

# Vitamin a palmitate

|                      |                                                                                                                                                                                                   |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Other names:         | Retinol, hexadecanoate<br>3,7-Dimethyl-9-(2,6,6,-trimethyl-1-cyclohexen-1-yl)-2,4,6,8-nonatetraen-1-ol<br>palmitate<br>Arovit<br>Ester found in fish liver oils<br>Optovit-A<br>retinyl palmitate |
| Inchi:               | InChI=1S/C36H60O2/c1-7-8-9-10-11-12-13-14-15-16-17-18-19-25-35(37)38-30-28-32(3)                                                                                                                  |
| InchiKey:            | VYGQUTWHTHXGQB-FFHKNEKCSA-N                                                                                                                                                                       |
| Formula:             | C36H60O2                                                                                                                                                                                          |
| SMILES:              | CCCCCCCCCCCCCCCCC(=O)OC/C=C(C)/C=C/C=C(C)/C=C/C1=C(C)CCCC1(C)C                                                                                                                                    |
| Mol. weight [g/mol]: | 524.87                                                                                                                                                                                            |

## Physical Properties

| Property code | Value            | Unit   | Source             |
|---------------|------------------|--------|--------------------|
| chs           | -21292.10 ± 5.90 | kJ/mol | NIST Webbook       |
| hfs           | -1449.10 ± 5.90  | kJ/mol | NIST Webbook       |
| hfus          | 75.95            | kJ/mol | Joback Method      |
| ie            | 7.34             | eV     | Cheméo Relay (1.0) |
| logp          | 11.543           |        | Crippen Method     |
| mcvol         | 493.180          | ml/mol | McGowan Method     |

## Temperature Dependent Properties

| Property code | Value   | Unit    | Temperature [K] | Source        |
|---------------|---------|---------|-----------------|---------------|
| cpg           | 1838.42 | J/mol×K | 1144.68         | Joback Method |
| cpg           | 1877.94 | J/mol×K | 1190.60         | Joback Method |
| cpg           | 1918.62 | J/mol×K | 1236.53         | Joback Method |
| cpg           | 1960.94 | J/mol×K | 1282.45         | Joback Method |
| cpg           | 2005.36 | J/mol×K | 1328.37         | Joback Method |
| cpg           | 2052.36 | J/mol×K | 1374.29         | Joback Method |
| cpg           | 2102.41 | J/mol×K | 1420.22         | Joback Method |

# Sources

Cheméo Relay (1.0):

Cheméo Relay (1.0, beta):

NIST Webbook:

<http://webbook.nist.gov/cgi/cbook.cgi?ID=C79812&Units=SI>

Joback Method:

[https://en.wikipedia.org/wiki/Joback\\_method](https://en.wikipedia.org/wiki/Joback_method)

McGowan Method:

<http://link.springer.com/article/10.1007/BF02311772>

Crippen Method:

<http://pubs.acs.org/doi/abs/10.1021/ci990307l>

Crippen Method:

[https://www.chemeo.com/doc/models/crippen\\_log10ws](https://www.chemeo.com/doc/models/crippen_log10ws)

## Legend

|               |                                                          |
|---------------|----------------------------------------------------------|
| <b>chs:</b>   | Standard solid enthalpy of combustion                    |
| <b>cpg:</b>   | Ideal gas heat capacity                                  |
| <b>hfs:</b>   | Solid phase enthalpy of formation at standard conditions |
| <b>hfus:</b>  | Enthalpy of fusion at standard conditions                |
| <b>ie:</b>    | Ionization energy                                        |
| <b>logp:</b>  | Octanol/Water partition coefficient                      |
| <b>mcvol:</b> | McGowan's characteristic volume                          |

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