



Seafood and your Health Fact Sheet

The Seafood Watch[®] program researches the environmental impacts of fisheries and aquaculture operations so that consumers can make the best possible seafood choices that are good for the oceans and ocean wildlife. The human health effects of eating seafood are also an important consumer concern. This is why we've partnered with Environmental Defense Fund. Now all species with a health advisory have a red asterisk next to the recommendation on the pocket guide and a health advisory mention on our web site. For a more detailed list of the fish recommendations that have consumption advisories based on how much you should eat whether you are a man, woman or child, visit www.oceansalive.org.

Weighing the Risks and Benefits

There are many benefits to eating seafood as part of a balanced diet. As a source of lean protein low in saturated fat, seafood provides essential omega-3 fatty acids that are important for proper cell function. These fats are most concentrated in fatty fishes such as salmon, tuna, rainbow trout, sardines, mackerel, herring and anchovies. Omega-3 fatty acids are believed to help lower rates of heart disease, reduce hypertension, relieve some arthritis symptoms and prevent cancer. The **American Heart Association**, <http://www.americanheart.org>, recommends that consumers include seafood as part of a balanced diet and in general recommends eating two servings of fish per week to prevent coronary heart disease.

To balance the benefits of eating seafood, there are also some risks. Some fish contain contaminants at levels deemed dangerous to humans. The **Federal Food and Drug Administration (FDA)** has primary authority for regulating commercial seafood in the marketplace. The FDA and Environmental Protection Agency have issued a joint seafood advisory. This advisory recommends that women of childbearing age who may become pregnant, as well as small children and mothers who are breastfeeding, avoid eating shark, swordfish, king mackerel and tilefish. They also recommend selecting a variety of other kinds of fish if you are pregnant or plan to become pregnant, and say you can safely eat up to 12 ounces per week of fish with a lower level of mercury. Fish with lower mercury levels include shrimp, canned light tuna, salmon, pollock and catfish. The advisory recommends that vulnerable populations limit their intake of albacore "white" tuna to 6 oz. per week. The FDA methylmercury advisory can be found online at <http://vm.cfsan.fda.gov/~dms/admehg.html>.

Though it is very difficult to determine the cause of many human health problems, studies have found that exposure to mercury and other toxins such as PCBs and dioxins could lead to a variety of ailments. In adults, exposure to mercury can lead to memory loss, tremors and other health problems. Exposure to dioxins and PCBs can lead to higher risks for developing certain types of cancer. But the most vulnerable populations are children and women who are pregnant or are thinking of becoming pregnant.

Sources of Contaminants

Contaminants present in the environment make their way into the food chain. Harmful substances sometimes found in fish include methylmercury (a heavy metal) and organic chemicals such as DDT and dioxin.

Seafood Watch Program_Health Fact Sheet 3/29/2007 Mercury occurs naturally in the environment, but mercury pollution mostly comes from industrial sources like coal-fired power plants and incinerators. When released into the air, mercury can travel globally and settle into surface water, where it accumulates in streams and oceans. Bacteria in the water cause chemical changes that transform mercury into methylmercury (MeHg) that is highly toxic when it is concentrated. Fish absorb methylmercury from water as they feed on aquatic organisms, and larger, longer-lived fish accumulate methylmercury in their muscles, posing a risk to people who eat them regularly.

Organochlorines, DDT, PCBs and dioxins are used in more than half the world's commercial chemical processes. These include pulp and paper, plastic, pharmaceutical, and water treatment processes, as well as pesticides, solvents and manufacture of household cleaners. The manufacture of PCBs and DDT was prohibited in the U.S. in 1976, but these chemicals can persist in air, soil and water for many years. The primary source of dioxins is combustion. Combustion processes include waste incineration, the burning of various fuels and backyard burn barrels. Because dioxins and dioxin-like compounds accumulate in fatty tissues, consumption of animal fats is thought to be the primary pathway for human exposure.

The lower an animal is on the food web, the less toxins it will accumulate. For example, fish that eat plants tend to have less contamination than fish that eat other fish. Top-level carnivores, like tuna, swordfish and shark have the highest likelihood of containing harmful amounts of manmade chemicals. Chemical contaminants can persist in sediments for relatively long periods of time, and they accumulate in bottom-dwelling organisms as they feed. These animals, in turn, pass them up the food web in much higher concentrations than are found in the water column. It's advised that consumers opt to eat smaller fish that are less likely to accumulate pollutants. Visit the FDA web site for a listing of mercury levels by species, at <http://vm.cfsan.fda.gov/~frf/sea-mehg.html>

Other Sources of Information:

The **Environmental Protection Agency (EPA)** <http://epa.gov/waterscience/fishadvice/advice.html> posts advisories when high concentrations of chemical contaminants have been found in local fish.

The **Food and Drug Administration (FDA)** <http://www.cfsan.fda.gov/~dms/admehg3.html> posts advisories for women who might become pregnant or are nursing and/or feeding young children.

The **Sea Turtle Restoration Project** has a mercury calculator that can be used to estimate your mercury intake, given your body weight and portion size <http://www.gotmercury.org>

The **Smart Fish Guide** is a guide to healthy and sustainable seafood consumption for moms, moms-to-be and children, from the **Institute for Agriculture & Trade Policy**, www.iatp.org/foodandhealth

For more information on sustainability and seafood, please visit our website www.seafoodwatch.org. We hope you've found this information helpful. Thank you for your interest in Seafood Watch®.