

PRODUCT DATA SHEET

Methyl tetradecenoate (*cis*-9)

Catalog number: 1040

Common Name: Methyl myristoleate;
C14:1 (*cis*-9) Methyl ester

Source: natural, plant

Solubility: chloroform, hexane, ethyl ether

CAS number: 56219-06-8

Molecular Formula: C₁₅H₂₈O₂

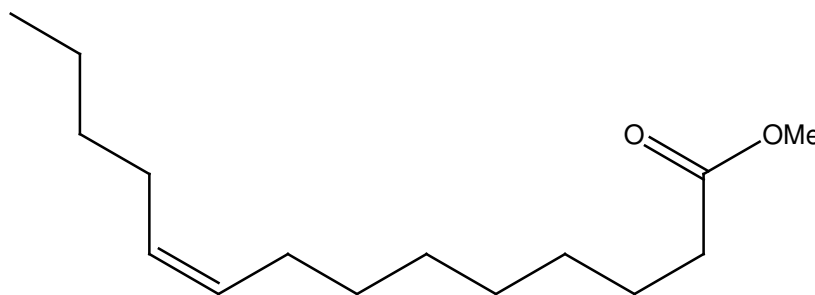
Molecular Weight: 240

Storage: -20°C

Purity: TLC: 99%, GC: 99%

TLC System: hexane/ethyl ether (90:10)

Appearance: liquid



Application Notes:

This product is the methyl ester of the *omega*-5 fatty acid myristoleic acid. Myristoleic acid is a natural but uncommon fatty acid produced from myristic acid by the *delta*-9-desaturase enzyme. When esterified with cetyl alcohol myristoleic acid becomes cetyl myristoleate, a compound with multiple biological properties including anti-inflammatory, pain relief and immune system modulation. Extracts from *Serenoa repens* have been used to cause cell death in prostate cancer cells and myristoleic acid has been identified as at least one of the cytotoxic components of the extract.¹ Myristoleic acid has been shown to suppress growth of hamster flank organs by inhibiting the *5alpha*-reductase enzyme and thereby preventing the conversion of testosterone to *5alpha*-dihydrotestosterone.² Among the bioactive products in bovine whey that help to promote health and prevent disease is myristoleic acid which inhibits the germination of the pathogenic *Candida albicans*.³ Myristoleic acid has shown some anticarcinogenic effects by inhibiting the nuclear density of chemically induced transformation cells.⁴ A seaweed *Ascophyllum nodosum* extract has been shown to cause an increase of myristoleic acid accumulation in adipose tissues.

Selected References:

1. K. Hirano et al. "Myristoleic acid, a cytotoxic component in the extract from *Serenoa repens*, induces apoptosis and necrosis in human prostatic LNCaP cells" *Prostate*, vol. 47 pp. 59-64, 2001
2. R. Hiipakka et al. "Growth suppression of hamster flank organs by topical application of catechins, alizarin, curcumin, and myristoleic acid" *Archives of Dermatological Research*, vol. 293 pp. 200-205, 2001
3. P. Belhumeur et. al. "Whey-derived free fattyacids suppress the germination of *Candida albicans* invitro" *FEMS Yeast Res*, vol. 7 pp. 276-285, 2007
4. S. Sharma, P. Gao, and V. Steele "Quantitative Morphometry of Respiratory Tract Epithelial Cells as a Tool for Testing Chemopreventive Agent Efficacy" *Anticancer Research*, vol. 3 pp. 737-742, 2010

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