

# 1,2-Benzenedicarboxylic acid, decyl octyl ester

**Other names:**

Phthalic acid, decyl octyl ester  
n-Decyl n-octyl phthalate  
n-Octyl n-decyl phthalate  
Decyl octyl phthalate  
Dinopol 235  
Octyl decyl phthalate  
Polycizer 532  
Polycizer 562  
Staflex 500  
1,2-Benzenedicarboxylic acid, 1-decyl 2-octyl ester

**Inchi:**

InChI=1S/C26H42O4/c1-3-5-7-9-11-12-14-18-22-30-26(28)24-20-16-15-19-23(24)25(27)

**InchiKey:**

LVAGMBHLXLZJKZ-UHFFFAOYSA-N

**Formula:**

C26H42O4

**SMILES:**

CCCCCCCCCOC(=O)c1ccccc1C(=O)OCCCCCCCC

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

418.61

**CAS:**

119-07-3

## Physical Properties

Property code	Value	Unit	Source
gf	-197.02	kJ/mol	Joback Method
hf	-844.51	kJ/mol	Joback Method
hfus	62.32	kJ/mol	Joback Method
hvap	94.72	kJ/mol	Joback Method
log10ws	-8.65		Crippen Method
logp	7.501		Crippen Method
mcvol	368.320	ml/mol	McGowan Method
pc	914.94	kPa	Joback Method
tb	978.52	K	Joback Method
tc	1198.52	K	Joback Method
tf	566.04	K	Joback Method
vc	1.431	m <sup>3</sup> /kmol	Joback Method

## Temperature Dependent Properties

Property code	Value	Unit	Temperature [K]	Source
cpg	1243.68	J/mol×K	978.52	Joback Method
cpg	1316.64	J/mol×K	1161.85	Joback Method
cpg	1304.93	J/mol×K	1125.19	Joback Method
cpg	1291.83	J/mol×K	1088.52	Joback Method
cpg	1277.29	J/mol×K	1051.85	Joback Method
cpg	1261.26	J/mol×K	1015.19	Joback Method
cpg	1327.00	J/mol×K	1198.52	Joback Method
dvisc	0.0000228	Paxs	978.52	Joback Method
dvisc	0.0000298	Paxs	909.77	Joback Method
dvisc	0.0000407	Paxs	841.03	Joback Method
dvisc	0.0000589	Paxs	772.28	Joback Method
dvisc	0.0000914	Paxs	703.53	Joback Method
dvisc	0.0001561	Paxs	634.79	Joback Method
dvisc	0.0003036	Paxs	566.04	Joback Method

## Sources

**McGowan Method:**

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

**NIST Webbook:**

<http://webbook.nist.gov/cgi/cbook.cgi?ID=C119073&Units=SI>

**Crippen Method:**

<http://pubs.acs.org/doi/abs/10.1021/ci990307i>

**Crippen Method:**

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

**Joback Method:**

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

## Legend

<b>cpg:</b>	Ideal gas heat capacity
<b>dvisc:</b>	Dynamic viscosity
<b>gf:</b>	Standard Gibbs free energy of formation
<b>hf:</b>	Enthalpy of formation at standard conditions
<b>hfus:</b>	Enthalpy of fusion at standard conditions
<b>hvap:</b>	Enthalpy of vaporization at standard conditions
<b>log10ws:</b>	Log10 of Water solubility in mol/l
<b>logp:</b>	Octanol/Water partition coefficient
<b>mccvol:</b>	McGowan's characteristic volume
<b>pc:</b>	Critical Pressure
<b>tb:</b>	Normal Boiling Point Temperature
<b>tc:</b>	Critical Temperature

**tf:** Normal melting (fusion) point

**vc:** Critical Volume

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