2.51 Intermediate Heat and Mass Transfer
Fall 2008

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Table 1: Some Physical Constants

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avogadro’s number, $N_A$</td>
<td>$6.0221415 \times 10^{26}$ molecules/kmol</td>
</tr>
<tr>
<td>Boltzmann’s constant, $k_B$</td>
<td>$1.3806505 \times 10^{-23}$ J/K</td>
</tr>
<tr>
<td>Ideal gas constant, $R$</td>
<td>$8314.472 \times 15$ J/kmol·K</td>
</tr>
<tr>
<td>Speed of light in vacuum, $c$</td>
<td>$299,792,458$ m/s</td>
</tr>
<tr>
<td>Standard acceleration of gravity, $g$</td>
<td>$9.80665$ m/s</td>
</tr>
<tr>
<td>Stefan-Boltzmann constant, $\sigma$</td>
<td>$5.670400 \times 10^{-8}$ W/m²K⁴</td>
</tr>
</tbody>
</table>

2002 CODATA with (1σ) uncertainty