



# Certification Boulevard

## *Test Your Knowledge of Disinfection*

1. What happens to the chlorine residual when the nitrite ( $\text{NO}_2$ ) content in the effluent increases?
  - A. The residual stays the same ... nitrite has nothing to do with chlorine demand
  - B. The residual goes down
  - C. The residual goes up
  - D. The residual doubles
  
2. If your plant has a flow rate of 2.75 mgd, a chlorine demand in pre-treatment of 2.5 mg/L, pre-filtration of 1.5 mg/L and final effluent of 6.5 mg/L, and you maintain a chlorine residual of 2.5 mg/L, how many lbs/day of chlorine will be used?
  - A. 241 lbs/day
  - B. 1,398 lbs/day
  - C. 298 lbs/day
  - D. 57 lbs/day
  
3. What chemical is used to identify a chlorine leak?
  - A. Ammonia
  - B. Sulfur Dioxide
  - C. Sodium Hydroxide
  - D. Sulfuric Acid
  
4. One volume of chlorine liquid will expand 92.84 times when it evaporates to a gas?  
*True or False*
  
5. Which effluent quality condition may cause the most problems with efficiency of a UV disinfection process?
  - A. High  $\text{NH}_3$
  - B. High  $\text{NO}_3$
  - C. High  $\text{NO}_2$
  - D. High TSS
  
6. Calculate the chlorine demand, given the following data:
  - Total daily pounds used = 240 lbs/day
  - The plant flow = 2.75 mgd
  - The effluent chlorine residual = 2.5 mg/L

- A. 158 lbs/day
- B. 240 lbs/day
- C. 297 lbs/day
- D. 182 lbs/day

7. What action should never be performed when working with liquid chlorine?

- A. Wear a respirator
- B. Trap liquid between two closed valves
- C. Feed liquid to an evaporator
- D. Use ammonia to test for leaks

8. What does this formula best represent?

$$\frac{\text{Tank Volume, ft}^3}{\text{Flow, mgd} \times 92.84 \text{ cfm/mgd}}$$

- A. Chlorine residual
- B. Contact chamber detention time, minutes
- C. Contact chamber detention time, hours
- D. Tank volume in gallons

9. Leaking chlorine liquid will tend to collect near the floor of a closed room.

*True or False*

10. What type of chlorine residual is created when ammonia is present and breakpoint has not been accomplished?

- A. Combined
- B. Free residual
- C. Tri-chloride
- D. Dioxide

*Please forward your comments and sample questions for publication to:*

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