver, M.F. Linoleic acid, antioxidants and coronary heart disease. *Biochem. Soc. Trans.* **18**, 1049-1051 (1990).
2. Emken, E.A., Adlof, R.O., Rakoff, H., *et al.* Metabolism *in vivo* of deuterium-labelled linolenic and linoleic acids in humans. *Biochem. Soc. Trans.* **18**, 766-769 (1990).
3. Hashimoto, A., Katagiri, M., Torii, S., *et al.* Effect of the dietary alpha-linolenate/linoleate balance on leukotriene production and histamine release in rats. *Prostaglandins* **36**, 3-15 (1988).

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