Ethylbenzene

**Other names:** Aethylbenzol; Benzene, ethyl-; EB; Ethylbenzeen; Ethylbenzol; Etilbenzene; Etylobenzen; NCI-C56393; NSC 406903; Phenylethane; UN 1175; «alpha»-Methyltoluene.

**InChI:** InChI=1S/C8H10/c1-2-8-6-4-3-5-7-8/h3-7H,2H2,1H3

**InChI Key:** YNQLUTRBYVCPMQ-UHFFFAOYSA-N

**Formula:** C8H10

**SMILES:** CCc1cccc1

**Molecular Weight:** 106.17

**CAS:** 100-41-4

### Physical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Unit</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAff</td>
<td>788.00</td>
<td>kJ/mol</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>PAff</td>
<td>789.90</td>
<td>kJ/mol</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>BasG</td>
<td>760.30</td>
<td>kJ/mol</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>BasG</td>
<td>760.20</td>
<td>kJ/mol</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>( \Delta_{c} H^{\circ} )_{\text{liquid}}</td>
<td>-4562.40 ± 1.00</td>
<td>kJ/mol</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>( \Delta_{c} H^{\circ} )_{\text{liquid}}</td>
<td>-4564.87 ± 0.71</td>
<td>kJ/mol</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>( \Delta_{c} H^{\circ} )_{\text{liquid}}</td>
<td>-4556.40</td>
<td>kJ/mol</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>( \Delta_{c} H^{\circ} )_{\text{liquid}}</td>
<td>-4557.60</td>
<td>kJ/mol</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>( \Delta_{c} H^{\circ} )_{\text{liquid}}</td>
<td>-4565.90</td>
<td>kJ/mol</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>( \Delta_{c} H^{\circ} )_{\text{liquid}}</td>
<td>-4584.00</td>
<td>kJ/mol</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>( \Delta_{f} G^{\circ} )</td>
<td>128.89</td>
<td>kJ/mol</td>
<td>Joback Method</td>
</tr>
<tr>
<td>( \Delta_{f} H^{\circ} )_{\text{gas}}</td>
<td>29.80 ± 0.84</td>
<td>kJ/mol</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>( \Delta_{f} H^{\circ} )_{\text{gas}}</td>
<td>49.00 ± 4.00</td>
<td>kJ/mol</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>( \Delta_{f} H^{\circ} )_{\text{gas}}</td>
<td>69.30</td>
<td>kJ/mol</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>( \Delta_{f} H^{\circ} )_{\text{liquid}}</td>
<td>-12.50 ± 0.84</td>
<td>kJ/mol</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>( \Delta_{f} H^{\circ} )_{\text{liquid}}</td>
<td>6.80 ± 4.00</td>
<td>kJ/mol</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>( \Delta_{f} H^{\circ} )_{\text{liquid}}</td>
<td>27.00</td>
<td>kJ/mol</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>Property</td>
<td>Value</td>
<td>Unit</td>
<td>Source</td>
</tr>
<tr>
<td>----------------</td>
<td>-------------</td>
<td>------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>$\Delta_f H^\circ$</td>
<td>10.52</td>
<td>kJ/mol</td>
<td>Joback Method</td>
</tr>
<tr>
<td>$\Delta_vap H^\circ$</td>
<td>42.26</td>
<td>kJ/mol</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$\Delta_vap H^\circ$</td>
<td>42.40 ± 0.10</td>
<td>kJ/mol</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$\Delta_vap H^\circ$</td>
<td>42.30</td>
<td>kJ/mol</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$\Delta_vap H^\circ$</td>
<td>42.20 ± 0.10</td>
<td>kJ/mol</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$\Delta_vap H^\circ$</td>
<td>42.24</td>
<td>kJ/mol</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$\Delta_vap H^\circ$</td>
<td>42.30</td>
<td>kJ/mol</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$\Delta_vap H^\circ$</td>
<td>36.00 ± 0.20</td>
<td>kJ/mol</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>IE</td>
<td>8.77 ± 0.01</td>
<td>eV</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>IE</td>
<td>8.77</td>
<td>eV</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>IE</td>
<td>8.61</td>
<td>eV</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>IE</td>
<td>8.65 ± 0.10</td>
<td>eV</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>IE</td>
<td>8.76</td>
<td>eV</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>IE</td>
<td>8.77 ± 0.01</td>
<td>eV</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>IE</td>
<td>8.75 ± 0.05</td>
<td>eV</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>IE</td>
<td>8.76 ± 0.01</td>
<td>eV</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>IE</td>
<td>8.77 ± 0.01</td>
<td>eV</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>IE</td>
<td>8.77</td>
<td>eV</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>IE</td>
<td>8.73</td>
<td>eV</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>IE</td>
<td>9.38</td>
<td>eV</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$\log P_{oct/wat}$</td>
<td>2.25</td>
<td></td>
<td>Crippen Method</td>
</tr>
<tr>
<td>$P_c$</td>
<td>3609.00 ± 10.00</td>
<td>kPa</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$P_c$</td>
<td>3608.80 ± 5.00</td>
<td>kPa</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$P_c$</td>
<td>3649.00 ± 6.89</td>
<td>kPa</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$P_c$</td>
