

# 1,3-Cyclopentadiene, 1,2,3,4-tetramethyl-5-methylene-

|                      |  |
|----------------------|--|
| Other names:         | 1,2,3,4-Tetramethylfulvene                         |
| Inchi:               | InChI=1S/C10H14/c1-6-7(2)9(4)10(5)8(6)3/h1H2,2-5H3 |
| InchiKey:            | RYLMKTLFCIGRQD-UHFFFAOYSA-N                        |
| Formula:             | C10H14   |
| SMILES:              | C=C1C(C)=C(C)C(C)=C1C                              |
| Mol. weight [g/mol]: | 134.22   |
| CAS:                 | 76089-59-3   |

## Physical Properties

| Property code | Value   | Unit                 | Source         |
|---------------|---------|----------------------|----------------|
| gf            | 152.06  | kJ/mol               | Joback Method  |
| hf            | 83.30   | kJ/mol               | NIST Webbook   |
| hfus          | 14.25   | kJ/mol               | Joback Method  |
| hvap          | 41.81   | kJ/mol               | Joback Method  |
| log10ws       | -3.46   |                      | Crippen Method |
| logp          | 3.229   |                      | Crippen Method |
| mcvol         | 128.000 | ml/mol               | McGowan Method |
| pc            | 2673.54 | kPa                  | Joback Method  |
| tb            | 465.55  | K                    | Joback Method  |
| tc            | 666.07  | K                    | Joback Method  |
| tf            | 282.88  | K                    | Joback Method  |
| vc            | 0.493   | m <sup>3</sup> /kmol | Joback Method  |

## Temperature Dependent Properties

| Property code | Value     | Unit    | Temperature [K] | Source        |
|---------------|-----------|---------|-----------------|---------------|
| cpg           | 259.37    | J/mol×K | 465.55          | Joback Method |
| cpg           | 317.31    | J/mol×K | 632.65          | Joback Method |
| cpg           | 306.72    | J/mol×K | 599.23          | Joback Method |
| cpg           | 295.64    | J/mol×K | 565.81          | Joback Method |
| cpg           | 284.07    | J/mol×K | 532.39          | Joback Method |
| cpg           | 271.98    | J/mol×K | 498.97          | Joback Method |
| cpg           | 327.43    | J/mol×K | 666.07          | Joback Method |
| dvisc         | 0.0002469 | Paxs    | 465.55          | Joback Method |

|       |           |      |        |               |
|-------|-----------|------|--------|---------------|
| dvisc | 0.0002810 | Paxs | 435.11 | Joback Method |
| dvisc | 0.0003261 | Paxs | 404.66 | Joback Method |
| dvisc | 0.0003878 | Paxs | 374.22 | Joback Method |
| dvisc | 0.0004756 | Paxs | 343.77 | Joback Method |
| dvisc | 0.0006067 | Paxs | 313.32 | Joback Method |
| dvisc | 0.0008157 | Paxs | 282.88 | Joback Method |

## Sources

|                        |   |
|------------------------|---|
| <b>Crippen Method:</b> | <a href="http://pubs.acs.org/doi/abs/10.1021/ci9903071">http://pubs.acs.org/doi/abs/10.1021/ci9903071</a>                                     |
| <b>Crippen Method:</b> | <a href="https://www.chemeo.com/doc/models/crippen_log10ws">https://www.chemeo.com/doc/models/crippen_log10ws</a>                             |
| <b>Joback Method:</b>  | <a href="https://en.wikipedia.org/wiki/Joback_method">https://en.wikipedia.org/wiki/Joback_method</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>NIST Webbook:</b>   | <a href="http://webbook.nist.gov/cgi/cbook.cgi?ID=C76089593&amp;Units=SI">http://webbook.nist.gov/cgi/cbook.cgi?ID=C76089593&amp;Units=SI</a> |

## Legend

|                 |   |
|-----------------|---|
| <b>cpg:</b>     | Ideal gas heat capacity                         |
| <b>dvisc:</b>   | Dynamic viscosity                               |
| <b>gf:</b>      | Standard Gibbs free energy of formation         |
| <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>log10ws:</b> | Log10 of Water solubility in mol/l              |
| <b>logp:</b>    | Octanol/Water partition coefficient             |
| <b>mcvol:</b>   | McGowan's characteristic volume                 |
| <b>pc:</b>      | Critical Pressure                               |
| <b>tb:</b>      | Normal Boiling Point Temperature                |
| <b>tc:</b>      | Critical Temperature                            |
| <b>tf:</b>      | Normal melting (fusion) point                   |
| <b>vc:</b>      | Critical Volume                                 |

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