What is Chloride?

- Table salt comprises of a combination of sodium (Na) and chloride (Cl). On its own, chloride is a negatively charged ion or anion.
- High chloride concentrations in water make it taste more salty and cause increased corrosion of metals.

Chloride in water

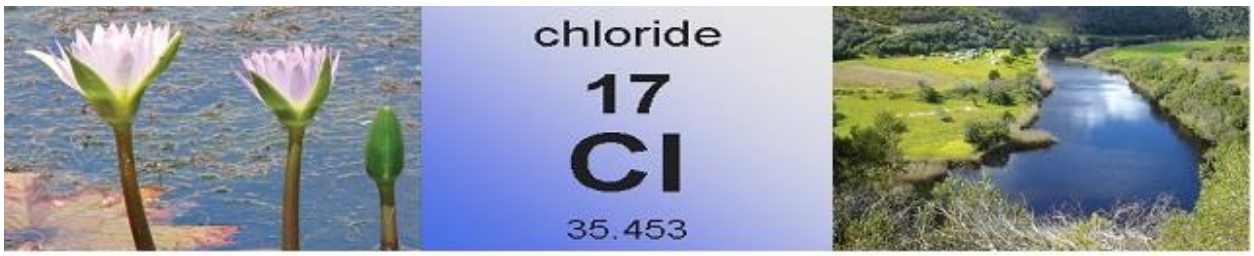
- When the chloride concentration is less than 10 mg/l, we know that it is fresh water.
- Higher concentrations of chloride are associated with salt pollution or marine intrusion.
- Chloride concentrations of more than 700 mg/l are typical in arid regions, with saline soils.

What problems can Chloride cause?

- Normal chloride concentrations in fresh water have no detrimental effects on your **health**.
- When chloride concentrations exceed 1200 mg/l, it can disturb the salt/water balance in sensitive people and subsequently cause vomiting and nausea.
- **Aesthetically** high chloride concentrations make water taste salty.
- High concentrations of chloride in water can increase the rate of corrosion of iron in **distribution** systems and appliances, such as washing machines.

How can Chloride in water be treated?

- Chloride can be removed from water by using reverse osmosis, electro dialysis, distillation or resin-ion exchange demineralisation, all of which are expensive and energy-intensive.
- All of the above processes are energy-intensive, require a high level of operator and maintenance skills and finally leaves us with concentrated brine, which is difficult to dispose of.
- Suspended matter and hard water can easily foul these treatment processes.
- Home treatment kits, using ion-exchange processes are available, but expensive and treat only small volumes of water.



Reference: DWAF (1998). Quality of domestic water supplies. Vol. 1: Assessment Guide. WRC No. TT 101/98, pp. 21.