# Cyclohexanol, 5-methyl-2-(1-methylethyl)-, (1«alpha»,2«beta»,5«alpha»)-

**Other names:** (.+/-.)-Menthol
2-Isopropyl-5-methylcyclohexanol
2-Isopropyl-5-methylcyclohexanol, (1«alpha»,2«beta»,5«alpha»)-
2-Isopropyl-5-methylcyclohexanol, (1Â«alphaÂ»,2Â«betaÂ»,5Â«alphaÂ»)-
3-p-Menthanol
5-Methyl-2-(1-methylethyl)cyclohexanol
5-Methyl-2-(1-methylethyl)cyclohexanol, (1«alpha»,2«beta»,5«alpha»)-
5-Methyl-2-(1-methylethyl)cyclohexanol, (1Â«alphaÂ»,2Â«betaÂ»,5Â«alphaÂ»)-
5«alpha»-Methyl-2«beta»-(1«alpha»-methylethyl)cyclohexanol
5Â«alphaÂ»-Methyl-2Â«betaÂ»-(1Â«alphaÂ»-methylethyl)cyclohexanol
Cyclohexanol, 2-isopropyl-5-methyl-
Cyclohexanol, 2-isopropyl-5-methyl-, (1«alpha»,2«beta»,5«alpha»)-
Cyclohexanol, 2-isopropyl-5-methyl-, (1Â«alphaÂ»,2Â«betaÂ»,5Â«alphaÂ»)-
Cyclohexanol, 5-methyl-2-(1-methylethyl)-, (1R,2S,5R)-rel-
Diterpene
Fancol menthol
Fisherman's friend lozenges
HEXAHYDROTHYMOL
MENTHOL
MENTHOMENTHOL
Menthacamphor
Menthol terpine hydrate
Menthol, cis-1,3,trans-1,4-
NCI-C50000
NSC 2603
PEPPERMINT CAMPHOR
Racementhol
Racemic menthol
Therapeutic mineral ice
component of Dermoplast
component of Minut-rub
component of Robitussin cough drops
component of Sarna
component of Theragesic
dl-Menthol
l-Menthol
p-Menthan-3-ol
rac-Menthol

**Inchi:** InChI=1S/C10H20O/c1-7(2)9-5-4-8(3)6-10(9)11/h7-11H,4-6H2,1-3H3/t8-,9+,10-/m1/s1

**InchiKey:** NOOLISFMXDJSKH-KXUCPTDWSA-N

**Formula:** C10H20O
**SMILES:** CC1CCC(C(C)C)C(O)C1
**Mol. weight [g/mol]:** 156.27
**CAS:** 89-78-1

# Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| gf | -96.91 | kJ/mol | Joback Method |
| hf | -393.60 | kJ/mol | Joback Method |
| hfus | 16.20 | kJ/mol | Joback Method |
| hvap | 53.96 | kJ/mol | Joback Method |
| log10ws | -2.55 | | Crippen Method |
| logp | 2.440 | | Crippen Method |
| mcvol | 146.770 | ml/mol | McGowan Method |
| pc | 2659.77 | kPa | Joback Method |
| rinpol | 1163.00 | | NIST Webbook |
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| rinpol | 1180.78 | | NIST Webbook |

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| ripol | 1652.00 | | NIST Webbook |
| ripol | 1637.00 | | NIST Webbook |
| ripol | 1631.00 | | NIST Webbook |
| tb | 489.50 | K | KDB |
| tc | 694.00 ± 5.00 | K | NIST Webbook |
| tc | 694.00 | K | KDB |
| tf | 315.15 ± 0.50 | K | NIST Webbook |
| tf | 315.00 | K | KDB |
| tf | 314.00 ± 0.60 | K | NIST Webbook |
| vc | 0.539 | m3/kmol | Joback Method |

# Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|
| cpg | 463.40 | J/mol×K | 719.67 | Joback Method |
| cpg | 370.36 | J/mol×K | 530.15 | Joback Method |
| cpg | 387.84 | J/mol×K | 561.74 | Joback Method |
| cpg | 404.52 | J/mol×K | 593.32 | Joback Method |
| cpg | 420.40 | J/mol×K | 624.91 | Joback Method |
| cpg | 435.50 | J/mol×K | 656.49 | Joback Method |
| cpg | 449.82 | J/mol×K | 688.08 | Joback Method |
| dvisc | 0.0001446 | Pa×s | 530.15 | Joback Method |
| dvisc | 0.0430815 | Pa×s | 247.18 | Joback Method |
| dvisc | 0.0077902 | Pa×s | 294.34 | Joback Method |
| dvisc | 0.0022592 | Pa×s | 341.50 | Joback Method |
| dvisc | 0.0008847 | Pa×s | 388.66 | Joback Method |
| dvisc | 0.0004244 | Pa×s | 435.83 | Joback Method |
| dvisc | 0.0002350 | Pa×s | 482.99 | Joback Method |
| hfust | 10.25 | kJ/mol | 301.20 | NIST Webbook |
| hfust | 11.88 | kJ/mol | 316.20 | NIST Webbook |
| hsubt | 79.00 ± 4.00 | kJ/mol | 289.00 | NIST Webbook |

# Correlations

| Information | Value |
|---|---|
| Property code | pvap |
| Equation | ln(Pvp) = A + B/T + C*ln(T) + D*T^2 |
| Coeff. A | 6.60468e+01 |
| Coeff. B | -9.08243e+03 |
| Coeff. C | -7.05284e+00 |
| Coeff. D | 3.86441e-06 |
| Temperature range (K), min. | 329.15 |
| Temperature range (K), max. | 485.15 |

# Sources

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|---|---|
| **Joback Method:** | https://en.wikipedia.org/wiki/Joback_method |
| **KDB:** | https://www.cheric.org/research/kdb/hcprop/showprop.php?cmpid=886 |
| **McGowan Method:** | http://link.springer.com/article/10.1007/BF02311772 |
| **NIST Webbook:** | http://webbook.nist.gov/cgi/cbook.cgi?ID=C89781&Units=SI |
| **KDB Vapor Pressure Data:** | https://www.cheric.org/research/kdb/hcprop/showprop.php?cmpid=886 |
| **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 |
| **hfust:** | Enthalpy of fusion at a given temperature |
| **hsubt:** | Enthalpy of sublimation at a given temperature |
| **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 |
| **pvap:** | Vapor 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 |