# 2-[2-[2-[2-[2-[2-(2,2,3,3,3-Pentafluoropropanoyl)ox
# 2,2,3,3,3-pentafluoropropanoate

**Other names:** 20,20,21,21,21-Pentafluoro-19-oxo-3,6,9,12,15,18-hexaoxaheneicos-1-yl pentafluoropropanoate, Hexaethylene glycol, bis(pentafluoropropionate)

**Inchi:** InChI=1S/C18H24F10O9/c19-15(20,17(23,24)25)13(29)36-11-9-34-7-5-32-3-1-31-2-4-33

**InchiKey:** FDUYXFCGNDVLKL-UHFFFAOYSA-N

**Formula:** C18H24F10O9

**SMILES:** O=C(OCCOCCOCCOCCOCCOCCOC(=O)C(F)(F)C(F)(F)F)C(F)(F)C(F)(F)F

**Mol. weight [g/mol]:** 574.36

## Physical Properties

| Property code | Value | Unit | Source |
|---|---|---|---|
| gf | -2828.90 | kJ/mol | Joback Method |
| hf | -3561.65 | kJ/mol | Joback Method |
| hfus | 55.03 | kJ/mol | Joback Method |
| hvap | 72.67 | kJ/mol | Joback Method |
| log10ws | -2.47 | | Crippen Method |
| logp | 2.551 | | Crippen Method |
| mcvol | 326.410 | ml/mol | McGowan Method |
| pc | 911.08 | kPa | Joback Method |
| rinpol | 1940.80 | | NIST Webbook |
| tb | 855.70 | K | Joback Method |
| tc | 1055.02 | K | Joback Method |
| tf | 563.67 | K | Joback Method |
| vc | 1.317 | m3/kmol | Joback Method |

## Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---|---|---|---|---|
| cpg | 1078.63 | J/mol×K | 855.70 | Joback Method |
| cpg | 1093.13 | J/mol×K | 888.92 | Joback Method |
| cpg | 1106.29 | J/mol×K | 922.14 | Joback Method |
| cpg | 1118.15 | J/mol×K | 955.36 | Joback Method |
| cpg | 1128.73 | J/mol×K | 988.58 | Joback Method |
| cpg | 1138.07 | J/mol×K | 1021.80 | Joback Method |
| cpg | 1146.21 | J/mol×K | 1055.02 | Joback Method |

# Sources

| | |
|---|---|
| **McGowan Method:** | http://link.springer.com/article/10.1007/BF02311772 |
| **NIST Webbook:** | http://webbook.nist.gov/cgi/cbook.cgi?ID=U351996&Units=SI |
| **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 |

# Legend

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|---|---|
| **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 |
| **log10ws:** | Log10 of Water solubility in mol/l |
| **logp:** | Octanol/Water partition coefficient |
| **mcvol:** | McGowan's characteristic volume |
| **pc:** | Critical Pressure |
| **rinpol:** | Non-polar retention indices |
| **tb:** | Normal Boiling Point Temperature |
| **tc:** | Critical Temperature |
| **tf:** | Normal melting (fusion) point |
| **vc:** | Critical Volume |