



# Certification Boulevard

## *Test Your Knowledge of Disinfection – answer key*

1. What happens to the chlorine residual when the organic content in the effluent goes up?
  - A. The residual stays the same
  - B. The residual goes down**
  - C. The residual goes up
  - D. The residual doubles
2. What type of chlorine residual is created after breakpoint is achieved?
  - A. Combined
  - B. Free residual**
  - C. Mono-chloride
  - D. Chloramine
3. Which chemical is typically used for dechlorination of final effluent?
  - A. Sodium hypochlorite
  - B. Bleach
  - C. Sulfur dioxide**
  - D. Ferric chloride
4. If your plant has a flow rate of 0.165 mgd, a chlorine demand of 9.3 mg/L, and you maintain a chlorine residual of 2.5 mg/L, how many lbs/day of chlorine will be used?
  - A. 12.8 lbs/day
  - B. 16.2 lbs/day**
  - C. 15.3 lbs/day
  - D. 3.4 lbs/day
5. What action(s) should never be performed around a UV system?
  - A. Eating and drinking
  - B. Looking into the lamps without eye protection
  - C. Plug a UV unit into an un-grounded electrical outlet
  - D. Both "b & c"**
6. Which effluent quality condition may cause the most problems with efficiency of the UV disinfection process?
  - A. High  $\text{NH}_3$
  - B. High  $\text{NO}_3$
  - C. High TKN
  - D. High TSS**

7. What is the chemical formula for carbon dioxide?
- A. O<sub>4</sub>
  - B. ChO<sub>2</sub>
  - C. CO<sub>2</sub>
  - D. O<sub>3</sub>
8. Other than air, what flow stream is commonly supplied to an air-feed ozone generator?
- A. Pure nitrogen
  - B. Pure oxygen
  - C. Argon
  - D. Carbon dioxide
9. What is the formula that defines chlorine demand?
- A. Demand + residual = demand
  - B. Supply - residual = demand
  - C. Supply x residual = demand
  - D. Supply divided by residual = demand
10. What does this formula best represent?

$$\frac{\text{Tank Volume, gals} \times 24}{\text{Flow, gpd}}$$

- A. Chlorine residual, mg/L
- B. Detention time, days
- C. Detention time, minutes
- D. Detention time, hours

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

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