

PRODUCT DATA SHEET

Methyl *cis*-9,10-methyleneoctadecanoate

Catalog number: 1823

Common Name: Methyl dihydrosterculate

Source: synthetic

Solubility: chloroform, ethanol, methanol,
hexane

CAS number: 3971-54-8

Molecular Formula: C₂₀H₃₈O₂

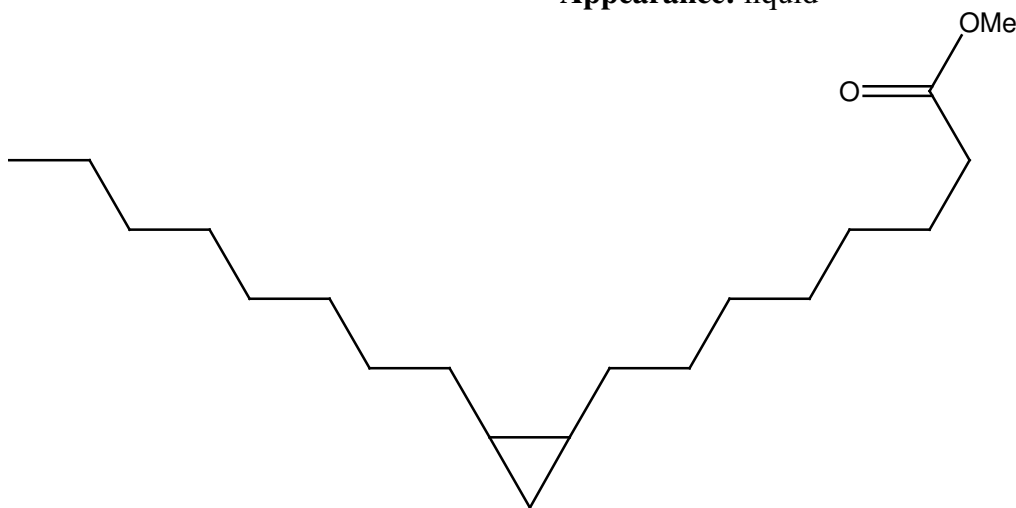
Molecular Weight: 310

Storage: -20°C

Purity: TLC >98%, GC >98%; identity
confirmed by MS

TLC System: hexane/ethyl ether (85:15)

Appearance: liquid



Application Notes:

The fatty acid of this cyclopropanoid fatty acid methyl ester is a major constituent of some seed oils and also occurs in some bacterial membranes but is not synthesized or used by humans.¹ Dihydrosterculic acid is a major constituent of the phospholipids of many trypanosomatid flagellates including some pathogenic species. 10-thiastearic acid has been found to be a potent inhibitor of dihydrosterculic acid synthesis and has been used as a therapeutic drug against these organisms.² The enzyme sadenosylmethionine donates a methylene group to oleic acid in the sn-1 position of phosphatidylethanolamine to form dihydrosterculic acid. Dihydrosterculic acid is further desaturated to sterculic acid by cyclopropane desaturase.

Selected References:

1. G. Knothe "NMR Characterization of Dihydrosterculic Acid and Its Methyl Ester" *Lipids*, Vol. 41(4) pp. 393-396, 2006
2. R. Pascal, Jr, S. Mannarelli, D. Ziering "10-Thiastearic acid inhibits both dihydrosterculic acid biosynthesis and growth of the protozoan *Crithidia fasciculata*" *The Journal of Biological Chemistry*, Vol. 261 pp. 12441-12443, 1986

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