

# Facts about cadmium



## What is cadmium?

Pure cadmium is a soft, silver-white metal found naturally in small quantities in air, water, and soil. Cadmium does not have a definite taste or odor. Cadmium is not mined, but it is a byproduct of the smelting of other metals such as zinc, lead, and copper.

All soils and rocks, including coal and mineral fertilizers, contain some cadmium. Cadmium does not corrode easily and has many uses, including batteries, pigments, metal coatings, and plastics.

High levels of cadmium have been found in inexpensive children's toys, jewelry, and painted products.

Cadmium tends to concentrate in shellfish which is an important source of food for humans and other animals.

## What happens to cadmium when it enters the environment?

Cadmium can be released into the air from mining industries, the burning of coal or household wastes, or burning oil. Once cadmium is in the air, it spreads with the wind and settles onto the soil or surface water as dust.



Once cadmium settles onto the soil it binds strongly to the soil particles. Since cadmium is a metal, it does not break down and can build up over time.

Cadmium can enter water bodies from waste disposal and spills, leaks at hazardous waste sites, or settling from the air. Once entering the water body cadmium will either sink or dissolve in water. Fish, plants, and animals then take up cadmium from the water and sediment.

## How might I be exposed to cadmium?

- Breathing contaminated workplace air (battery manufacturing, metal soldering, or welding).
- Eating foods containing high levels of cadmium such as shellfish, liver and kidney meats, and leafy vegetables.
- Smoking which doubles the average daily intake of cadmium.
- Drinking contaminated water.
- Breathing contaminated air.

## How can cadmium affect my health?

Cadmium stays in the body a very long time and can build up from many years of exposure to low levels. Long-term exposure to low levels of cadmium in air, food, or water leads to a buildup of cadmium in the kidneys and possibly kidney disease. Other long-term effects are lung damage and fragile bones.

Breathing high levels of cadmium severely damages the lungs and can cause death. Eating food or drinking water with very high levels severely irritates the stomach, leading to vomiting and diarrhea.



Animals given cadmium in food or water had high blood pressure, iron-poor blood, liver disease, and nerve or brain damage. We don't know if humans get any of these diseases from eating or drinking cadmium. Skin contact with cadmium is not known to cause health effects in humans or animals.

## How does cadmium affect children?



The most common way for children to be exposed to cadmium is through the food they eat. Like adults gastrointestinal irritation and vomiting have been reported following children's exposure to cadmium.

Chronic exposure to cadmium can lead to kidney and bone loss problems; ingestion of high doses of cadmium causes diarrhea, vomiting and even death.

## How can families reduce their risk of exposure to cadmium?

- Be aware of the possible sources of cadmium to limit your intake.
- Don't smoke.
- Eat a nutritious diet.
- If your drinking water comes from a private well near a source of cadmium, you may want to have the water tested.
- If you live near a source of cadmium, you may want to have your garden soil tested for cadmium.
- Avoid letting young children play with jewelry that could be contaminated.

## Is there a medical test to show whether I've been exposed to cadmium?

Tests are available in some medical laboratories that measure cadmium in blood, urine, hair, or nails. Blood levels show recent exposure to cadmium, and urine levels show both recent and earlier exposure. The reliability of tests for cadmium levels in hair or nails is unknown.

For more information contact the:  
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