

CRYPTOSPOIDIUM

The following **Required Log Removal/Inactivation** achieves $\leq 2.999 \times 10^{-5}$ oocysts/L in potable water for the **Reported Max. [#] oocysts/ L in Source Water**. Same protection as achieved by Bin 4, LT2 SWTP.

If Max. [#] oocysts /L in Source Water Is:	Allowable # oocysts/ L of potable water	Required # oocysts to be Removed	% # oocysts Removed	Required Log Removal/ Inactivation	oocysts/1,000 gals potable water	oocysts/MG potable water
2.999	0.00002999	2.99897	99.999	5.00	0.1135	113.5
9.484		9.48397	99.99968	5.50		
29.990		29.98997	99.99990	6.00		
94.840		94.83997	99.999968	6.50		
299.900		299.89997	99.999990	7.00		
948.400		948.39997	99.9999968	7.50		
2,999.0		2,998.99997	99.9999990	8.00		
9,484.0		9,483.99997	99.99999968	8.50		
29,990		29,989.99997	99.99999990	9.00		
94,840		94,839.99997	99.999999968	9.50		
299,900		299,899.99997	99.999999990	10.00		
948,400		948,399.99997	99.9999999968	10.50		
2,999,000		2,998,999.99997	99.9999999990	11.00		
9,484,000		9,483,999.99997	99.99999999968	11.50		
29,990,000		29,989,999.99997	99.99999999990	12.00		

To find DPR/IPR site-specific treatment requirement, use maximum (not average) reported concentration.

Date Collected: **9/18/2012**

Enter Max. oocysts/L
Concentration Reported

Source-Specific Minimum Log
Removal/Inactivation Required

5.038	0.00002999	5.03797001	99.9994047241	5.2253
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GIARDIA

The following **Required Log Removal/Inactivation** achieves ≤ 0.000007 cysts/L (7.0×10^{-6}) in potable water for the reported **Max. [#] cysts/L in Source Water**. From EPA for SWTP, no more than one infection per 10,000 people/year drinking 2-L/day.

If Max. [#] cysts/L in Source Water Is:	Allowable # cysts/L of potable water	Required # cysts to be Removed	% # cysts Removed	Required Log Removal/ Inactivation	# cysts/1,000 gals potable water	# cysts/MG potable water
0.7000	0.000007	0.69999300	99.999	5.00	0.02650	26.498
2.2135		2.21349300	99.99968	5.50		
7.0000		6.99999300	99.99990	6.00		
22.135		22.13499300	99.999968	6.50		
70.000		69.99999300	99.999990	7.00		
221.35		221.34999300	99.9999968	7.50		
700.00		699.99999300	99.9999990	8.00		
2,213.5		2,213.49999300	99.99999968	8.50		
7,000.0		6,999.99999300	99.99999990	9.00		
22,135		22,134.99999300	99.999999968	9.50		
70,000		69,999.99999300	99.999999990	10.00		
221,350		221,349.99999300	99.9999999968	10.50		
700,000		699,999.99999300	99.9999999990	11.00		
2,213,500		2,213,499.99999300	99.99999999968	11.50		
7,000,000		6,999,999.99999300	99.99999999990	12.00		

To find DPR/IPR source-specific treatment requirement, use max. (not average) reported concentration.

Date Collected: **5/21/2012**

Enter Max. cysts/L
Concentration Reported

Source-Specific Minimum Log
Removal/Inactivation Required

34.815	0.000007	34.81499300	99.9999798937	6.6967
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Viruses

The following **Required Log Removal/Inactivation** achieves ≤ 0.000000222 cysts/L (2.22×10^{-7}) in potable water for the reported **Max. [#] MPN/L in a Source Water**. From EPA for SWTP, no more than one infection per 10,000 people/year drinking 2-L/day.

If Max. [#] MPN/L in Source Water Is:	Allowable # cysts/L of potable water	Required # cysts to be Removed	% # cysts Removed	Minimum Required Log Removal/Inactivation	# cysts/1,000 gals potable water	# cysts/MG potable water
0.0222	0.000000222	0.02219978	99.999	5.00	0.00084	0.840
0.0702		0.070202278	99.99968	5.50		
0.2220		0.221999778	99.99990	6.00		
0.7020		0.702024778	99.999968	6.50		
2.2200		2.219999778	99.999990	7.00		
7.0203		7.020249778	99.9999968	7.50		
22.2000		22.199999778	99.9999990	8.00		
70.2025		70.202499778	99.99999968	8.50		
222.000		221.999999778	99.99999990	9.00		
702.025		702.024999778	99.999999968	9.50		
2,220.00		2,219.999999778	99.999999990	10.00		
7,020.25		7,020.249999778	99.9999999968	10.50		
22,200.0		22,199.999999778	99.9999999990	11.00		
70,202.5		70,202.499999778	99.99999999968	11.50		
222,000		221,999.999999778	99.99999999990	12.00		

To find DPR/IPR source -specific treatment requirement, use max. (not average) reported concentration.

Date Collected: **1/29/2013**

Enter Max. MPN/L
Concentration Reported

Source-Specific Minimum Log
Removal/Inactivation Required

512.400	0.000000222	512.39999978	99.9999999567	9.3633
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Total required removal and inactivations for proposed Wichita Falls proposed DPR WTP facility:

Crypto:	≥ 5.5	(minimum for DPR)
Giardia:	≥ 6.7	34.815 cysts/L detected (with at least 0.5 (1.0) log through inactivation)
Virus:	≥ 10.5	(512.4 detected MPNs + 1.0 b/c of no free Cl ₂ , ClO ₂ before chloramines)