

Cadmium

How You Can be Exposed

Cadmium is typically released into the environment as a byproduct of zinc, lead, or copper mining. It is used in many consumer products, including batteries, pigments, platings, plastic stabilizers, alloys, and photovoltaic devices. Cadmium can exist in air, soil, and water depending on what other ions it bonds with.

- **Smoking** – a major source of cadmium exposure is from smoking tobacco. Research has found that the amount of cadmium in body tissues roughly doubles for smokers compared to non-smokers. Second-hand exposure to smoke is also a major source of exposure.
- **Air, soil, and dust** – these modes of exposure are typically not a concern for the general public.
- **Food** – for non-smokers, food is the primary route of exposure to cadmium. Leafy greens, potatoes, grains, peanuts, soybeans, and sunflower seeds contain the highest levels of cadmium.
- **Workplace exposure** – occupational exposure to cadmium is possible during processes like smelting or electroplating. Workers can inhale cadmium from dust or fumes, or ingest cadmium that is transferred to hands, food, or cigarettes.

Health Effects

Ingesting high amounts of cadmium has been shown to cause nausea, vomiting, abdominal cramping, and diarrhea. Chronic exposure to cadmium can lead to a build-up of the metal in the kidneys. Long-term cadmium exposure has been associated with lung damage, kidney disease, and fragile bones.

How to Limit Exposure

For the general population, proper handling and disposal of cadmium products can reduce the risk of exposure. Nickel-cadmium batteries should be recycled whenever possible and should not be left around the house for children to play with or accidentally swallow. Cigarette smokers should be aware of the amount of cadmium stored in tobacco leaves that ends up in their body and in people around them who breathe in secondhand smoke. If possible, reduce or eliminate cigarette smoking.

Workers who interact with cadmium should wear proper protective equipment and follow guidelines on how to handle and dispose of the metal. To limit bringing cadmium into the home, showering and changing clothes after work can protect workers and their families. In the San Luis Valley (SLV), the presence of cadmium is influenced by the region's unique geological formation along the continental divide and historic volcanic activity. Human activities, including mining, can introduce or mobilize uranium in the environment, which may infiltrate local water resources, such as private wells, or disperse in the air. Consistent monitoring and testing of private wells can help detect elevated levels of cadmium before health effects are experienced.

Sources

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