# trans-2,3-epoxynonanal

**Inchi:** InChI=1S/C9H16O2/c1-2-3-4-5-6-8-9(7-10)11-8/h7-9H,2-6H2,1H3/t8-,9-/m0/s1
**InchiKey:** CXWONQXFWHZHPN-IUCAKERBSA-N
**Formula:** C9H16O2
**SMILES:** CCCCCCC1OC1C=O
**Mol. weight [g/mol]:** 156.22

## Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| gf | -107.70 | kJ/mol | Joback Method |
| hf | -394.21 | kJ/mol | Joback Method |
| hfus | 28.54 | kJ/mol | Joback Method |
| hvap | 46.46 | kJ/mol | Joback Method |
| log10ws | -2.08 | | Crippen Method |
| logp | 1.923 | | Crippen Method |
| mcvol | 134.250 | ml/mol | McGowan Method |
| pc | 2712.67 | kPa | Joback Method |
| rinpol | 1194.00 | | NIST Webbook |
| rinpol | 1194.00 | | NIST Webbook |
| ripol | 1653.00 | | NIST Webbook |
| ripol | 1653.00 | | NIST Webbook |
| tb | 483.00 | K | Joback Method |
| tc | 665.54 | K | Joback Method |
| tf | 273.46 | K | Joback Method |
| vc | 0.533 | m3/kmol | Joback Method |

## Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|
| cpg | 315.62 | J/mol×K | 483.00 | Joback Method |
| cpg | 329.72 | J/mol×K | 513.42 | Joback Method |
| cpg | 343.14 | J/mol×K | 543.85 | Joback Method |
| cpg | 355.90 | J/mol×K | 574.27 | Joback Method |
| cpg | 368.04 | J/mol×K | 604.70 | Joback Method |
| cpg | 379.56 | J/mol×K | 635.12 | Joback Method |

| | | | | |
|---|---|---|---|---|
| cpg | 390.52 | J/mol×K | 665.54 | Joback Method |
| dvisc | 0.0023518 | Pa×s | 273.46 | Joback Method |
| dvisc | 0.0016789 | Pa×s | 308.38 | Joback Method |
| dvisc | 0.0012836 | Pa×s | 343.31 | Joback Method |
| dvisc | 0.0010313 | Pa×s | 378.23 | Joback Method |
| dvisc | 0.0008598 | Pa×s | 413.15 | Joback Method |
| dvisc | 0.0007374 | Pa×s | 448.08 | Joback Method |
| dvisc | 0.0006466 | Pa×s | 483.00 | Joback Method |

# 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=R237104&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