

## Sodium in Processed Meat Products

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### What is Salt and Why is it Used

Salt is a generic term for compounds formed of ions, such as sodium, potassium and chloride. Table salt is the common name for the compound sodium chloride. Sodium is needed in the body to regulate fluids and blood pressure, and to keep muscles and nerves running smoothly. The amount of sodium considered adequate to promote good health in adults is 1,500 milligrams per day. Health Canada recommends that a maximum of 2,300 milligrams of sodium per day for adults is likely to pose no risk of adverse health effects.

Salt for human consumption is available in different forms from unrefined sea salt to refined salt (table salt) and iodized salt. Salt flavour is one of the basic tastes, making salt one of the oldest, most ubiquitous food ingredient for seasoning. Salt also plays an important role in food preservation.

### Role of Salt in Processed Meat Products

The role of salt in meat products has essentially remained the same for thousands of years and continues to play an important role in food safety. It is added to meat products to lower the water activity. Water activity is a measure of the amount of water that is available for microbial growth and other chemical reactions. Like other living organisms, microbes that can cause foodborne illness need water to survive. Thus, by lowering the water activity, salt inhibits the growth of microbes, such as *Listeria monocytogenes* (*Lm*). *Lm* is of particular concern in ready-to-eat processed meat products such as deli meats. Salt also protects against other pathogens such as *Clostridium botulinum*, *Salmonella* and pathogenic *Escherichia coli*. Current regulations require that a minimum amount of salt be added to certain processed meat products and does not permit the use of other alternatives to sodium chloride.

In a processed meat product, salt helps to bind the meat proteins together and acts as a binding agent between meat and fat. It also increases the water binding capacity during cooking so that the final product has improved texture, tenderness, and palatability. Levels of added salt in processed meat products vary between different types of products and between similar products from different manufacturers depending on recipes and formulations.

### Why Sodium Intake Reduction

Overconsumption of sodium increases the risk of health problems, including high blood pressure. Canadian data from a 2004 study indicate that Canadian adults consumed more than double the recommended level and considerably higher than the maximum of 2,300 mg of sodium per day. Some foods are naturally low in sodium levels, such as fresh meat like pork, beef and lamb. Canadians should refer to the mandatory nutrition labelling that requires almost all pre-packaged foods to include a Nutrition Facts table that lists "sodium" as one of 13 nutrients that **must** appear on the labels.

In October 2007, Health Canada announced the establishment of a multi-stakeholder working group to develop and oversee the implementation of a strategy for reducing the sodium intake of Canadians.

### **The Meat Processing Industry and Sodium Reduction**

The processed meat industry recognizes its role in sodium reduction alongside other areas of the food industry. The Canadian Meat Council represents its members of the federally registered meat processing sector on the Health Canada multi-stakeholder working group. The Canadian Meat Council members are committed to respond with efforts to further voluntary sodium reduction measures.

Processed meat products with reduced levels of sodium have been available to Canadian consumers for over 20 years. More research is needed to determine the appropriate formulations and other alternatives that will deliver safe products and at the same time will be acceptable to consumers. As sodium salts are replaced by other ingredients, taste and texture of processed meat products will change.

Gradual reduction in sodium levels is the best strategy to alleviate related costs. One of the most common and economical replacements for sodium in processed meat products costs seven times more than sodium chloride and still has flavour and texture functionality difficulties. Other food safety tools to the use of salt, such as post-packaged high pressure treatment equipment or in-package heat treatment, add to processing costs.

If substitute ingredients cannot be used, another option is to shorten the shelf-life of the processed meat products. The current production and distribution system in Canada is extremely complex and balances manufacturing efficiency gained from long production runs with minimal changeovers at the retail counters, coupled with the time needed to distribute products to a variety of retail outlets. Shorter shelf-life will require more frequent product changeovers by retailers and consumers will need to be educated about the shorter shelf-life of processed meat products.

### **Suggestions for Lowering your Salt Intake**

Consumers can control the amount of sodium they eat. Some advice to assist consumers in cutting back their sodium intake:

- Check food labels to select lower sodium products.
- Use alternative sources of flavouring such as herbs, spices, lemon and lime juice.
- Add less salt when cooking.
- Get out of the habit of adding salt at the table – taste the food first.
- Watch your portion size of higher sodium foods.

### **Helpful Links:**

Sodium - It's Your Health <http://www.hc-sc.gc.ca/hl-vs/iyh-vsv/food-aliment/sodium-eng.php>

Eating Well with Canada's Food Guide [www.healthcanada.gc.ca/foodguide](http://www.healthcanada.gc.ca/foodguide)

The Issue of Sodium <http://www.hc-sc.gc.ca/fn-an/nutrition/sodium/index-eng.php>

American Meat Institute *Salt Use in Meat and Poultry Products*

<http://www.meatami.com/ht/a/GetDocumentAction/i/48321>