



What is Cadmium?

- 💧 Cadmium is highly poisonous.
- 💧 Cadmium is a soft metal, very similar to Zinc.
- 💧 Cadmium is used in the galvanising process, which is used to protect other metals from corrosion.

Cadmium in water

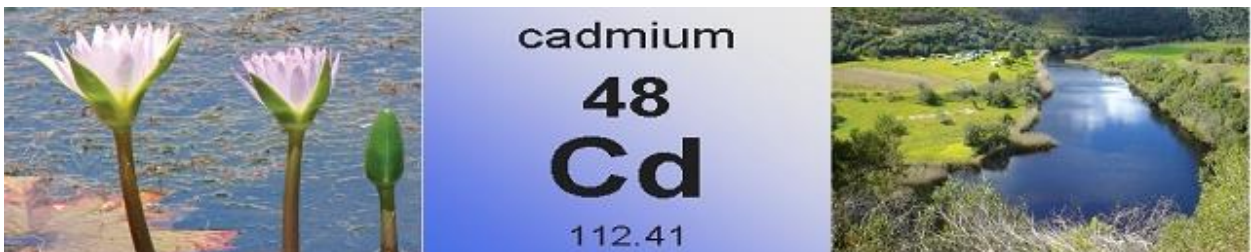
- 💧 Cadmium occurs in natural, unpolluted water in concentrations of up to 0,001 mg/l.
- 💧 Water contaminated by galvanising industries may have cadmium concentrations as high as 0.005 mg/l.
- 💧 Water with cadmium concentrations higher than 0,005 mg/l, are rare and only occur where galvanised containers have been exposed to acidic liquids such as fruit juice, for long periods.

What problems can Cadmium cause?

- 💧 Diagnosis of cadmium poisoning is very difficult, since the symptoms (nausea, and diarrhoea and vomiting) are indistinguishable from those of food poisoning.
- 💧 Chronic **health** problems are kidney damage and aching bones.
- 💧 **Aesthetically**, cadmium has no effects. It has no odour, colour or taste.
- 💧 People that are most **sensitive** to cadmium are those whose diet has a zinc shortage, heavy smokers and those that drink a lot of water whilst possibly living under hot conditions.

How can Cadmium in water be treated?

- 💧 The normal purification method of **flocculation with ferric salts**, removes cadmium partially from water.
- 💧 To remove all cadmium from water, the pH needs to be increased with lime, followed by settlement and filtration processes and finally returning the pH to its original state.
- 💧 Skilled monitoring and operating are required to render cadmium removal processes effective.
- 💧 Home treatment kits, using ion-exchange processes are 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.