

Information Sheet

Chemicals used in the water treatment process

Chemicals used in treatment: Nightcap Water Treatment Plant

Chemical *	Function
Calcium hydroxide (hydrated lime)	Is dosed at the start and end of the treatment process. The pre-dose increases the hardness and buffering capacity of water (resistance to change in pH). Very soft water can cause corrosion in piping and plumbing fixtures. The post-dose is to raise the pH to within drinking water guidelines and the optimum level for the residual disinfectant.
Carbon Dioxide	Decreases the pH to the optimum level for coagulation.
Coagulant: Aluminum Chlorohydrate (ACH)	Coagulates fine dispersed particles and dissolved solutes in raw water to form 'floc' particles - larger groups of particles that can be more easily separated. Almost all of the coagulant is removed from treated water as the chemical is bound up with settled or filtered solids.
Coagulant Aid: Polyacrylamide (LT20)	Works with the coagulant to further enhance floc size and density.
Ozone	Ozone followed by Biological (Granular) Activated Carbon removes algal toxins, herbicides, pesticides, organics and taste and odour compounds. Note: Ozone residual is zero when treated water leaves the plant.
Sodium Hypochlorite (Liquid Chlorine)	Added to water to provide a residual disinfecting capacity in pipelines and reservoirs.

* in order of treatment process

Chemicals used in treatment: Emigrant Creek Dam Water Treatment Plant

Chemical *	Function
Calcium hydroxide (hydrated lime)	Increases the hardness and buffering capacity of water (resistance to change in pH). Very soft water can cause corrosion in piping and plumbing fixtures.
Potassium Permanganate	Used for Iron and Manganese removal.
Carbon Dioxide	Decreases the pH to the optimum level for coagulation.
Coagulant: Aluminum Chlorohydrate (ACH)	Coagulates fine dispersed particles and dissolved solutes in raw water to form 'floc' particles - larger groups of particles that can be more easily separated. The water is then passed through a micro-filter which traps the floc particles. Almost all of the coagulant is removed from treated water as the chemical is bound up with the filtered solids.
Ozone	Ozone followed by Biological Activated Carbon removes algal toxins, herbicides, pesticides, organics and taste and odour compounds. Note: Ozone residual is zero when treated water leaves the plant.
Sodium Hydroxide (Caustic Soda)	Increases the pH to within drinking water standards and the optimum level for the residual disinfectant.
Sodium Hypochlorite (Liquid Chlorine)	Added to water to provide a residual disinfecting capacity in pipelines and reservoirs.

* in order of treatment process