# Benzenamine, N,3-dimethyl-

| | |
|---|---|
| **Other names:** | Aniline, N,m-dimethyl- |
| | N,3-Dimethylaniline |
| | N,3-Dimethylbenzenamine |
| | N-Methyl-3-methylaniline |
| | N-Methyl-m-toluidine |
| | m,N-Dimethylaniline |
| | m-Toluidine, N-methyl- |
| **Inchi:** | InChI=1S/C8H11N/c1-7-4-3-5-8(6-7)9-2/h3-6,9H,1-2H3 |
| **InchiKey:** | FBGJJTQNZVNEQU-UHFFFAOYSA-N |
| **Formula:** | C8H11N |
| **SMILES:** | CNc1cccc(C)c1 |
| **Mol. weight [g/mol]:** | 121.18 |
| **CAS:** | 696-44-6 |

# Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| gf | 208.65 | kJ/mol | Joback Method |
| hf | 70.08 | kJ/mol | Joback Method |
| hfus | 15.23 | kJ/mol | Joback Method |
| hvap | 42.78 | kJ/mol | Joback Method |
| ie | 7.50 ± 0.10 | eV | NIST Webbook |
| ie | 7.26 | eV | NIST Webbook |
| log10ws | -1.96 | | Crippen Method |
| logp | 2.037 | | Crippen Method |
| mcvol | 109.800 | ml/mol | McGowan Method |
| pc | 3642.13 | kPa | Joback Method |
| ripol | 1810.70 | | NIST Webbook |
| ripol | 1811.40 | | NIST Webbook |
| tb | 479.70 | K | NIST Webbook |
| tc | 678.02 | K | Joback Method |
| tf | 271.52 | K | Joback Method |
| vc | 0.410 | m3/kmol | Joback Method |

# Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|
| cpg | 218.64 | J/mol×K | 464.27 | Joback Method |
| cpg | 231.43 | J/mol×K | 499.89 | Joback Method |
| cpg | 243.51 | J/mol×K | 535.52 | Joback Method |
| cpg | 254.89 | J/mol×K | 571.14 | Joback Method |
| cpg | 265.62 | J/mol×K | 606.77 | Joback Method |
| cpg | 275.70 | J/mol×K | 642.39 | Joback Method |
| cpg | 285.18 | J/mol×K | 678.02 | Joback Method |

# Correlations

| Information | Value |
|---|---|
| Property code | pvap |
| Equation | ln(Pvp) = A + B/(T + C) |
| Coeff. A | 1.47928e+01 |
| Coeff. B | -4.12279e+03 |
| Coeff. C | -7.44930e+01 |
| Temperature range (K), min. | 358.72 |
| Temperature range (K), max. | 509.32 |

# Sources

**The Yaws Handbook of Vapor Pressure:** https://www.sciencedirect.com/book/9780128029992/the-yaws-handbook-of-vapor-pressure

**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

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

**NIST Webbook:** http://webbook.nist.gov/cgi/cbook.cgi?ID=C696446&Units=SI

# Legend

| | |
|---|---|
| **cpg:** | Ideal gas heat capacity |
| **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 |
| **log10ws:** | Log10 of Water solubility in mol/l |
| **logp:** | Octanol/Water partition coefficient |
| **mcvol:** | McGowan's characteristic volume |
| **pc:** | Critical Pressure |
| **pvap:** | Vapor pressure |
| **ripol:** | Polar retention indices |
| **tb:** | Normal Boiling Point Temperature |
| **tc:** | Critical Temperature |
| **tf:** | Normal melting (fusion) point |
| **vc:** | Critical Volume |