

# 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:** C<sub>20</sub>H<sub>38</sub>O<sub>2</sub>

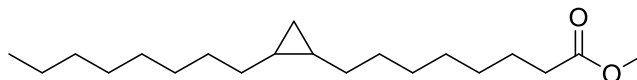
**Molecular Weight:** 311

**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.<sup>1</sup> 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.<sup>2</sup> 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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