

2,4,6,8,10-Pentamethylcyclopentasiloxane

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|-----------------------------|---|
| Other names: | 1,3,5,7,9-Pentamethylcyclopentasiloxane |
| Inchi: | InChI=1S/C5H20O5Si5/c1-11-6-12(2)8-14(4)10-15(5)9-13(3)7-11/h11-15H,1-5H3 |
| InchiKey: | HGPDWMTUQRNTQT-UHFFFAOYSA-N |
| Formula: | C5H20O5Si5 |
| SMILES: | C[SiH]1O[SiH](C)O[SiH](C)O[SiH](C)O[SiH](C)O1 |
| Mol. weight [g/mol]: | 300.64 |
| CAS: | 6166-86-5 |

Physical Properties

| Property code | Value | Unit | Source |
|---------------|--------------|--------|----------------|
| hvap | 47.00 ± 0.90 | kJ/mol | NIST Webbook |
| log10ws | 10.69 | | Crippen Method |
| logp | -0.666 | | Crippen Method |

Temperature Dependent Properties

| Property code | Value | Unit | Temperature [K] | Source |
|---------------|-------|------|-----------------|--|
| pvap | 1.32 | kPa | 330.80 | Measurement and correlation of saturated vapor pressure of 2,4,6,8,10-pentamethylcyclopentasiloxane by means of an inclined ebulliometer |
| pvap | 3.33 | kPa | 348.03 | Measurement and correlation of saturated vapor pressure of 2,4,6,8,10-pentamethylcyclopentasiloxane by means of an inclined ebulliometer |
| pvap | 5.33 | kPa | 357.45 | Measurement and correlation of saturated vapor pressure of 2,4,6,8,10-pentamethylcyclopentasiloxane by means of an inclined ebulliometer |

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|------|-------|-----|--------|--|
| pvap | 7.33 | kPa | 364.75 | Measurement and correlation of saturated vapor pressure of 2,4,6,8,10-pentamethylcyclopentasiloxane by means of an inclined ebulliometer |
| pvap | 9.32 | kPa | 370.73 | Measurement and correlation of saturated vapor pressure of 2,4,6,8,10-pentamethylcyclopentasiloxane by means of an inclined ebulliometer |
| pvap | 11.32 | kPa | 375.49 | Measurement and correlation of saturated vapor pressure of 2,4,6,8,10-pentamethylcyclopentasiloxane by means of an inclined ebulliometer |
| pvap | 13.32 | kPa | 378.23 | Measurement and correlation of saturated vapor pressure of 2,4,6,8,10-pentamethylcyclopentasiloxane by means of an inclined ebulliometer |
| pvap | 15.32 | kPa | 381.78 | Measurement and correlation of saturated vapor pressure of 2,4,6,8,10-pentamethylcyclopentasiloxane by means of an inclined ebulliometer |
| pvap | 17.32 | kPa | 385.02 | Measurement and correlation of saturated vapor pressure of 2,4,6,8,10-pentamethylcyclopentasiloxane by means of an inclined ebulliometer |
| pvap | 19.32 | kPa | 387.96 | Measurement and correlation of saturated vapor pressure of 2,4,6,8,10-pentamethylcyclopentasiloxane by means of an inclined ebulliometer |

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|------|-------|-----|--------|--|
| pvap | 21.32 | kPa | 390.75 | Measurement and correlation of saturated vapor pressure of 2,4,6,8,10-pentamethylcyclopentasiloxane by means of an inclined ebulliometer |
| pvap | 23.32 | kPa | 393.18 | Measurement and correlation of saturated vapor pressure of 2,4,6,8,10-pentamethylcyclopentasiloxane by means of an inclined ebulliometer |
| pvap | 25.32 | kPa | 395.46 | Measurement and correlation of saturated vapor pressure of 2,4,6,8,10-pentamethylcyclopentasiloxane by means of an inclined ebulliometer |
| pvap | 27.32 | kPa | 397.89 | Measurement and correlation of saturated vapor pressure of 2,4,6,8,10-pentamethylcyclopentasiloxane by means of an inclined ebulliometer |
| pvap | 29.32 | kPa | 399.92 | Measurement and correlation of saturated vapor pressure of 2,4,6,8,10-pentamethylcyclopentasiloxane by means of an inclined ebulliometer |
| pvap | 31.32 | kPa | 401.90 | Measurement and correlation of saturated vapor pressure of 2,4,6,8,10-pentamethylcyclopentasiloxane by means of an inclined ebulliometer |
| pvap | 33.33 | kPa | 403.77 | Measurement and correlation of saturated vapor pressure of 2,4,6,8,10-pentamethylcyclopentasiloxane by means of an inclined ebulliometer |

