# 5,8,11,14-Eicosatetraenoic acid, methyl ester, (all-Z)-

**Other names:** 5,8,11,14-Eicosatetraenoic acid, methyl ester
5,8,11,14-Eicosatetraenoic acid, methyl ester, cis-
Arachidonic acid methyl ester
Methyl Z,Z,Z,Z 5,8,11,14-eicosatetraeneoate
Methyl all-cis-5,8,11,14-eicosatetraenoate
Methyl arachidonate
cis-5,8,11,14-Eicosatetraenoic acid, methyl ester
methyl (5Z,8Z,11Z,14Z)-icosa-5,8,11,14-tetraenoate

**Inchi:** InChI=1S/C21H34O2/c1-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18-19-20-21(22)23-2/h7

**InchiKey:** OFIDNKMQBYGNIW-ZKWNWVNESA-N

**Formula:** C21H34O2

**SMILES:** CCCCCC=CCC=CCC=CCC=CCCCC(=O)OC

**Mol. weight [g/mol]:** 318.49

**CAS:** 2566-89-4

## Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| gf | 212.90 | kJ/mol | Joback Method |
| hf | -252.69 | kJ/mol | Joback Method |
| hfus | 53.74 | kJ/mol | Joback Method |
| hvap | 118.30 | kJ/mol | NIST Webbook |
| hvap | 122.60 ± 1.60 | kJ/mol | NIST Webbook |
| log10ws | -6.89 | | Crippen Method |
| logp | 6.305 | | Crippen Method |
| mcvol | 296.990 | ml/mol | McGowan Method |
| pc | 1126.08 | kPa | Joback Method |
| rinpol | 2231.00 | | NIST Webbook |
| rinpol | 2274.40 | | NIST Webbook |
| rinpol | 2231.00 | | NIST Webbook |
| rinpol | 2231.00 | | NIST Webbook |
| tb | 772.81 | K | Joback Method |
| tc | 959.66 | K | Joback Method |
| tf | 378.27 | K | Joback Method |
| vc | 1.155 | m3/kmol | Joback Method |

# Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|
| cpg | 970.07 | J/mol×K | 959.66 | Joback Method |
| cpg | 955.68 | J/mol×K | 928.52 | Joback Method |
| cpg | 940.69 | J/mol×K | 897.38 | Joback Method |
| cpg | 925.03 | J/mol×K | 866.24 | Joback Method |
| cpg | 908.65 | J/mol×K | 835.09 | Joback Method |
| cpg | 891.46 | J/mol×K | 803.95 | Joback Method |
| cpg | 873.42 | J/mol×K | 772.81 | Joback Method |
| dvisc | 0.0011500 | Pa×s | 378.27 | Joback Method |
| dvisc | 0.0000363 | Pa×s | 772.81 | Joback Method |
| dvisc | 0.0000494 | Pa×s | 707.05 | Joback Method |
| dvisc | 0.0000716 | Pa×s | 641.30 | Joback Method |
| dvisc | 0.0001129 | Pa×s | 575.54 | Joback Method |
| dvisc | 0.0002005 | Pa×s | 509.78 | Joback Method |
| dvisc | 0.0004220 | Pa×s | 444.03 | Joback Method |
| hvapt | 118.30 | kJ/mol | 298.15 | the vaporization enthaplies and vapor pressures of a series of unstaurated fatty acid methyl esters by correlation gas chromatography |

# Sources

| | |
|---|---|
| **McGowan Method:** | http://link.springer.com/article/10.1007/BF02311772 |
| **NIST Webbook:** | http://webbook.nist.gov/cgi/cbook.cgi?ID=C2566894&Units=SI |
| **Crippen Method:** | http://pubs.acs.org/doi/abs/10.1021/ci990307l |
| **Crippen Method:** | https://www.chemeo.com/doc/models/crippen_log10ws |
| **the vaporization enthaplies and vapor pressures of a series of unstaurated fatty acid methyl esters by correlation gas chromatography:** | https://www.doi.org/10.1016/j.tca.2007.02.008 |
| **Joback Method:** | https://en.wikipedia.org/wiki/Joback_method |

# Legend

**cpg:** Ideal gas heat capacity

| | |
|---|---|
| **dvisc:** | Dynamic viscosity |
| **gf:** | Standard Gibbs free energy of formation |
| **hf:** | Enthalpy of formation at standard conditions |
| **hfus:** | Enthalpy of fusion at standard conditions |
| **hvap:** | Enthalpy of vaporization at standard conditions |
| **hvapt:** | Enthalpy of vaporization at a given temperature |
| **log10ws:** | Log10 of Water solubility in mol/l |
| **logp:** | Octanol/Water partition coefficient |
| **mcvol:** | McGowan's characteristic volume |
| **pc:** | Critical Pressure |
| **rinpol:** | Non-polar retention indices |
| **tb:** | Normal Boiling Point Temperature |
| **tc:** | Critical Temperature |
| **tf:** | Normal melting (fusion) point |
| **vc:** | Critical Volume |