



Water treatment transforms raw surface and groundwater into safe drinking water. Water treatment involves two types of processes: physical removal of solids (mainly mineral and organic particulate matter) and chemical disinfection (killing/inactivating microorganisms). Treatment practices vary from system to system, but there are four generally accepted basic techniques.

1. Coagulation

Alum (an aluminum sulfate) or other metal salts are added to raw water to aggregate particles into masses that settle more readily than individual particles.

2. Sedimentation

Coagulated particles fall, by gravity, through water in a settling tank and accumulate at the bottom of the tank, clearing the water of much of the solid debris.

3. Filtration

Water from the sedimentation tank is forced through sand, gravel, coal, or activated charcoal to remove solid particles not previously removed by sedimentation.

4. Disinfection

Chlorine is added to filtered water to destroy harmful microorganisms. An additional amount, known as a "chlorine residual" is applied to protect treated water from re-contamination as it travels throughout the distribution system.