# Nonanoic acid, 9-chloro, methyl ester

**Other names:** 9-Chlorononanoic acid, methyl ester
**Inchi:** InChI=1S/C10H19ClO2/c1-13-10(12)8-6-4-2-3-5-7-9-11/h2-9H2,1H3
**InchiKey:** CNHNEOUVKMPEBI-UHFFFAOYSA-N
**Formula:** C10H19ClO2
**SMILES:** COC(=O)CCCCCCCCCl
**Mol. weight [g/mol]:** 206.71

## Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| gf | -212.53 | kJ/mol | Joback Method |
| hf | -510.27 | kJ/mol | Joback Method |
| hfus | 28.64 | kJ/mol | Joback Method |
| hvap | 51.39 | kJ/mol | Joback Method |
| log10ws | -3.02 | | Crippen Method |
| logp | 3.129 | | Crippen Method |
| mcvol | 171.440 | ml/mol | McGowan Method |
| pc | 2125.60 | kPa | Joback Method |
| rinpol | 1472.00 | | NIST Webbook |
| rinpol | 1459.00 | | NIST Webbook |
| rinpol | 1470.00 | | NIST Webbook |
| rinpol | 1465.00 | | NIST Webbook |
| rinpol | 1459.00 | | NIST Webbook |
| ripol | 1947.00 | | NIST Webbook |
| ripol | 1946.00 | | NIST Webbook |
| ripol | 1947.00 | | NIST Webbook |
| ripol | 1985.00 | | NIST Webbook |
| tb | 541.92 | K | Joback Method |
| tc | 719.34 | K | Joback Method |
| tf | 304.54 | K | Joback Method |
| vc | 0.668 | m3/kmol | Joback Method |

## Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|

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|---|---|---|---|---|
| cpg | 398.46 | J/mol×K | 541.92 | Joback Method |
| cpg | 461.13 | J/mol×K | 689.77 | Joback Method |
| cpg | 449.68 | J/mol×K | 660.20 | Joback Method |
| cpg | 437.70 | J/mol×K | 630.63 | Joback Method |
| cpg | 425.18 | J/mol×K | 601.06 | Joback Method |
| cpg | 412.10 | J/mol×K | 571.49 | Joback Method |
| cpg | 472.05 | J/mol×K | 719.34 | Joback Method |
| dvisc | 0.0002192 | Pa×s | 541.92 | Joback Method |
| dvisc | 0.0002844 | Pa×s | 502.36 | Joback Method |
| dvisc | 0.0003858 | Pa×s | 462.79 | Joback Method |
| dvisc | 0.0005540 | Pa×s | 423.23 | Joback Method |
| dvisc | 0.0008572 | Pa×s | 383.67 | Joback Method |
| dvisc | 0.0014664 | Pa×s | 344.10 | Joback Method |
| dvisc | 0.0028840 | Pa×s | 304.54 | Joback Method |

# Sources

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|---|---|
| **Joback Method:** | https://en.wikipedia.org/wiki/Joback_method |
| **McGowan Method:** | http://link.springer.com/article/10.1007/BF02311772 |
| **NIST Webbook:** | http://webbook.nist.gov/cgi/cbook.cgi?ID=R91749&Units=SI |
| **Crippen Method:** | http://pubs.acs.org/doi/abs/10.1021/ci990307l |
| **Crippen Method:** | https://www.chemeo.com/doc/models/crippen_log10ws |

# 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 |
| **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 |
| **ripol:** | Polar retention indices |
| **tb:** | Normal Boiling Point Temperature |

| | |
|---|---|
| **tc:** | Critical Temperature |
| **tf:** | Normal melting (fusion) point |
| **vc:** | Critical Volume |