# Hydroxylamine

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|---|---|
| **Other names:** | NH2OH |
| | Oxammonium |
| | Oxyammonia |
| **Inchi:** | InChI=1S/H3NO/c1-2/h2H,1H2 |
| **InchiKey:** | AVXURJPOCDRRFD-UHFFFAOYSA-N |
| **Formula:** | H3NO |
| **SMILES:** | NO |
| **Mol. weight [g/mol]:** | 33.03 |
| **CAS:** | 7803-49-8 |

# Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| gf | -121.25 | kJ/mol | Joback Method |
| hf | -161.77 | kJ/mol | Joback Method |
| hfus | 5.04 | kJ/mol | Joback Method |
| hvap | 42.91 | kJ/mol | Joback Method |
| ie | 10.64 | eV | NIST Webbook |
| ie | 10.59 | eV | NIST Webbook |
| ie | 10.00 | eV | NIST Webbook |
| ie | 9.60 | eV | NIST Webbook |
| log10ws | 1.09 | | Crippen Method |
| logp | -0.666 | | Crippen Method |
| mcvol | 26.710 | ml/mol | McGowan Method |
| pc | 8750.74 | kPa | Joback Method |
| tb | 364.11 | K | Joback Method |
| tc | 544.04 | K | Joback Method |
| tf | 233.84 | K | Joback Method |
| vc | 0.084 | m3/kmol | Joback Method |

# Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|
| cpg | 44.81 | J/mol×K | 364.11 | Joback Method |
| cpg | 46.78 | J/mol×K | 394.10 | Joback Method |

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|---|---|---|---|---|
| cpg | 48.69 | J/mol×K | 424.09 | Joback Method |
| cpg | 50.53 | J/mol×K | 454.07 | Joback Method |
| cpg | 52.30 | J/mol×K | 484.06 | Joback Method |
| cpg | 54.01 | J/mol×K | 514.05 | Joback Method |
| cpg | 55.66 | J/mol×K | 544.04 | Joback Method |
| hsubt | 64.20 | kJ/mol | 270.50 | NIST Webbook |

# Correlations

| Information | Value |
|---|---|
| Property code | pvap |
| Equation | ln(Pvp) = A + B/(T + C) |
| Coeff. A | 2.49567e+01 |
| Coeff. B | -7.26624e+03 |
| Coeff. C | -2.57300e+01 |
| Temperature range (K), min. | 306.25 |
| Temperature range (K), max. | 383.00 |

# Sources

**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=C7803498&Units=SI

**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

# 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

**hsubt:** Enthalpy of sublimation at a given temperature

**hvap:** Enthalpy of vaporization at standard conditions

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|---|---|
| **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 |
| **tb:** | Normal Boiling Point Temperature |
| **tc:** | Critical Temperature |
| **tf:** | Normal melting (fusion) point |
| **vc:** | Critical Volume |