

# 3,4-DIHYDROXY-5-METHOXYBENZALDEHYDE

|                      |                                                                                                                                  |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------|
| Other names:         | 5-Hydroxyvanillin<br>5-Methoxyprotocatechualdehyde<br>Benzaldehyde, 3,4-dihydroxy-5-methoxy-<br>Protocatechualdehyde, 5-methoxy- |
| Inchi:               | InChI=1S/C8H8O4/c1-12-7-3-5(4-9)2-6(10)8(7)11/h2-4,10-11H,1H3                                                                    |
| InchiKey:            | RRKMWVISRMWBAL-UHFFFAOYSA-N                                                                                                      |
| Formula:             | C8H8O4                                                                                                                           |
| SMILES:              | COc1cc(C=O)cc(O)c1O                                                                                                              |
| Mol. weight [g/mol]: | 168.15                                                                                                                           |

## Physical Properties

| Property code | Value   | Unit   | Source             |
|---------------|---------|--------|--------------------|
| hfus          | 25.17   | kJ/mol | Joback Method      |
| hvap          | 104.24  | kJ/mol | Cheméo Relay (1.0) |
| log10ws       | -1.04   |        | Cheméo Relay (1.0) |
| logp          | 0.919   |        | Crippen Method     |
| mcvol         | 119.000 | ml/mol | McGowan Method     |
| tb            | 569.85  | K      | Cheméo Relay (1.0) |
| tf            | 404.69  | K      | Cheméo Relay (1.0) |

## Temperature Dependent Properties

| Property code | Value     | Unit    | Temperature [K] | Source        |
|---------------|-----------|---------|-----------------|---------------|
| cpg           | 299.41    | J/mol×K | 646.42          | Joback Method |
| cpg           | 307.75    | J/mol×K | 685.97          | Joback Method |
| cpg           | 315.58    | J/mol×K | 725.52          | Joback Method |
| cpg           | 323.00    | J/mol×K | 765.07          | Joback Method |
| cpg           | 330.12    | J/mol×K | 804.61          | Joback Method |
| cpg           | 337.05    | J/mol×K | 844.16          | Joback Method |
| cpg           | 343.90    | J/mol×K | 883.71          | Joback Method |
| dvisc         | 0.0000631 | Pa×s    | 506.53          | Joback Method |
| dvisc         | 0.0000362 | Pa×s    | 529.85          | Joback Method |
| dvisc         | 0.0000218 | Pa×s    | 553.16          | Joback Method |
| dvisc         | 0.0000137 | Pa×s    | 576.48          | Joback Method |

|       |           |      |        |               |
|-------|-----------|------|--------|---------------|
| dvisc | 0.0000089 | Pa×s | 599.79 | Joback Method |
| dvisc | 0.0000060 | Pa×s | 623.11 | Joback Method |
| dvisc | 0.0000041 | Pa×s | 646.42 | Joback Method |

## Sources

|                                  |                                                                                                                                             |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| <b>NIST Webbook:</b>             | <a href="http://webbook.nist.gov/cgi/cbook.cgi?ID=C3934870&amp;Units=SI">http://webbook.nist.gov/cgi/cbook.cgi?ID=C3934870&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>                                       |
| <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.chemeo.com/doc/models/crippen_log10ws">https://www.chemeo.com/doc/models/crippen_log10ws</a>                           |
| <b>Cheméo Relay (1.0):</b>       |                                                                                                                                             |
| <b>Cheméo Relay (1.0, beta):</b> |                                                                                                                                             |

## Legend

|                 |                                                 |
|-----------------|-------------------------------------------------|
| <b>cpg:</b>     | Ideal gas heat capacity                         |
| <b>dvisc:</b>   | Dynamic viscosity                               |
| <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>tb:</b>      | Normal Boiling Point Temperature                |
| <b>tf:</b>      | Normal melting (fusion) point                   |

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