

# 4-NITRO-1-NAPHTHYLAMINE

|                      |                                                                                                                                                                                                                |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Other names:         | 4-Nitro-«alpha»-naphthylamine<br>1-Naphthylamine, 4-nitro-<br>1-Amino-4-nitronaphthalene<br>1,4-Nitronaphthylamine<br>4-Nitro-1-naphthamine<br>4-Nitro-1-naphthylamine<br>4-Nitro-1-naphthalenamine<br>NSC 614 |
| Inchi:               | InChI=1S/C10H8N2O2/c11-9-5-6-10(12(13)14)8-4-2-1-3-7(8)9/h1-6H,11H2                                                                                                                                            |
| InchiKey:            | BVPJPRYNQHAOPQ-UHFFFAOYSA-N                                                                                                                                                                                    |
| Formula:             | C10H8N2O2                                                                                                                                                                                                      |
| SMILES:              | Nc1ccc([N+](=O)[O-])c2ccccc12                                                                                                                                                                                  |
| Mol. weight [g/mol]: | 188.19                                                                                                                                                                                                         |

## Physical Properties

| Property code | Value       | Unit   | Source             |
|---------------|-------------|--------|--------------------|
| hf            | 121.77      | kJ/mol | Cheméo Relay (1.0) |
| hfus          | 28.50       | kJ/mol | Joback Method      |
| hvap          | 86.25       | kJ/mol | Cheméo Relay (1.0) |
| ie            | 7.73 ± 0.02 | eV     | NIST Webbook       |
| log10ws       | -3.41       |        | Cheméo Relay (1.0) |
| logp          | 2.330       |        | Crippen Method     |
| mcvol         | 135.940     | ml/mol | McGowan Method     |
| rinpol        | 368.60      |        | NIST Webbook       |
| rinpol        | 368.60      |        | NIST Webbook       |
| tb            | 629.28      | K      | Cheméo Relay (1.0) |
| tf            | 413.04      | K      | Cheméo Relay (1.0) |

## Temperature Dependent Properties

| Property code | Value  | Unit    | Temperature [K] | Source        |
|---------------|--------|---------|-----------------|---------------|
| cpg           | 346.38 | J/mol×K | 708.19          | Joback Method |
| cpg           | 357.24 | J/mol×K | 753.66          | Joback Method |
| cpg           | 367.13 | J/mol×K | 799.14          | Joback Method |

|     |        |         |        |               |
|-----|--------|---------|--------|---------------|
| cpg | 376.16 | J/mol×K | 844.61 | Joback Method |
| cpg | 384.44 | J/mol×K | 890.09 | Joback Method |
| cpg | 392.09 | J/mol×K | 935.56 | Joback Method |
| cpg | 399.21 | J/mol×K | 981.03 | Joback Method |

## Sources

|                                  |                                                                                                                                           |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| <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>                                 |
| <b>Crippen Method:</b>           | <a href="https://www.cheméo.com/doc/models/crippen_log10ws">https://www.cheméo.com/doc/models/crippen_log10ws</a>                         |
| <b>Cheméo Relay (1.0):</b>       |                                                                                                                                           |
| <b>Cheméo Relay (1.0, beta):</b> |                                                                                                                                           |
| <b>NIST Webbook:</b>             | <a href="http://webbook.nist.gov/cgi/cbook.cgi?ID=C776341&amp;Units=SI">http://webbook.nist.gov/cgi/cbook.cgi?ID=C776341&amp;Units=SI</a> |
| <b>Joback Method:</b>            | <a href="https://en.wikipedia.org/wiki/Joback_method">https://en.wikipedia.org/wiki/Joback_method</a>                                     |

## Legend

|                 |                                                 |
|-----------------|-------------------------------------------------|
| <b>cpg:</b>     | Ideal gas heat capacity                         |
| <b>hf:</b>      | Enthalpy of formation at standard conditions    |
| <b>hfus:</b>    | Enthalpy of fusion at standard conditions       |
| <b>hvap:</b>    | Enthalpy of vaporization at standard conditions |
| <b>ie:</b>      | Ionization energy                               |
| <b>log10ws:</b> | Log10 of Water solubility in mol/l              |
| <b>logp:</b>    | Octanol/Water partition coefficient             |
| <b>mcvol:</b>   | McGowan's characteristic volume                 |
| <b>rinpol:</b>  | Non-polar retention indices                     |
| <b>tb:</b>      | Normal Boiling Point Temperature                |
| <b>tf:</b>      | Normal melting (fusion) point                   |

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