

Cadmium Cd

General:

Cadmium is a component of metals, coloring materials and batteries and occurs in substantial quantities in fertilizing sludge, hereby being transferred into the food chain. Due to its high protein binding capacity Cd is incompletely reabsorbed. At high doses, protein-bound Cd accumulates in the liver; smaller portions reach the kidney (bound to metallothionine) and can be stored here for a long time (12 - 35 years). Cadmium is distributed in individual organs in declining order: kidney cortex > kidney medulla > liver > lungs > testes, ovaries > lymph node > muscle. Increased cadmium concentrations result in renal tubular disorders.

Acute intoxications occur at intake of Cd salts, (generally not lethal) inhalation of Cd oxide smoke results in typical toxic lung edemas. Symptoms of chronic poisoning are: inflammatory degeneration of mucous membranes in nose, throat and larynx ("cadmium cold"), cadmium seam of the teeth, destruction of the olfactory epithelia, kidney damage with proteinuria, general cachexia and damage of germ cells.

The following tests are available:

- **Cadmium in whole blood**

Indication: Intoxication, e.g. in metal industry

Material: 3 ml Heparin Blood

TAT: 7-10 days*

Method: IPMS

Units: µg/L

Ref.- range: <1 (non-smoker)

- **Cadmium in stool**

Material: 5 g stool

TAT: 7-10 days*

Method: IPMS

Units: µg/kg

Ref.- range: <60

**• Cadmium in urine**

Indication: Intoxication e.g. in metal industry

Material: urine 10 ml

TAT: 7-10 days*

Method: IPMS

Units: $\mu\text{g/l}$

Ref.- range: <0.8 (non smoker)

For complete list of laboratory test offered at Freiburg Medical Laboratory, please visit
<http://www.fml-dubai.com/parameter-listings/>