<td>3619.00 ± 41.37</td>
<td>kPa</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$P_c$</td>
<td>3609.00 ± 0.10</td>
<td>kPa</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$P_c$</td>
<td>3740.00 ± 7.84</td>
<td>kPa</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$S^\circ_{gas}$</td>
<td>360.60 ± 0.50</td>
<td>J/mol×K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>Property</td>
<td>Value</td>
<td>Unit</td>
<td>Source</td>
</tr>
<tr>
<td>-----------</td>
<td>-----------</td>
<td>------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>$S^\circ_{\text{liquid}}$</td>
<td>255.01</td>
<td>J/mol×K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$S^\circ_{\text{liquid}}$</td>
<td>256.10</td>
<td>J/mol×K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.15 ± 0.20</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.40</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.35 ± 0.13</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.35 ± 0.30</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.35 ± 0.10</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.35 ± 0.10</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.30</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.35 ± 0.30</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.00 ± 0.30</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.33 ± 0.20</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.35</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.35 ± 0.20</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.30 ± 0.20</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.50 ± 0.20</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.35 ± 0.30</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.35 ± 0.30</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.35 ± 0.25</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.35 ± 0.30</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.33 ± 0.30</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.45 ± 0.40</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>Property</td>
<td>Value</td>
<td>Unit</td>
<td>Source</td>
</tr>
<tr>
<td>----------</td>
<td>-------------</td>
<td>------</td>
<td>--------------</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>408.15 ± 2.00</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.33 ± 0.25</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>408.15 ± 1.50</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.00 ± 4.00</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.00 ± 4.00</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.00 ± 4.00</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.20 ± 0.50</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>136.10 ± 0.30</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>136.40 ± 0.40</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>407.00 ± 3.00</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.40 ± 0.50</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.50 ± 5.00</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.33 ± 0.02</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>410.00 ± 2.00</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.15 ± 1.00</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.00 ± 2.00</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.40 ± 0.50</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.35 ± 0.50</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.33 ± 0.10</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>408.70 ± 0.40</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.40 ± 0.15</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.30 ± 0.40</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.30 ± 0.30</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.33 ± 0.01</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.40 ± 0.20</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.45 ± 0.50</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.70 ± 0.30</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>Property</td>
<td>Value</td>
<td>Unit</td>
<td>Source</td>
</tr>
<tr>
<td>----------</td>
<td>-------------</td>
<td>------</td>
<td>--------------</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.34 ± 0.06</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.10 ± 0.30</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.55 ± 0.30</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.30 ± 0.20</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.15 ± 1.00</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.00 ± 4.00</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.65 ± 0.30</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.47 ± 0.10</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.30 ± 0.30</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.00 ± 4.00</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>408.15 ± 1.50</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.15 ± 2.00</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.25 ± 0.70</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.30 ± 0.10</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>408.15 ± 1.50</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.25 ± 0.50</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.15 ± 1.50</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>408.95 ± 1.00</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.20 ± 0.15</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.15 ± 1.00</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.55 ± 0.70</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.30 ± 0.30</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.30 ± 0.50</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.30 ± 0.50</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.25 ± 0.30</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.30 ± 0.25</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>408.65 ± 2.00</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.15 ± 2.00</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>Property</td>
<td>Value</td>
<td>Unit</td>
<td>Source</td>
</tr>
<tr>
<td>----------</td>
<td>-----------</td>
<td>------</td>
<td>-------------------</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.00 ± 2.00</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>136.00 ± 0.50</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.20 ± 0.25</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>408.00 ± 4.00</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>408.70 ± 1.50</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.50 ± 0.30</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.00 ± 2.00</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>407.65 ± 2.00</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.15 ± 2.00</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.30 ± 0.20</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.00 ± 2.00</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>408.80 ± 0.50</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>412.45 ± 0.50</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>407.00 ± 2.00</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{boil}}$</td>
<td>409.10 ± 1.50</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_c$</td>
<td>617.20 ± 0.10</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_c$</td>
<td>617.20 ± 0.10</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_c$</td>
<td>617.10</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_c$</td>
<td>616.80 ± 0.50</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_c$</td>
<td>618.20 ± 0.70</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_c$</td>
<td>616.80 ± 0.50</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_c$</td>
<td>617.07 ± 0.10</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_c$</td>
<td>617.12 ± 0.20</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_c$</td>
<td>617.20 ± 0.40</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_c$</td>
<td>619.60 ± 2.00</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{fus}}$</td>
<td>178.15 ± 0.20</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{fus}}$</td>
<td>178.15 ± 0.20</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$T_{\text{fus}}$</td>
<td>178.15</td>
<td>K</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>Property</td>
<td>Value</td>
<td>Unit</td>
<td>Source</td>
</tr>
<tr>
<td>----------</td>
<td>-------------</td>
<td>--------</td>
<td>-------------------</td>
</tr>
<tr>
<td>(T_{\text{fus}})</td>
<td>178.20 ± 2.00 K</td>
<td>NIST Webbook</td>
<td></td>
</tr>
<tr>
<td>(T_{\text{fus}})</td>
<td>179.50 ± 0.60 K</td>
<td>NIST Webbook</td>
<td></td>
</tr>
<tr>
<td>(T_{\text{fus}})</td>
<td>178.06 ± 0.01 K</td>
<td>NIST Webbook</td>
<td></td>
</tr>
<tr>
<td>(T_{\text{fus}})</td>
<td>178.14 ± 0.15 K</td>
<td>NIST Webbook</td>
<td></td>
</tr>
<tr>
<td>(T_{\text{fus}})</td>
<td>178.17 ± 0.03 K</td>
<td>NIST Webbook</td>
<td></td>
</tr>
<tr>
<td>(T_{\text{fus}})</td>
<td>178.37 ± 0.06 K</td>
<td>NIST Webbook</td>
<td></td>
</tr>
<tr>
<td>(T_{\text{fus}})</td>
<td>171.90 ± 0.50 K</td>
<td>NIST Webbook</td>
<td></td>
</tr>
<tr>
<td>(T_{\text{fus}})</td>
<td>181.15 ± 2.00 K</td>
<td>NIST Webbook</td>
<td></td>
</tr>
<tr>
<td>(T_{\text{fus}})</td>
<td>178.10 ± 0.60 K</td>
<td>NIST Webbook</td>
<td></td>
</tr>
<tr>
<td>(T_{\text{fus}})</td>
<td>177.89 ± 0.15 K</td>
<td>NIST Webbook</td>
<td></td>
</tr>
<tr>
<td>(T_{\text{fus}})</td>
<td>178.80 ± 0.50 K</td>
<td>NIST Webbook</td>
<td></td>
</tr>
<tr>
<td>(T_{\text{fus}})</td>
<td>180.80 ± 1.00 K</td>
<td>NIST Webbook</td>
<td></td>
</tr>
<tr>
<td>(T_{\text{fus}})</td>
<td>179.25 ± 0.40 K</td>
<td>NIST Webbook</td>
<td></td>
</tr>
<tr>
<td>(T_{\text{fus}})</td>
<td>179.00 ± 1.00 K</td>
<td>NIST Webbook</td>
<td></td>
</tr>
<tr>
<td>(T_{\text{triple}})</td>
<td>178.15 ± 0.02 K</td>
<td>NIST Webbook</td>
<td></td>
</tr>
<tr>
<td>(V_c)</td>
<td>0.37 m(^3)/kg-mol</td>
<td>NIST Webbook</td>
<td></td>
</tr>
</tbody>
</table>

