# Chlorine nitrate

**Inchi:** InChI=1S/ClNO3/c1-5-2(3)4
**InchiKey:** XYLGPCWDPLOBGP-UHFFFAOYSA-N
**Formula:** ClNO3
**SMILES:** O=[N+]([O-])OCl
**Mol. weight [g/mol]:** 97.46
**CAS:** 14545-72-3

## Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| gf | -132.26 | kJ/mol | Joback Method |
| hf | -202.05 | kJ/mol | Joback Method |
| hfus | 12.50 | kJ/mol | Joback Method |
| hvap | 38.98 | kJ/mol | Joback Method |
| ie | 11.04 | eV | NIST Webbook |
| ie | 11.56 | eV | NIST Webbook |
| log10ws | -1.13 | | Crippen Method |
| logp | 0.348 | | Crippen Method |
| mcvol | 46.390 | ml/mol | McGowan Method |
| pc | 6298.82 | kPa | Joback Method |
| tb | 295.50 ± 3.00 | K | NIST Webbook |
| tc | 634.91 | K | Joback Method |
| tf | 285.52 | K | Joback Method |
| vc | 0.184 | m3/kmol | Joback Method |

## Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|
| cpg | 69.49 | J/mol×K | 411.09 | Joback Method |
| cpg | 71.62 | J/mol×K | 448.39 | Joback Method |
| cpg | 73.71 | J/mol×K | 485.70 | Joback Method |
| cpg | 75.75 | J/mol×K | 523.00 | Joback Method |
| cpg | 77.73 | J/mol×K | 560.31 | Joback Method |
| cpg | 79.63 | J/mol×K | 597.61 | Joback Method |
| cpg | 81.45 | J/mol×K | 634.91 | Joback Method |

# Sources

| | |
|---|---|
| **NIST Webbook:** | http://webbook.nist.gov/cgi/cbook.cgi?ID=C14545723&Units=SI |
| **Crippen Method:** | http://pubs.acs.org/doi/abs/10.1021/ci990307l |
| **Crippen Method:** | https://www.chemeo.com/doc/models/crippen_log10ws |
| **Joback Method:** | https://en.wikipedia.org/wiki/Joback_method |
| **McGowan Method:** | http://link.springer.com/article/10.1007/BF02311772 |

# Legend

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|---|---|
| **cpg:** | Ideal gas heat capacity |
| **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 |
| **ie:** | Ionization energy |
| **log10ws:** | Log10 of Water solubility in mol/l |
| **logp:** | Octanol/Water partition coefficient |
| **mcvol:** | McGowan's characteristic volume |
| **pc:** | Critical Pressure |
| **tb:** | Normal Boiling Point Temperature |
| **tc:** | Critical Temperature |
| **tf:** | Normal melting (fusion) point |
| **vc:** | Critical Volume |