

11.61 Outlined below is the sequence of unit operations and chemical additions used in the treatment of a reservoir-water supply. Briefly state the function or purpose of each unit process and the reason for each chemical addition.

1. Intermittent applications of copper sulfate to reservoir during summer and fall.
2. Chlorine dioxide available when needed.
3. Mixing and flocculation with the addition of alum and polymer.
4. Sedimentation.
5. Addition of activated carbon.
6. Granular-media filtration.
7. Postchlorination.

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1. Copper sulfate controls algal growth in reservoir water.
2. Chlorine dioxide is for oxidation of taste and odor producing compounds and for disinfection.
3. Alum and polymer are to remove turbidity.
4. Sedimentation removes settleable floc.
5. Activated carbon adsorbs taste and odor producing compounds.
6. Filtration removes nonsettleable floc and the activated carbon.
7. Postchlorination is for disinfection and to establish a disinfecting chlorine residual.

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