Explanation of how metals will leach into the food from various cooking surfaces - Strategies for Staying Healthy. Also refer to cookware, pot, pan, aluminum, iron, stainless steel, Teflon, baking soda, demonstration, salesmen, waterless, Ron Kurtus, School for Champions. Copyright © Restrictions

# Leaching from Cooking Surfaces

by Ron Kurtus (20 May 2005)

The cooking surfaces of your cookware, pots and pans are important in the taste of your food, as well as determining how much metal leaches into your food. Every cooking material will leach some metal into the food, especially under high temperatures. Acidic and alkaline foods will increase the leaching for certain types of cookware. Of the various materials used for cookware, stainless steel is considered the best and is typically used in waterless cookware.

Questions you may have include:

- What are the various cookware materials?
- What is the danger of leaching?
- What is a common waterless cookware demonstration?

## Pot materials

A variety of materials are used in pots, pans and cookware. Polished aluminum is very popular, because of its light weight. Teflon coatings are also popular, because of their ease of cleaning. Iron pots with ceramic coatings are still used. Cast iron pots used to be quite popular, but they are very heavy. Stainless steel cookware is becoming increasingly popular, because of the purity of the metal.

## Leaching

All materials give off atoms and molecules when heated and when immersed in an acidic or alkaline solution.

### Aluminum

Aluminum is fairly soft and will release more molecules into the food than harder metals used in other cookware. Alkaline foods will increase the amount of aluminum that leaches into the food. There are some theories that aluminum in the food is a contributing factor in the increase of Alzheimer's disease. This has not been proven, but some people have shied away from aluminum cookware, just in case.

### Iron

Iron is known to leach into the food. Years ago, cast iron pots were a major source of iron in food. Since such pots are no longer used, it is thought to be a reason people sometimes need iron supplements.
Iron pots are often difficult to clean.

### Teflon coating
A problem with Teflon is that with age particles of it can flake off and get into the food. Although it is not considered a health issue, care should be used in cleaning Teflon pots and in using old Teflon cookware.

### Pyrex
Pyrex has an extremely low transfer rate of molecules. It only can be used in the oven and not on the stove top.

### Stainless steel
Stainless steel is considered the best material for cookware because it is very neutral and easy to clean. Cooking acidic food in stainless steel can result in a small amount of chromium leaching into the food. Stainless steel that has been cleaned and scoured with a metallic pad may also leach a small amount of nickel into the food, when exposed to alkaline food.
If your food tastes metallic, you should consider changing your cookware.

## Waterless demonstration
A common demonstration for waterless cookware is to heat baking soda and water in various pots, including the brand being sold. Often cheap aluminum pots are used for the demonstration. When the customer tastes the water from the other pots, a strong metallic taste it noticed. On the other hand, the water from the demonstration pot simply tastes like baking soda.
This is a strong selling point for the brand.
Baking soda in water is highly alkaline and reacts with aluminum to create the metallic taste in pots containing that metal. It also reacts somewhat in iron pots, but it does not react with new stainless steel.
Sometimes the salesman will ask the customers to include their own stainless steel pots in the test. When stainless steel has been used and scoured with steel wool or another metallic pad, the scratches allow nickel to leach into the baking soda solution. This implies that the brand for sale is superior to other stainless steel pots.
Although the demonstration is dramatic, it is merely a sales tool. Most foods are not as highly alkaline as baking soda, and seldom--if ever--would you cook in baking soda. But still, stainless steel is a top choice for cookware material.

## Summary
The cooking surfaces of your cookware is important in determining how much metal leaches into your food. Acidic and alkaline foods will increase the leaching for certain types of cookware. Stainless steel is considered the best cooking surface and is typically used in waterless cookware.

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A positive attitude also helps you stay healthy

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