

Table 2: Water treatment processes and added substances at each drinking water treatment plant

Water Supply System	Treatment Plant	Treatment Process	Added Substances	Role of Each Process
Cardinia	Cardinia 1400 Cardinia 1700	Chlorination	Chlorine gas / Sodium hypochlorite ³	Disinfection
		Fluoridation	Fluorosilicic acid	Provide dental health benefit
		pH Correction	Hydrated Lime	pH correction
Victorian Desalination Plant	Wonthaggi Desalination Plant	Coagulation /Flocculation	Ferric sulphate / Sulphuric acid / Polydadmac	Improve performance of filtration
		Filtration (Drum screens, dual media pressure filters, cartridge filters)	-	Protect RO membranes
		Reverse Osmosis	Antiscalant / Sodium hydroxide/ Sodium bisulfite	Removal of salts from the water
		Reverse Osmosis Cleaning	Membrane cleaning chemicals (caustic, detergent, acid)	Maximise performance of RO
		Chlorination	Chlorine gas	Disinfection
		Fluoridation	Fluorosilicic acid	Provide dental health benefit
		Remineralisation	Hydrated lime / Carbon dioxide	Stabilise water and pH correction
		Membrane preservation	Sodium bisulfite	Protect membranes when not in use
		Sludge thickening/dewatering	Polymer	Washwater recovery
Greenvale	Greenvale St Albans Greenvale Yuroke	Chlorination	Sodium hypochlorite	Disinfection
Lower Yarra Valley Townships	Cresswell Frogley Yarra Glen	Coagulation / flocculation	Aluminium chlorohydrate	Colour & organics removal
		Membrane ultrafiltration	-	Remove pathogens/turbidity
		Membrane cleaning	Citric acid / Sodium hypochlorite	Optimise membrane performance
		Chlorination	Sodium hypochlorite	Disinfection
		pH correction	Sodium carbonate	pH correction
Silvan	Silvan-Olinda Silvan-Preston Silvan-Waverley	Chlorination	Chlorine gas / Sodium hypochlorite ⁴	Disinfection
		Fluoridation	Fluorosilicic acid	Provide dental health benefit
		pH correction	Hydrated Lime	pH correction
	Monbulk	Chlorination	Sodium hypochlorite	Disinfection

³ Occasional use of Sodium hypochlorite when required as additional residual or when Chlorine gas dosing is offline.

Water Supply System	Treatment Plant	Treatment Process	Added Substances	Role of Each Process
	Kallista	Fluoridation	Sodium fluoride	Provide dental health benefit
Tarago	Tarago	Pre-treatment chemical dosing	Powdered activated carbon / hydrated lime / carbon dioxide	Optimise treatment plant performance
		Coagulation/flocculation	Aluminium chlorohydrate / PolyDADMAC / Polyacrylamide	Improve filter performance
		Dissolved air flotation filtration (DAFF)	-	Removal of pathogens/turbidity
		Chlorination	Chlorine gas	Disinfection
		Ultraviolet (UV) irradiation	-	Disinfection
		Fluoridation	Fluorosilic acid	Provide dental health benefit
		pH correction	Hydrated Lime / Carbon dioxide	pH correction
		Sludge thickening / dewatering	Polyacrylamide	Washwater recovery
		Iron / manganese removal	Potassium permanganate	Removal of iron and manganese
Upper Yarra Valley Townships	Brahams Rd Lusatia Park Lyrebird Ave Martyr Rd Yarra Junction	Ultraviolet (UV) irradiation	-	Disinfection
		Chlorination	Sodium hypochlorite	Secondary disinfection to provide a chlorine residual to customer tap
Winneke	Winneke Treatment Plant	Coagulation / flocculation	Aluminium sulphate / Polymer	Colour & organics removal
		Clarification	-	Remove pathogens / turbidity
		Rapid media filtration	-	Remove pathogens / turbidity
		Chlorination	Sodium Hypochlorite	Disinfection
		Fluoridation	Fluorosilic acid	Provide dental health benefit
		pH correction	Hydrated Lime	Optimise disinfection, and pH correction
		Sludge thickening / dewatering	Polyacrylamide	Washwater recovery
Distribution network	Various secondary treatment plants	Secondary disinfection	Sodium hypochlorite	Secondary disinfection
		Alkalinity adjustment	Sodium Hydroxide/Hydrated lime/Carbon Dioxide	Optimise alkalinity, pH correction