Trade Guidelines for Reducing Sodium in Foods

- Draft for Discussions at the Trade Consultation Forum -

Purpose

This set of guidelines is intended for all food traders manufacturing and selling foods. It aims to help them to produce and promote wholesome and safe products which have lower sodium or salt content.

Occurrence of sodium in locally available foods

The terms salt and sodium are often used synonymously, but on a weight basis, salt comprises 40% sodium and 60% chloride (1 g of sodium chloride (NaCl) contains about 393 mg of sodium). However, some salt products available in the market may have replaced NaCl partially with other ingredients, such as potassium chloride (KCl). Their sodium content may be 25% to 40% lower than the regular salt.

Sodium is naturally present in plant and animal foods as well as drinking water. However, the major dietary source of sodium is from condiments and sauces, such as salt, soy sauce, and oyster sauce. Sodium may also present in the diet as food additives, e.g. sodium nitrate (a preservative) and monosodium glutamate (MSG) (a flavour enhancer, E621) in processed foods. Examples of the sodium content of some local condiments and sauces are available in **Annex I**.

The major sodium intake of the local diet is probably a mixture of Western and traditional Chinese diets. According to the World Health Organization (WHO), in the western diets, salt in processed foods is the major source (about 75%) of the sodium intake. In Asian countries, salt added during cooking and at table is an important source of sodium intake. In the traditional Chinese diet, over 70% of salt is added while cooking, with the remainder accounted for through the use of soy sauce and salted vegetables.

Salt/Sodium and health

Sodium is essential for the body to function normally. Excessive intake of sodium can be detrimental to health, such as resulting in high blood pressure or hypertension. According to WHO, there is a dose response and a direct relationship between salt intake and blood pressure; and there is additional benefit if salt is reduced even if the diet is already a "healthy" one. It is estimated that decreasing dietary intake from 10g to 5g per day would reduce overall stroke rate by 23% and

cardiovascular disease rates by 17%; Thus WHO recommends a salt intake of less than 5 g per day (i.e. less than about 2000 mg of sodium).

Roles of salt in food processing

Salt has multifunctional roles. Salt is added in foods for its taste and flavour (e.g. enhance sweetness, mask metallic tastes). Salt can also prevent microbial growth, extend product shelf life, and improve the product texture (e.g. control the stickiness of doughs, improve the tenderness of leaner cuts of meat).

International approaches on reducing sodium intake in the population

Food safety requires proactive tripartite collaboration among the Government, food trade and consumers. The WHO has suggested some strategies for Member States to focus on when planning and implementing interventions aiming at reducing population-wide sodium intake. These include public awareness campaigns, regulation, food labelling, benchmarking of food categories, food reformulation, and many others.

Taking into consideration of food safety, quality and consumer acceptance, food reformulation is the widely adopted approach to reduce the sodium intake in foods. Three initiatives have been identified to reduce the sodium content in foods to the lowest level possible over time: (i) to reduce or remove the amount of salt/ sodium to the minimum little by little, (ii) to replace the sodium uses with alternatives, and (iii) to resize the package of products.

It is well recognised that the process of setting targets for sodium content in foods is complex since the role and function of salt vary depending on the nature of the food. Nevertheless, many countries (e.g. the UK, Canada, Australia) have established targets in various food categories and encouraged the trade to achieve such targets in the coming few years. Examples of some of these targets are available in **Annex II**.

Regardless of the strategies used, many countries have demonstrated that reducing the sodium content of foods gradually, with or without using alternatives, allow the consumers' salt taste perception to be modified over time. The food trade can incorporate these strategies when manufacturing/ producing and promoting products with lower salt/ sodium content to help the population in reducing overall sodium intake.

Advice on <u>manufacturing/ producing</u> foods with lower sodium/ salt content

Sourcing and targeting for ingredients/ foods with lower sodium content

(i) Choose ingredients with lower sodium content if available. The information could be obtained from the suppliers, the nutrition labels of the products, or some food composition databases, such as the Nutrient Information Inquiry System from the Centre for Food System[1].

(ii) Make reference to the sodium reduction targets set by other authorities (**Annex II**) as a guide to purchase or import ingredients for manufacturing foods.

(iii) Establish a database to monitor the sodium content in foods.

(iv) Set individual sodium reduction targets for various food categories if possible. Examples of the sodium content in some local foods and their respective reduction targets established by other authorities are shown in **Annex II**.

