# NEBRASKA
## Good Life. Great Resources.
### DEPT. OF ENVIRONMENT AND ENERGY

## Title 178 NAC 2 (Sanitizer ONLY Submittal)

## Existing Swimming Pool Data and Check Sheet
Please fill out a separate check sheet for each pool

| Name of Pool: | | | | |
|---|---|---|---|---|
| Address of Pool: | Street: | | | |
| | City: | State: NE | | Zip: |
| Telephone: | | Email: | | |

| Owner of Pool: | | | | |
|---|---|---|---|---|
| Address of Owner: | Street: | | | |
| | City: | State: | | Zip: |
| Telephone: | | Email: | | |

| Name of Engineering Firm/Architectural Firm/Submitting Entity: | | | | |
|---|---|---|---|---|
| Address: | Street: | | | |
| | City: | State: | Zip: | |
| Telephone: | | Email: | | |
| Engineer's/Architect's Seal and Signature, if applicable: | | | | |
| Estimated Pool Cost: | | $ | | |
| Initial Review Fee [$100.00 + 0.5% of Estimated Pool Cost] | | $ | | |

## Pool Type
| ☐ Indoor | ☐ Outdoor |
|---|---|

### Type of Pool (Check One)
| ☐ Standard Swimming Pool | ☐ Spa | ☐ Zero Depth Pool | ☐ Wave Pool |
|---|---|---|---|
| ☐ Spray Park | ☐ Wading Pool | ☐ Diving Pool | ☐ Other |

## Pump/Pool Data
| Pump HP | Pool Volume (gal.) | Recirculation rate in gallons per minute (gpm) | Turnover Time (hrs.) |
|---|---|---|---|
| | | | |

## Disinfection and Chemical Application Equipment 005.13(B)

| Yes | No | N/A | |
|---|---|---|---|
| ☐ | ☐ | ☐ | Three sets of installation plans and manufacturer's specifications submitted? |
| ☐ | ☐ | ☐ | Is the disinfection system NSF approved? |

| Manufacturer: | Model #: |
|---|---|

| Chemical Used: | Type of Disinfection Equipment: |
|---|---|
| ☐ Chlorine  ☐ lbs/day or ☐ gals/day | ☐ Liquid NaOCl |
| ☐ Bromine  ☐ lbs/day | ☐ Erosion Feeder |
| ☐ Other (specify) | ☐ % Chlorine/Bromine |

| Yes | No | N/A | |
|---|---|---|---|
| ☐ | ☐ | ☐ | Does feeder have anti-siphon safeguards? |
| ☐ | ☐ | ☐ | Can the feeder supply disinfectant at a rate of 0.1 pound per day chlorine (or equivalent) per gallon per minute of recirculation flow?  This equates to 8 parts per million. |
| **Fill with calculated rate** | | | Maximum concentration of disinfectant in the recirculation stream = _____ mg/L. (See calculation examples below.) |

| Disinfection and Chemical Application Equipment 005.13(B) (continued) | | | |
| --- | --- | --- | --- |
| **Yes** | **No** | **N/A** | |
| ☐ | ☐ | ☐ | If hypochlorinators are used, will the feed be capable of being continuous under all conditions of pressure in the recirculation system? |
| ☐ | ☐ | ☐ | Will a test kit be provided that will be able to test applicable parameters indicated in 178 NAC 2 005.13(B)(v)? |

## Calculation Equation and Examples

### Example 1:  Erosion Feeder

$$D = C \times \frac{1,000,000}{8.34 \times Q \times 60} \quad \text{or} \quad D = C \times \frac{1998.4}{Q}$$

D = Disinfectant concentration at Q in milligrams per liter (mg/L)
C = Certified NSF 50 or equal available disinfectant in (lbs/hr)
Q = Recirculation rate in gallons per minute (gpm)

Example 1: C = 0.45 lbs/hr, Q = 120 gpm

$$D = 0.45 \times \frac{1998.4}{120} = 7.49 \; mg/L$$

D equals 7.49 mg/l, less than the required capability to supply 8 mg/L in the recirculation flow.  The unit is <u>not</u> sized correctly per Title 178 NAC 2-005.13(B)(ii) CAPACITY.

### Example 2:  Liquid Chlorine

$$D = C \times P \times \frac{1,000,000}{Q \times 60 \times 100} \quad \text{or} \quad D = C \times P \times \frac{166.67}{Q}$$

D = Disinfectant concentration at Q on milligrams per liter (mg/L)
C = Certified NSF 50 or equal available disinfectant in (gal/hr)
P = Percent disinfectant (in percent)
Q = Recirculation rate in gallons per minute (gpm)

Example 2:  C = 0.5 gal/hr, P = 12.5% liquid chlorine, Q = 85 gpm,

$$D = 0.5 \times 12.5 \times \frac{166.67}{85} = 12.25 \; mg/L$$

**D equals 12.25 mg/l, greater than the required capability to supply 8 mg/L in the recirculation flow.  This unit is sized <u>correctly</u> per Title 178 NAC 2-005.13(B)(ii) CAPACITY.