Sodium Chlorite

CT Value Ranges for Inactivation of Various Microorganisms

Table 1 is a summary of CT value ranges for the inactivation of various microorganisms by different disinfectants. This table is a compilation of reported CT values taken from various published sources.

CT is defined as disinfectant contact time, the mathematical product of C x T, where C is the residual disinfectant concentration measured in mg/L, and T is the corresponding contact time measured in minutes.

All CT values are for 99% inactivation at 5°C except for *Giardia lamblia* and *Cryptosporidium parvum*.

<table>
<thead>
<tr>
<th>Microorganism</th>
<th>Free Chlorine pH 6 to 7</th>
<th>Preformed Chloramine pH 8 to 9</th>
<th>Chlorine Dioxide pH 6 to 7</th>
<th>Ozone pH 6 to 7</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Escherichia Coli</em></td>
<td>0.034 - 0.05</td>
<td>95 - 180</td>
<td>0.4 - 0.75</td>
<td>0.02</td>
</tr>
<tr>
<td>Polio 1</td>
<td>1.1 - 2.5</td>
<td>768 - 3740</td>
<td>0.2 - 6.7</td>
<td>0.1 - 0.2</td>
</tr>
<tr>
<td>Rotavirus</td>
<td>0.01 - 0.05</td>
<td>3806 - 6476</td>
<td>0.2 - 2.1</td>
<td>0.006 - 0.06</td>
</tr>
<tr>
<td><em>Giardia lamblia</em> cysts</td>
<td>47 &gt; 150</td>
<td>2200(a)</td>
<td>26(a)</td>
<td>0.5 - 0.6</td>
</tr>
<tr>
<td><em>Giardia muris</em> cysts</td>
<td>30 - 630</td>
<td>1400.00</td>
<td>7.2 - 18.5</td>
<td>1.8 - 2.0</td>
</tr>
<tr>
<td><em>Cryptosporidium parvum</em></td>
<td>7200(b)</td>
<td>7200(c)</td>
<td>78(c)</td>
<td>5 - 10(b)</td>
</tr>
</tbody>
</table>

(a) Values for 99% inactivation at pH 6-9.
(b) 99% inactivation at pH 7 and 25°C
(c) 90% inactivation at pH 7 and 25°C

Further Information

More detailed information on sodium chlorite is available on request through the OxyChem Technical Service Department. Call or write to:

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REFERENCES


3. Trihalomethane in Drinking Water, Sampling; Analysis, Monitoring and Compliance, U.S. Environmental Protection Agency, EPA 570/9-83-002, August 1983.