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|------|-------|-----|--------|--|
| pvap | 35.33 | kPa | 405.70 | Measurement and correlation of saturated vapor pressure of 2,4,6,8,10-pentamethylcyclopentasiloxane by means of an inclined ebulliometer |
| pvap | 37.33 | kPa | 407.22 | Measurement and correlation of saturated vapor pressure of 2,4,6,8,10-pentamethylcyclopentasiloxane by means of an inclined ebulliometer |
| pvap | 39.33 | kPa | 408.94 | Measurement and correlation of saturated vapor pressure of 2,4,6,8,10-pentamethylcyclopentasiloxane by means of an inclined ebulliometer |
| pvap | 41.33 | kPa | 410.46 | Measurement and correlation of saturated vapor pressure of 2,4,6,8,10-pentamethylcyclopentasiloxane by means of an inclined ebulliometer |
| pvap | 43.33 | kPa | 411.98 | Measurement and correlation of saturated vapor pressure of 2,4,6,8,10-pentamethylcyclopentasiloxane by means of an inclined ebulliometer |
| pvap | 45.33 | kPa | 413.40 | Measurement and correlation of saturated vapor pressure of 2,4,6,8,10-pentamethylcyclopentasiloxane by means of an inclined ebulliometer |
| pvap | 47.33 | kPa | 414.87 | Measurement and correlation of saturated vapor pressure of 2,4,6,8,10-pentamethylcyclopentasiloxane by means of an inclined ebulliometer |

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|------|-------|-----|--------|--|
| pvap | 49.33 | kPa | 416.19 | Measurement and correlation of saturated vapor pressure of 2,4,6,8,10-pentamethylcyclopentasiloxane by means of an inclined ebulliometer |
| pvap | 51.33 | kPa | 417.55 | Measurement and correlation of saturated vapor pressure of 2,4,6,8,10-pentamethylcyclopentasiloxane by means of an inclined ebulliometer |
| pvap | 61.33 | kPa | 423.53 | Measurement and correlation of saturated vapor pressure of 2,4,6,8,10-pentamethylcyclopentasiloxane by means of an inclined ebulliometer |
| pvap | 71.33 | kPa | 429.06 | Measurement and correlation of saturated vapor pressure of 2,4,6,8,10-pentamethylcyclopentasiloxane by means of an inclined ebulliometer |
| pvap | 81.33 | kPa | 433.77 | Measurement and correlation of saturated vapor pressure of 2,4,6,8,10-pentamethylcyclopentasiloxane by means of an inclined ebulliometer |
| pvap | 91.33 | kPa | 437.93 | Measurement and correlation of saturated vapor pressure of 2,4,6,8,10-pentamethylcyclopentasiloxane by means of an inclined ebulliometer |

Sources

Crippen Method: <http://pubs.acs.org/doi/abs/10.1021/ci9903071>

Crippen Method: https://www.chemeo.com/doc/models/crippen_log10ws

Measurement and correlation of saturated vapor pressure of 2,4,6,8,10-pentamethylcyclopentasiloxane by means of an inclined ebulliometer: <https://www.doi.org/10.1016/j.tca.2008.11.005>

NIST Webbook: <http://webbook.nist.gov/cgi/cbook.cgi?ID=C6166865&Units=SI>

Legend

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|---------------------------------------|---|
| h_{vap}: | Enthalpy of vaporization at standard conditions |
| log₁₀w_s: | Log ₁₀ of Water solubility in mol/l |
| log_p: | Octanol/Water partition coefficient |
| p_{vap}: | Vapor pressure |

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