

Cadmium in Fish and Shellfish



What is cadmium?

- Cadmium (Cd) is a metal found naturally in soil and water (including oceans and freshwater sources).
- Cadmium can also be released into the environment by burning fossil fuels, refining metal ores, soil erosion, mining, industrial discharges, and wastewater processing.
- Cadmium in the air and soil makes its way into rivers, lakes, and oceans through rain and snow runoff.



How does cadmium get into fish and shellfish?

- Cadmium is commonly found in most aquatic environments: it passes into tiny plants and animals that live in water and into the fish and shellfish that eat them.
- Cadmium builds up in the internal organs of fish and shellfish. Bivalve shellfish often have higher levels than those in fish and crustaceans.

What is the health concern for humans?

- Too much cadmium can:
 - harm the fetus because it can collect in the placenta and interfere with the development and function of the placenta during pregnancy.
 - damage the kidneys of children and adults.
- Women can pass cadmium on to their babies during breastfeeding.

Should I still eat fish and shellfish?

- Yes! Low-contaminant fish and shellfish are an important part of a healthy, well-balanced diet.
- Fish and shellfish are a good source of protein and vitamins, and are a primary source of heart-healthy omega-3 fatty acids.
- Eating two servings of fish or shellfish per week is good for your health, according to the American Heart Association.
- Eating low-contaminant fish and shellfish during pregnancy is beneficial for your baby's brain development.

Which fish and shellfish have the most cadmium?

- Bivalve shellfish such as clams, mussels, oysters, and scallops usually have the most cadmium in the “edible” tissues.
- Finfish and crustaceans (for example, crab and lobster) usually have less cadmium with most of it stored in the internal organs or “guts” which can be easily removed.

Can I reduce cadmium levels in fish or shellfish to make eating them safer?

- **Finfish and crustaceans (for example, crab and lobster):** Yes. Cadmium accumulates in the internal organs or “guts.”
Remove the internal organs before cooking and eat only the skinless fish fillet. For crustaceans, eat only the body or tail meat.
- **Bivalve shellfish (for example, mussels and clams):** No. Bivalves are typically consumed whole so there is no simple way to clean or prepare them that will reduce their cadmium levels.

How can I reduce my risk?

- If you catch your own fish and shellfish, follow the Office of Environmental Health Hazard Assessment's (OEHHA) [fish advisories](#) for California water bodies.
- OEHHA has advice specifically for pregnant women. Cadmium may affect the placenta and harm the fetus.
- OEHHA also has advice for non-pregnant women, men 18 years and older, and children 1 – 17 years old.
- Cadmium can stay in your body for a long time. All people should be careful to eat low-cadmium fish and shellfish.
- Eat only the skinless fillet of finfish and only the body or tail meat of crustaceans.
- Do not use the organs or the whole fish or shellfish in soups and stews.

Where can I learn more?

- [OEHHA Fish Advisory Program in California](#)
- [Biomonitoring California \(Cadmium Fact Sheet\)](#)
- [ToxFAQs™- Cadmium](#) (ATSDR)
- [Cadmium in Food and Foodwares](#) (US FDA)

