



Tin – Guidance for Local Authorities

Description and Background

Tin is a silvery white metal. Its principal ore is cassiterite. Most industrial uses are in plating, especially food containers. It is also used to make alloys with other metals, and can be a component of solder. Organotin biocides are used, especially as anti-fouling agents in the marine industry. Tin ores have been mined in a number of locations, including Cornwall, Bolivia, South East Asia and Australia.

Compared to ingestion from food, especially canned food, water does not represent a significant route of human exposure.

Most tin compounds are insoluble, limiting concentrations in drinking water. Tin halides are the most common salts.

Health Significance

Tin has limited effects on the human body and is poorly absorbed. At high concentrations, gastric irritation is possible, but this is unlikely to occur via drinking water.

The WHO does not consider tin in drinking water to be a significant issue and has not set a guideline value. Most countries have not set a standard for tin in drinking water.

Risk Assessment and Monitoring

The Private Water Supply Regulations do not require regular monitoring for tin.

Options for Management in Catchment

This is unlikely to be an issue, primarily due to its low solubility. Organic tin compounds could occur where historic use as antifouling agents has taken place, and it is likely that seeking an alternative source of water would be the best approach, especially if the source of contamination is diffuse.

Options for Treatment at Source or Point of Use

Treatment for tin is unlikely to be required, but ion exchange would probably be the most cost effective solution.

FAQ Fact Sheet for Owners and Users
To be developed if necessary