# trans-1-butyl-2-methylcyclopentane

**Other names:** trans-1-Butyl-2-methylcyclopentane
**Inchi:** InChI=1S/C10H20/c1-3-4-7-10-8-5-6-9(10)2/h9-10H,3-8H2,1-2H3
**InchiKey:** CBGQSQYVGVKUCW-UWVGGRQHSA-N
**Formula:** C10H20
**SMILES:** CCCCC1CCCC1C
**Mol. weight [g/mol]:** 140.27
**CAS:** 53366-35-1

## Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| af | 0.3467 | | Cheméo Relay (1.0) |
| gf | 62.16 | kJ/mol | Joback Method |
| hf | -190.47 | kJ/mol | Cheméo Relay (1.0) |
| hfus | 16.66 | kJ/mol | Joback Method |
| hvap | 47.14 | kJ/mol | Cheméo Relay (1.0) |
| ie | 9.35 | eV | Cheméo Relay (1.0) |
| logp | 3.613 | | Crippen Method |
| mcvol | 140.900 | ml/mol | McGowan Method |
| pc | 2424.27 | kPa | Joback Method |
| tb | 442.60 ± 1.50 | K | NIST Webbook |
| tc | 634.42 | K | Cheméo Relay (1.0) |
| tf | 167.34 | K | Cheméo Relay (1.0) |
| vc | 0.509 | m3/kmol | Cheméo Relay (1.0) |

## Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|
| cpg | 300.00 | J/mol×K | 438.81 | Joback Method |
| cpg | 318.72 | J/mol×K | 470.30 | Joback Method |
| cpg | 336.60 | J/mol×K | 501.79 | Joback Method |
| cpg | 353.67 | J/mol×K | 533.28 | Joback Method |
| cpg | 369.93 | J/mol×K | 564.77 | Joback Method |
| cpg | 385.42 | J/mol×K | 596.26 | Joback Method |
| cpg | 400.16 | J/mol×K | 627.75 | Joback Method |

| | | | | |
|---|---|---|---|---|
| dvisc | 0.0030012 | Pa×s | 209.12 | Joback Method |
| dvisc | 0.0015247 | Pa×s | 247.40 | Joback Method |
| dvisc | 0.0009287 | Pa×s | 285.68 | Joback Method |
| dvisc | 0.0006360 | Pa×s | 323.97 | Joback Method |
| dvisc | 0.0004719 | Pa×s | 362.25 | Joback Method |
| dvisc | 0.0003706 | Pa×s | 400.53 | Joback Method |
| dvisc | 0.0003036 | Pa×s | 438.81 | Joback Method |

# Sources

**Cheméo Relay (1.0, beta):**

**NIST Webbook:** http://webbook.nist.gov/cgi/cbook.cgi?ID=C53366351&Units=SI

**Joback Method:** https://en.wikipedia.org/wiki/Joback_method

**McGowan Method:** http://link.springer.com/article/10.1007/BF02311772

**Crippen Method:** http://pubs.acs.org/doi/abs/10.1021/ci990307l

**Crippen Method:** https://www.chemeo.com/doc/models/crippen_log10ws

**Cheméo Relay (1.0):**

# Legend

**af:** Acentric Factor
**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
**ie:** Ionization energy
**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