

PRODUCT DATA SHEET

Methyl hexadecenoate (*cis*-9)

Catalog number: 1017

Common Name: Methyl palmitoleate;
C16:1 (*cis*-9) Methyl ester

Source: natural, plant

Solubility: chloroform, hexane, ethyl ether

CAS number: 1120-25-8

Molecular Formula: C₁₇H₃₂O₂

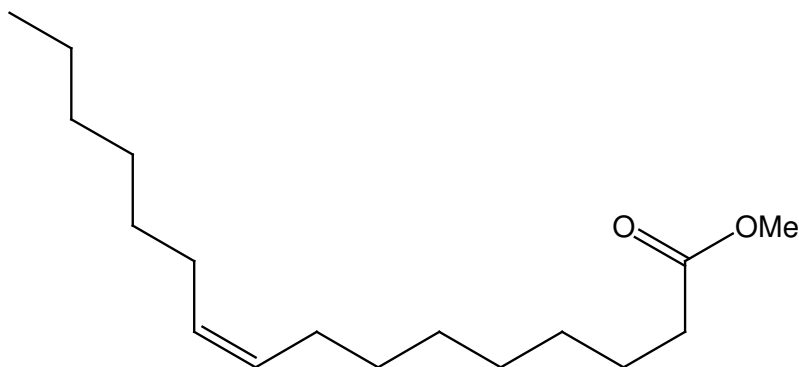
Molecular Weight: 268

Storage: -20°C

Purity: TLC 99%, GC >99%

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

Appearance: liquid



Application Notes:

This methyl ester of palmitoleic acid is ideal as a standard for gas chromatography. Palmitoleic acid is often found as a component of human adipose tissues, esterified to glycerol. It is synthesized from palmitic acid by the enzyme *delta*-9-desaturase. It can therefore be an indicator of *de novo* fatty acid synthesis. It has been reported that there is a consistent positive association which changes in inflammatory markers and palmitoleic acid. Hypercaloric high carbohydrate diets have been shown to stimulate the production of several fatty acids including palmitoleic acid and its increase is a marker of lipogenesis.¹ Palmitoleic acid, because it is a product of stearoyl-CoA desaturase activity, can be used as a biomarker for triglyceridemia and abdominal adiposity.² It has been demonstrated that oleic and palmitoleic acids can inhibit the cytotoxic activity of *trans*-10, *cis*-12-conjugated linoleic acid.³

Selected References:

1. C. Forsythe "Comparison of Low Fat and Low Carbohydrate Dietson Circulating Fatty Acid Composition and Markers of Inflammation" *Lipids*, Vol. 43 pp. 65-77, 2008
2. F. Paillard et al. "Plasma palmitoleic acid, a product of stearoyl-coA desaturase activity, is an independent marker of triglyceridemia and abdominal adiposity" *Nutrition, Metabolism, and Cardiovascular Diseases*, Vol. 18(6) pp. 436-440, 2008
3. M. Yamasaki et al. "Alleviation of the cytotoxic activity induced by *trans*10, *cis*-12-conjugated linoleic acid in rat hepatoma dRLh-84 cells by oleic or palmitoleic acid" *Cancer Letters*, Vol. 196(2) pp. 187-196, 2003

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