# Tris-(2-chloroethyl)orthoformate

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|---|---|
| **Other names:** | Tris(chloroethyl)orthoformate |
| | Ethane, 1,1',1''-[methylidynetris(oxy)]tris[2-chloro- |
| | Orthoformic acid, tris(2-chloroethyl) ester |
| | 2-Chloroethyl orthoformate |
| **Inchi:** | InChI=1S/C7H13Cl3O3/c8-1-4-11-7(12-5-2-9)13-6-3-10/h7H,1-6H2 |
| **InchiKey:** | RKHRVKJTCSHZCR-UHFFFAOYSA-N |
| **Formula:** | C7H13Cl3O3 |
| **SMILES:** | ClCCOC(OCCCl)OCCCl |
| **Mol. weight [g/mol]:** | 251.53 |
| **CAS:** | 18719-58-9 |

## Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| gf | -345.17 | kJ/mol | Joback Method |
| hf | -636.97 | kJ/mol | Joback Method |
| hfus | 26.52 | kJ/mol | Joback Method |
| hvap | 51.17 | kJ/mol | Joback Method |
| log10ws | -1.58 | | Crippen Method |
| logp | 2.036 | | Crippen Method |
| mcvol | 163.820 | ml/mol | McGowan Method |
| pc | 2393.53 | kPa | Joback Method |
| tb | 538.67 | K | Joback Method |
| tc | 724.53 | K | Joback Method |
| tf | 310.10 | K | Joback Method |
| vc | 0.623 | m3/kmol | Joback Method |

## Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|
| cpg | 346.38 | J/mol×K | 538.67 | Joback Method |
| cpg | 357.12 | J/mol×K | 569.65 | Joback Method |
| cpg | 367.48 | J/mol×K | 600.62 | Joback Method |
| cpg | 377.45 | J/mol×K | 631.60 | Joback Method |
| cpg | 387.00 | J/mol×K | 662.58 | Joback Method |

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|---|---|---|---|---|
| cpg | 396.13 | J/mol×K | 693.55 | Joback Method |
| cpg | 404.84 | J/mol×K | 724.53 | Joback Method |
| dvisc | 0.0020410 | Pa×s | 310.10 | Joback Method |
| dvisc | 0.0010486 | Pa×s | 348.20 | Joback Method |
| dvisc | 0.0006144 | Pa×s | 386.29 | Joback Method |
| dvisc | 0.0003962 | Pa×s | 424.39 | Joback Method |
| dvisc | 0.0002747 | Pa×s | 462.48 | Joback Method |
| dvisc | 0.0002013 | Pa×s | 500.58 | Joback Method |
| dvisc | 0.0001542 | Pa×s | 538.67 | Joback Method |

# Sources

**McGowan Method:** http://link.springer.com/article/10.1007/BF02311772
**NIST Webbook:** http://webbook.nist.gov/cgi/cbook.cgi?ID=C18719589&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

# 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
**tb:** Normal Boiling Point Temperature
**tc:** Critical Temperature
**tf:** Normal melting (fusion) point
**vc:** Critical Volume

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