Practising

(i) Adhere to the Good Manufacturing Practice (GMP) when using salt/ sodium containing seasonings, e.g. add the standardised amount as required. Aim to not exceeding sodium reduction targets, whenever relevant.

(ii) Provide (re-)trainings to cooks/ chefs/ product developers on healthy eating and the healthier options of food products.

(iii) Reduce the salt content of the food supply in a stepwise manner according to the characteristics of individual food products. Some of the strategies and replacements have been proven successful by other countries (**Annex III**, **Annex IV**). For example, besides using preservatives to increase the shelf-life of meat product, reducing storage temperatures by 2-3 degrees where possible may extend its life.

(iv) Provide more unsalted or lower salt content, and iodised salt as well if possible, options for customers to choose, and only add salt/ seasonings when requested.

(v) Reduce the use of salt and seasonings in a stepwise manner, such as using fresh, frozen or reduced-salt canned vegetables to replace pickles, using fresh

[1] http://www.cfs.gov.hk/english/nutrient/index.shtml

meat to replace marinated or preserved meats, or using natural ingredients to replace seasonings or sauce which are high in salt.

(vi) Use natural ingredients or herbs and spices, e.g. garlic, chilli, star anise, lemongrass, basil, etc. for flavouring and marinating.

(vii) Provide seasonings in separate packages and serve gravies in separate containers for customers to add according to their tastes.

(viii) Offer a range of portion sizes (e.g. smaller, individualised packets) of products for customers to choose.

(ix) As salt is recommended by WHO as a vehicle for iodine fortification for the general population, make iodised salt available for the public to choose.

(x) When iodising salt, follow WHO's guidelines of adding 20-40 mg iodine (e.g. using potassium iodide KI or potassium iodate KIO_3) per kg of salt.

Advice on promoting foods with lower sodium/ salt content

Promotion materials

(i) Indicate the sodium content of various dishes/ products on company's homepage or promotion materials to inform the consumers the lower sodium/ salt food options.

(ii) Provide leaflets/ reading materials on the harmful effects of excessive sodium intake from all sources and the sodium content of the various foods on company's homepage or promotion materials.

(iii) Follow WHO advice on restricting the marketing or advertising of foods and beverages high in sodium (e.g. more than 600mg/100g), especially to children.

On the products

(i) On the nutrition label, declare the sodium content; However, the trade are encouraged to provide the conversion factor between salt and sodium (e.g. 1 g salt contains about 393 mg of sodium, or 1 teaspoon of 5 g salt contains about 2000 mg of sodium) on nutrition label, other promotion materials about the product, and when making claims on sodium or salt.

(ii) If the sodium content of the products meets the nutrition claim conditions, make the "free", "low", and "very low" sodium/salt claims by following the nutrition labelling requirement (**Annex V**).

(iii) Declare clearly on the food label if the salt has been substituted (e.g. KCl) in the ingredient list to allow an informed choice for consumers. Place legible warning statements for those with medical conditions or taking medications on precautions of using the products.

(iv) For products that are naturally high in salt and cannot be meaningfully reformulated (e.g. salted fish, pickles, preserved sausages), state legibly on the product that "*WHO recommends a salt intake of less than 5 g per day (i.e. less than 2000 mg sodium) from all sources*." or similar warning statements, and indicate the sodium intake when one serving of the product is consumed (refer to the Trade Guidelines on Serving Size of Prepackaged Food for Nutrition Labelling[2]).

[2] http://www.cfs.gov.hk/english/food_leg/files/Serving_size_of_prepackaged_food_clean_e.pdf

(v) For fast food chains and restaurant chains, provide voluntarily nutrition label (e.g. in a form of symbols) including the sodium content of food products, such as in the menu, the label of the non-prepackaged foods and beverages, the price list, and other printing materials for customers to make informed choice.

Other promotion activities

(i) Provide incentives (e.g. coupons/ discounts/ gifts/ award points) to encourage patrons purchasing/ ordering foods with lower sodium/ salt.

(ii) Designate a period of time (e.g. lower sodium/ salt month) or a corner (e.g. snacks, sauces) in the shop to promote foods with lower sodium/ salt.

(iii) Encourage cooks/ chefs and frontline staff to provide guidance to customers on choosing low sodium/ salt foods.

(iv) Place condiments and sauce in smaller containers; Remove them from the table and only present them to the customers when requested.

(v) Submit voluntarily the nutrition information of snacks including sodium content to the "Database of Prepackaged Snacks" maintained by the Hong Kong Nutrition Association[3].

