

# N-(n-Butyl)imidazole

|                      |                                                                                                                                                                      |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Other names:         | 1-butyl-1H-imidazole<br>1-butyylimidazole<br>1-n-butyylimidazole<br>1H-Imidazole, 1-butyl-<br>Butyylimidazole<br>Imidazole, 1-butyl-<br>N-Butyylimidazole<br>UN 2690 |
| Inchi:               | InChI=1S/C7H12N2/c1-2-3-5-9-6-4-8-7-9/h4,6-7H,2-3,5H2,1H3                                                                                                            |
| InchiKey:            | MCMFEZDRQOJKMN-UHFFFAOYSA-N                                                                                                                                          |
| Formula:             | C7H12N2                                                                                                                                                              |
| SMILES:              | CCCCn1ccnc1                                                                                                                                                          |
| Mol. weight [g/mol]: | 124.19                                                                                                                                                               |

## Physical Properties

| Property code | Value   | Unit   | Source             |
|---------------|---------|--------|--------------------|
| hvap          | 62.86   | kJ/mol | Cheméo Relay (1.0) |
| ie            | 8.79    | eV     | Cheméo Relay (1.0) |
| logp          | 1.683   |        | Crippen Method     |
| mcvol         | 109.990 | ml/mol | McGowan Method     |
| rinpol        | 1164.00 |        | NIST Webbook       |
| rinpol        | 1164.00 |        | NIST Webbook       |
| ripol         | 1861.00 |        | NIST Webbook       |
| ripol         | 1861.00 |        | NIST Webbook       |
| tb            | 516.82  | K      | Cheméo Relay (1.0) |
| tf            | 223.14  | K      | Cheméo Relay (1.0) |

## Temperature Dependent Properties

| Property code | Value | Unit   | Temperature [K] | Source                               |
|---------------|-------|--------|-----------------|--------------------------------------|
| hvapt         | 63.89 | kJ/mol | 298.15          | Thermochemistry of 1-alkylimidazoles |

# Sources

|                                              |                                                                                                                                             |
|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Crippen Method:</b>                       | <a href="https://www.chemeo.com/doc/models/crippen_log10ws">https://www.chemeo.com/doc/models/crippen_log10ws</a>                           |
| <b>Cheméo Relay (1.0):</b>                   |                                                                                                                                             |
| <b>Cheméo Relay (1.0, beta):</b>             |                                                                                                                                             |
| <b>Thermochemistry of 1-alkylimidazoles:</b> | <a href="https://www.doi.org/10.1016/j.jct.2014.08.020">https://www.doi.org/10.1016/j.jct.2014.08.020</a>                                   |
| <b>NIST Webbook:</b>                         | <a href="http://webbook.nist.gov/cgi/cbook.cgi?ID=C4316421&amp;Units=SI">http://webbook.nist.gov/cgi/cbook.cgi?ID=C4316421&amp;Units=SI</a> |
| <b>McGowan Method:</b>                       | <a href="http://link.springer.com/article/10.1007/BF02311772">http://link.springer.com/article/10.1007/BF02311772</a>                       |
| <b>Crippen Method:</b>                       | <a href="http://pubs.acs.org/doi/abs/10.1021/ci990307l">http://pubs.acs.org/doi/abs/10.1021/ci990307l</a>                                   |

## Legend

|                           |                                                 |
|---------------------------|-------------------------------------------------|
| <b>h<sub>vap</sub>:</b>   | Enthalpy of vaporization at standard conditions |
| <b>h<sub>vapt</sub>:</b>  | Enthalpy of vaporization at a given temperature |
| <b>ie:</b>                | Ionization energy                               |
| <b>log<sub>p</sub>:</b>   | Octanol/Water partition coefficient             |
| <b>mc<sub>vol</sub>:</b>  | McGowan's characteristic volume                 |
| <b>ri<sub>npol</sub>:</b> | Non-polar retention indices                     |
| <b>ri<sub>pol</sub>:</b>  | Polar retention indices                         |
| <b>tb:</b>                | Normal Boiling Point Temperature                |
| <b>tf:</b>                | Normal melting (fusion) point                   |

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