# Propane, 1,1,1-triethoxy-

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|---|---|
| **Other names:** | Orthopropionic acid, triethyl ester |
| | Ethyl orthopropionate |
| | Orthopropionic acid ethyl ester |
| | Triethyl orthopropionate |
| **Inchi:** | InChI=1S/C9H20O3/c1-5-9(10-6-2,11-7-3)12-8-4/h5-8H2,1-4H3 |
| **InchiKey:** | FGWYWKIOMUZSQF-UHFFFAOYSA-N |
| **Formula:** | C9H20O3 |
| **SMILES:** | CCOC(CC)(OCC)OCC |
| **Mol. weight [g/mol]:** | 176.25 |
| **CAS:** | 115-80-0 |

## Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| gf | -287.26 | kJ/mol | Joback Method |
| hf | -634.50 | kJ/mol | Joback Method |
| hfus | 15.22 | kJ/mol | Joback Method |
| hvap | 41.56 | kJ/mol | Joback Method |
| log10ws | -1.95 | | Crippen Method |
| logp | 2.160 | | Crippen Method |
| mcvol | 155.280 | ml/mol | McGowan Method |
| pc | 2237.64 | kPa | Joback Method |
| tb | 430.70 | K | NIST Webbook |
| tc | 642.31 | K | Joback Method |
| tf | 260.30 | K | Joback Method |
| vc | 0.583 | m3/kmol | Joback Method |

## Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|
| cpg | 353.16 | J/mol×K | 469.35 | Joback Method |
| cpg | 367.65 | J/mol×K | 498.18 | Joback Method |
| cpg | 381.64 | J/mol×K | 527.00 | Joback Method |
| cpg | 395.14 | J/mol×K | 555.83 | Joback Method |
| cpg | 408.14 | J/mol×K | 584.66 | Joback Method |

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|---|---|---|---|---|
| cpg | 420.65 | J/mol×K | 613.48 | Joback Method |
| cpg | 432.66 | J/mol×K | 642.31 | Joback Method |
| dvisc | 0.0031085 | Pa×s | 260.30 | Joback Method |
| dvisc | 0.0013963 | Pa×s | 295.14 | Joback Method |
| dvisc | 0.0007427 | Pa×s | 329.98 | Joback Method |
| dvisc | 0.0004457 | Pa×s | 364.82 | Joback Method |
| dvisc | 0.0002923 | Pa×s | 399.67 | Joback Method |
| dvisc | 0.0002052 | Pa×s | 434.51 | Joback Method |
| dvisc | 0.0001518 | Pa×s | 469.35 | Joback Method |

# Pressure Dependent Properties

| Property code | Value | Unit | Pressure [kPa] | Source |
|---|---|---|---|---|
| tbrp | 317.20 | K | 1.00 | NIST Webbook |

# Sources

**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=C115800&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

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|---|---|
| **tb:** | Normal Boiling Point Temperature |
| **tbrp:** | Boiling point at reduced pressure |
| **tc:** | Critical Temperature |
| **tf:** | Normal melting (fusion) point |
| **vc:** | Critical Volume |