



## THE SAFE USE OF COOKWARE

### The Issue

Some materials used to make pots and pans can enter the food we eat.

### Background

Most of the cookware in Canada is safe to use for daily meal preparation, as long as you maintain it well and use it as intended. However, there are some potential risks in cookware materials.

### Benefits and Risks of Cookware Materials

#### Aluminum:

Aluminum is lightweight, conducts heat well and is fairly inexpensive, making it a popular choice for cooking.

Canadians normally take in about 10 milligrams of aluminum daily, mostly from food. Aluminum pots and pans provide only one or two milligrams of the total. While aluminum has been associated with Alzheimer's disease, there is no definite link proven. The World Health Organization estimates that adults can consume more than 50 milligrams of aluminum daily without harm.

During cooking, aluminum dissolves most easily from worn or pitted pots and pans. The longer food is cooked or stored in aluminum, the greater the amount that gets into food. Leafy vegetables and acidic foods, such as tomatoes and citrus products, absorb the most aluminum.

#### Copper:

Copper conducts heat well, making it easier to control cooking temperatures. Brass, made from copper and zinc, is less commonly used for cookware.

Small amounts of copper are good for everyday health. However, large amounts in a single dose or over a short period can be poisonous. It is not certain how much can be safely taken each day.

Because of this, copper and brass pans sold in Canada are coated with another metal that prevents the copper from coming into contact with food. Small amounts of the coating can be dissolved by food, especially acidic food, when cooked or stored for long periods. Nickel is one of the metals used in coating, so anyone allergic to nickel should avoid nickel-coated cookware.

Coated copper cookware can lose its protective layer if scoured. Don't use badly scratched or uncoated copper cookware to cook or store food.

#### Stainless Steel and Iron Cookware:

Stainless steel, made from iron and other metals, is strong and resists wear and tear. It is inexpensive, long-lasting and the most popular cookware in North America. The metals used in stainless steel or iron cookware which may produce health effects are iron, nickel and chromium.

Iron is essential to produce red blood cells. Large amounts can be poisonous, but in North America, we are more likely to lack iron than have too much. Iron cookware provides less than 20 per cent



of total daily iron intake - well within safe levels.

**Nickel** is not poisonous in small quantities but it can cause an allergic reaction. Again, if you are allergic, avoid stainless steel cookware.

Small doses of chromium, like iron, are good for your health, but they can be harmful in higher amounts. The safe intake range is about 50 to 200 micrograms per day, what most Canadians take in. One meal prepared with stainless steel equipment gives you about 45 micrograms of chromium, not enough to cause concern.

#### **Ceramic, Enamel and Glass:**

Ceramic (pottery), enamel or glass cookware is easily cleaned and can be heated to fairly high temperatures. Ceramic cookware is glazed; similar glazes are applied to metals to make enamelware. These glazes, a form of glass, resist wear and corrosion.

The only health concern about using glassware or enamelware comes from minor components used in making, glazing, or decorating them, such as pigments, lead, or cadmium. These materials are harmful when taken into the body, so the risk of them entering food is controlled during the manufacturing process.

In Canada, glazed ceramics and glassware are regulated under the Hazardous Products (Glazed Ceramics and Glassware) Regulations. Cookware made of these materials cannot be sold, advertised or imported if it releases more than trace amounts of lead and cadmium. Products having greater than the allowable leachable levels of lead and cadmium must be identified by a

label indicating the presence of lead and/or cadmium, or by a design feature such as a hole or a mounting hook, and should not be used for food.

Some countries do not have the same strict lead and cadmium limits as Canada. If you bring in glazed ceramic cookware from abroad, be aware that it may not meet Canadian permitted levels for lead and cadmium.

#### **Plastics and nonstick coatings:**

For cooking and storing food, plastic is lightweight and nearly unbreakable. Many containers have been made for use in microwave ovens, where metal cookware is not suitable.

Using plastic containers and wrap for anything other than their original purpose can cause health problems. With wrap, the concern is that food may absorb some of the plasticiser, the material that helps make it flexible. This is most likely to happen at high temperatures, when microwaving, or with fatty or oily foods like cheese and meat. Don't use plastic bowls or wrap in the microwave unless they are labelled as microwave safe. If you reuse items for storage, such as dairy product containers, let the food cool before storing, then refrigerate it immediately. Avoid visibly damaged, stained or unpleasant smelling plastics and containers. Never heat or store food in plastic containers that were not intended for food.

Nonstick coatings are applied to metal utensils to prevent food from sticking and protect cookware surfaces. They are chemically inert, meaning if some of the material is swallowed, it would pass through your body

harmlessly. The only time non-stick coatings are a risk is if they are heated to temperatures greater than 350\_C or 650\_F. This might happen if an empty pan is left on a burner. In this case, the coatings can give off irritating or poisonous fumes.

## Need More Info?

Health Canada - Consumer Products site:  
<http://www.hc-sc.gc.ca/english/protection/consumer.html>

Health Canada - Lead Information package  
[http://www.hc-sc.gc.ca/hecs-sesc/toxics\\_management/publications/leadQandA/toc.htm](http://www.hc-sc.gc.ca/hecs-sesc/toxics_management/publications/leadQandA/toc.htm)

Health Canada - Guidelines for the Disclosure of Toxicological Information on a Material Safety Data Sheet  
[http://www.hc-sc.gc.ca/hecs-sesc/whmis/info\\_bulletin.htm](http://www.hc-sc.gc.ca/hecs-sesc/whmis/info_bulletin.htm)

Or contact:  
Health Canada  
Healthy Environments and Consumer Safety Branch  
123 Slater St.  
Ottawa, Ontario K1A 1B4  
telephone: (613) 954-5676  
fax: (613) 952-3039

It's Your Health - Lead Crystalware  
[http://www.hc-sc.gc.ca/english/iyh/products/crystal\\_lead.html](http://www.hc-sc.gc.ca/english/iyh/products/crystal_lead.html)

For additional It's Your Health articles go to:  
[www.healthcanada.ca/iyh](http://www.healthcanada.ca/iyh)