CLAIMS:

1. A method for desalination of a liquid, the liquid having a dissolved salt, the method comprising:

treating the liquid using at least one primary treatment process;

treating the liquid using at least one secondary treatment process, wherein the at least one secondary treatment process comprises at least one reactor; and

treating the liquid using at least one tertiary treatment process;

wherein the at least one primary treatment process is configured to adjust a pH of the liquid to a minimum target pH level and to add at least one chemical additive to the liquid;

wherein the at least one reactor is configured to heat the liquid to a temperature of at least 350°F and to supply a pressure to the liquid to maintain the liquid in a liquid state;

wherein the dissolved salt of the liquid is configured to react with at least a portion of the at least one chemical additive to form an insoluble product within the at least one reactor;

wherein heat is produced when the insoluble product is formed within that at least one reactor; and

wherein at least a portion of the insoluble product formed within the at least one reactor is configured to be removed from the liquid during the at least one tertiary treatment process.

2. The method of Claim 1,

wherein the minimum target pH level is 10;

wherein the at least one chemical additive comprises a phosphate salt;

wherein the insoluble product comprises a cation of dissolved salt and phosphate; and

wherein the at least one tertiary treatment process configured to remove the insoluble product from the liquid comprises a filter.

3. The method of Claim 1, wherein the minimum target pH level is 10.

4. The method of Claim 1, wherein the at least one chemical additive comprises a phosphate salt.

5. The method of any one of Claims 1-4, wherein the phosphate salt comprises trisodium phosphate.

6. The method of any one of Claims 1-5, wherein the insoluble product comprises a cation of dissolved salt and phosphate.

7. The method any one of Claims 1-6, wherein the insoluble product comprises at least one of sodium phosphate, calcium phosphate and magnesium phosphate.