**Temperature Dependent Properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Unit</th>
<th>Temperature (K)</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>(C_{p,\text{gas}})</td>
<td>159.24 ± 0.80 J/mol×K</td>
<td>373.15</td>
<td>NIST Webbook</td>
<td></td>
</tr>
<tr>
<td>(C_{p,\text{gas}})</td>
<td>164.25 ± 0.33 J/mol×K</td>
<td>385.65</td>
<td>NIST Webbook</td>
<td></td>
</tr>
<tr>
<td>(C_{p,\text{gas}})</td>
<td>169.25 ± 0.34 J/mol×K</td>
<td>398.15</td>
<td>NIST Webbook</td>
<td></td>
</tr>
<tr>
<td>(C_{p,\text{gas}})</td>
<td>178.96 ± 0.36 J/mol×K</td>
<td>423.15</td>
<td>NIST Webbook</td>
<td></td>
</tr>
<tr>
<td>(C_{p,\text{gas}})</td>
<td>188.28 ± 0.38 J/mol×K</td>
<td>448.15</td>
<td>NIST Webbook</td>
<td></td>
</tr>
<tr>
<td>(C_{p,\text{gas}})</td>
<td>197.35 ± 0.39 J/mol×K</td>
<td>473.15</td>
<td>NIST Webbook</td>
<td></td>
</tr>
<tr>
<td>(C_{p,\text{gas}})</td>
<td>205.94 ± 0.41 J/mol×K</td>
<td>498.15</td>
<td>NIST Webbook</td>
<td></td>
</tr>
<tr>
<td>Property</td>
<td>Value</td>
<td>Unit</td>
<td>Temperature (K)</td>
<td>Source</td>
</tr>
<tr>
<td>----------------</td>
<td>----------------</td>
<td>------------------</td>
<td>-----------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>$C_{p,\text{gas}}$</td>
<td>214.02 ± 0.43</td>
<td>J/mol×K</td>
<td>523.15</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$C_{p,\text{liquid}}$</td>
<td>184.80</td>
<td>J/mol×K</td>
<td>293.31</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$C_{p,\text{liquid}}$</td>
<td>161.00</td>
<td>J/mol×K</td>
<td>295.0</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$C_{p,\text{liquid}}$</td>
<td>181.60</td>
<td>J/mol×K</td>
<td>297.4</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$C_{p,\text{liquid}}$</td>
<td>185.80</td>
<td>J/mol×K</td>
<td>298.0</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$C_{p,\text{liquid}}$</td>
<td>184.50</td>
<td>J/mol×K</td>
<td>298.0</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$C_{p,\text{liquid}}$</td>
<td>185.57</td>
<td>J/mol×K</td>
<td>298.15</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$C_{p,\text{liquid}}$</td>
<td>185.56</td>
<td>J/mol×K</td>
<td>298.15</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$C_{p,\text{liquid}}$</td>
<td>185.78</td>
<td>J/mol×K</td>
<td>298.15</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$C_{p,\text{liquid}}$</td>
<td>186.04</td>
<td>J/mol×K</td>
<td>298.15</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$C_{p,\text{liquid}}$</td>
<td>185.81</td>
<td>J/mol×K</td>
<td>298.15</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$C_{p,\text{liquid}}$</td>
<td>186.60</td>
<td>J/mol×K</td>
<td>298.15</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$C_{p,\text{liquid}}$</td>
<td>183.70</td>
<td>J/mol×K</td>
<td>298.5</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$C_{p,\text{liquid}}$</td>
<td>178.70</td>
<td>J/mol×K</td>
<td>302.7</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$C_{p,\text{liquid}}$</td>
<td>178.70</td>
<td>J/mol×K</td>
<td>302.8</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$C_{p,\text{liquid}}$</td>
<td>181.60</td>
<td>J/mol×K</td>
<td>303.0</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$\eta$</td>
<td>0.00</td>
<td>Pa×s</td>
<td>409.12</td>
<td>Joback Method</td>
</tr>
<tr>
<td>$\Delta_{\text{fus}} H$</td>
<td>9.16</td>
<td>kJ/mol</td>
<td>178.0</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$\Delta_{\text{fus}} H$</td>
<td>9.18</td>
<td>kJ/mol</td>
<td>178.15</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$\Delta_{\text{fus}} H$</td>
<td>9.16</td>
<td>kJ/mol</td>
<td>178.17</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$\Delta_{\text{fus}} H$</td>
<td>9.16</td>
<td>kJ/mol</td>
<td>178.2</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$\Delta_{\text{fus}} H$</td>
<td>9.16</td>
<td>kJ/mol</td>
<td>178.2</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$\Delta_{\text{vap}} H$</td>
<td>42.49</td>
<td>kJ/mol</td>
<td>294.01</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$\Delta_{\text{vap}} H$</td>
<td>40.50 ± 0.10</td>
<td>kJ/mol</td>
<td>328.0</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$\Delta_{\text{vap}} H$</td>
<td>39.50 ± 0.10</td>
<td>kJ/mol</td>
<td>343.0</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$\Delta_{\text{vap}} H$</td>
<td>38.60 ± 0.10</td>
<td>kJ/mol</td>
<td>358.0</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$\Delta_{\text{vap}} H$</td>
<td>41.80</td>
<td>kJ/mol</td>
<td>359.0</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$\Delta_{\text{vap}} H$</td>
<td>40.60</td>
<td>kJ/mol</td>
<td>360.0</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>Property</td>
<td>Value</td>
<td>Unit</td>
<td>Temperature (K)</td>
<td>Source</td>
</tr>
<tr>
<td>----------</td>
<td>-------</td>
<td>------</td>
<td>-----------------</td>
<td>--------</td>
</tr>
<tr>
<td>$\Delta_{vap}^\circ H$</td>
<td>40.00</td>
<td>kJ/mol</td>
<td>370.0</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$\Delta_{vap} H$</td>
<td>35.57</td>
<td>kJ/mol</td>
<td>409.3</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$\Delta_{vap} H$</td>
<td>37.00</td>
<td>kJ/mol</td>
<td>434.0</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$\Delta_{vap} H$</td>
<td>35.80</td>
<td>kJ/mol</td>
<td>505.5</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$\Delta_{vap} H$</td>
<td>35.50</td>
<td>kJ/mol</td>
<td>583.0</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$\Delta_{fus} S$</td>
<td>51.48</td>
<td>J/mol×K</td>
<td>178.0</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$\Delta_{fus} S$</td>
<td>51.54</td>
<td>J/mol×K</td>
<td>178.15</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$\Delta_{fus} S$</td>
<td>51.43</td>
<td>J/mol×K</td>
<td>178.17</td>
<td>NIST Webbook</td>
</tr>
<tr>
<td>$\Delta_{vap} S$</td>
<td>144.50</td>
<td>J/mol×K</td>
<td>294.01</td>
<td>NIST Webbook</td>
</tr>
</tbody>
</table>

