



LEAD AND DRINKING WATER

“Rarely present in tap water”.

Where can lead be found?

Lead is used principally in the production of lead-acid batteries, solder and alloys. Owing to the decreasing use of lead containing additives in petrol and of lead- containing solder in the food processing industry, concentrations in air and food are declining, and intake from drinking water constitutes a greater proportion of total intake. Potential lead hazard sources include:

- Old painted toys or furniture
- Soil around a home (from either old lead or loaded gasoline)
- Drinking water (either old pipes or corroded brass fittings)
- Inexpensive jewelry (made from lead-based material)
- Lead smelters and other industries that emit lead into the air
- Food or liquid stored in lead crystal or lead-glazed pottery or porcelain

Lead is rarely present in tap water as a result of its dissolution from natural sources; rather, its presence is primarily from household plumbing systems containing lead in pipes, solder, fittings or the service connections to homes. The amount of lead dissolved from the plumbing system depends on several factors including; temperature, water hardness and standing time of the water in the pipes, with soft or acidic water being more likely to dissolve lead.



This picture shows brass pipe with fittings containing lead. The lead can leach into drinking water. Run the cold water for few minutes to eliminate most potent lead hazard in the water.

How can we be affected?

Transfer of lead occurs in humans as early as the 12th week of gestation and continues throughout development. Young children absorb 4-5 times as much as adults. Lead is a general toxicant that accumulates in the skeleton. Infants, children up to 6 years of age and pregnant woman are most susceptible to its adverse health effects.

Lead also interferes with calcium metabolism, both directly and by interfering with Vitamin D metabolism. Lead is toxic to both the central and peripheral nervous systems.





What is the guideline for Lead

The WHO (World Health Organization) International Standards for drinking-water recommended a maximum allowable concentration of 0.1mg/L of lead, based on health concerns. This value was lowered to 0.05 mg/L in the 1936 International Standards. The tentative upper concentration limit was increased to 0.1 mg/L in the 1971 International Standards, because this level was accepted in many countries and water has been consumed for many years without apparent ill effects, and it was difficult to reach the level of 0.05mg/L in countries where lead pipes were used.

The guidelines proposed were established for infants and children, on the basis that lead is a cumulative poison, and infants are considered to be the most sensitive subgroup of the population.

Rand Water purifies the water through a conventional purification process, resulting in adequate lead levels of (<20ug/l = <0.02 mg/l) in your tap water. This limit is within SANS 241 drinking water specifications.

Visit www.reservoir.co.za for further information on water quality in your area.