**Sources**


NIST Webbook: http://webbook.nist.gov/cgi/inchi/InChI=1S/C8H10/c1-2-8-6-4-3-5-7-8/h3-7H,2H2,1H3

Crippen Method: http://pubs.acs.org/doi/abs/10.1021/ci990307l

**Legend**

PAff: Proton affinity (kJ/mol).

BasG: Gas basicity (kJ/mol).

$\Delta_c H^\circ_{\text{liquid}}$: Standard liquid enthalpy of combustion (kJ/mol).

$C_p,\text{gas}$: Ideal gas heat capacity (J/mol×K).

$C_p,\text{liquid}$: Liquid phase heat capacity (J/mol×K).

$\eta$: Dynamic viscosity (Pa×s).

$\Delta G^\circ$: Standard Gibbs free energy of formation (kJ/mol).

$\Delta H^\circ_{\text{gas}}$: Enthalpy of formation at standard conditions (kJ/mol).

$\Delta H^\circ_{\text{liquid}}$: Liquid phase enthalpy of formation at standard conditions (kJ/mol).

$\Delta_{fus} H^\circ$: Enthalpy of fusion at standard conditions (kJ/mol).

$\Delta_{fus} H$: Enthalpy of fusion at a given temperature (kJ/mol).

$\Delta_{vap} H^\circ$: Enthalpy of vaporization at standard conditions (kJ/mol).

$\Delta_{vap} H$: Enthalpy of vaporization at a given temperature (kJ/mol).

IE: Ionization energy (eV).

$log_{\text{oct/wat}}$ Octanol/Water partition coefficient.

$P_c$: Critical Pressure (kPa).

$\Delta_{fus} S$: Entropy of fusion at a given temperature (J/mol×K).

$S^\circ_{\text{gas}}$: Molar entropy at standard conditions (J/mol×K).
\( S^\circ_{\text{liquid}} \): Liquid phase molar entropy at standard conditions (J/mol\( \times \)K).
\( \Delta_{\text{vap}} S \): Entropy of vaporization at a given temperature (J/mol\( \times \)K).
\( T_{\text{boil}} \): Normal Boiling Point Temperature (K).
\( T_c \): Critical Temperature (K).
\( T_{\text{fus}} \): Normal melting (fusion) point (K).
\( T_{\text{triple}} \): Triple Point Temperature (K).
\( V_c \): Critical Volume (m\(^3\)/kg-mol).

Latest version available from:
https://www.chemeo.com/cid/51-337-1/Ethylbenzene

Generated by Cheméo on Mon, 11 May 2020 21:30:06 +0000.

Cheméo (https://www.chemeo.com) is the biggest free database of chemical and physical data for the process industry.