(vi) Supply articles to the health sections of local Chinese or English newspapers to introduce the reformulated products with lower sodium content.

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September 2011

[3] http://www.hkna.org.hk/en/popupformEng02.asp

Annex I: Sodium content in some local condiments and sauces.

Food category (No. of products)	Mean (Range) of sodium content (g/100g or ml)	Usual serving size (g or ml)
Table salt (16)	38.2 (33.9-39.2)	5
Salt with reduced sodium (6)	21.8 (13.6-25.3)	5
Chicken powder cube (12)	17.3 (13.3-23.6)	5
Monosodium glutamate (MSG) (5)	12.3 (11.1-14.7)	0.5-1.0
Light soy sauce (34)	6.6 (3.1-7.9)	5-15
Oyster sauce (20)	4.3 (2.1-5.7)	10-18

Remarks: Sodium content and usual serving size of various condiments and sauces are from the nutrition labels and food labels on some products available in different supermarkets.

Annex II: Sodium content found in some local food products and range of targets set by overseas authorities.

Food category	Sodium content (mg/100g)	
	Local data	**Possible targets**
Bakery products (e.g. Cake, Bread, Puff)	150-561	220-440
Other bakery products (e.g. Cookies, Crackers, Biscuits)	110-970	260-640
Canned seafood (e.g. Sardine, Tuna)	177-677	370-400
Canned meat (e.g. Pork, Beef)	300-2230	400-450
Snacks (e.g. Corn chips, Potato chips, Prawn crackers)	18-1900	550-720
Western fast foods (e.g. Spaghetti, Burger, Sandwich)	380-500	330-630

Remarks:

Local Data are adapted from various reports produced by the Centre for Food Safety and the Consumer Council.

Possible targets are adapted from

1. Health Canada's *Draft Sodium Reduction Targets and Label Data for Prepackaged Foods*. http://www.hc-sc.gc.ca/fn-an/nutrition/sodium/sodium-reduction/appendix-annexe-a-eng.php
2. New York City Department of Health & Mental Hygiene's *National Salt Reduction Initiative (Prepackaged Food).* http://www.nyc.gov/html/doh/downloads/pdf/cardio/cardio-salt-nsri-packaged.pdf
3. New York City Department of Health & Mental Hygiene's *National Salt Reduction Initiative (Restaurant Food).* http://www.nyc.gov/html/doh/downloads/pdf/cardio/cardio-salt-nsri-restaurant.pdf
4. UK Food Standards Agency's *Salt reduction targets for 2010 and 2012 (Various).* http://www.food.gov.uk/multimedia/spreadsheets/salttargets20102012.xls

Annex III: Examples of the application of some salt substitutes/ enhancers.

Substitute/ Enhancer	Applications	Comments
Potassium Chloride (KCl)	Many foods (e.g. cheeses, breads, meats); may be mixed with sodium chloride (NaCl).	Bitter to many people; May increase the intake of K and could harm certain subpopulations (e.g. those with medical conditions or taking medications)
Salts with altered crystal structure	Some foods	Porous and star-shaped structures, created by manipulating the salt drying process, allow greater salty taste with smaller amounts of salt; particularly useful in applications where salt is used on the surface of food products
Glutamates (e.g. monosodium glutamate, MSG, i.e. E621)	Many foods	Enhances salty tastes and imparts the taste of umami (umai = "delicious", mi = "taste"). Glutamate salts other than MSG, e.g. monopotassium glutamate or calcium diglutamate, may further reduce Na intake.
Yeast extracts	Some foods	Often contains MSG, but is seen as a “natural” alternative to MSG use; meaty and brothy tastes limit potential uses
Nucleotides (e.g. inosine- & guanosine- 5’ monophosphate)	Some foods	Imparts the taste of umami; found to act synergistically with glutamates to enhance salty tastes in some foods
Herbs and spices	Many foods	Provide other flavouring characteristics and for some people may help alleviate blandness following salt removal
Mixtures of NaCl substitutes and enhancers	Many foods	Consist of a number of ingredients such as non-Na salts, yeast extracts, KCl, and sodium gluconate

Source: Institute of Medicine (2010) Strategies to reduce sodium intake in the United States – Appendix D. Available at http://www.iom.edu/Reports/2010/Strategies-to-Reduce-Sodium-Intake-in-the-United-States.aspx.

Annex IV: Examples of alternative methods to sodium/ salt for specific functions in meat production.

Function	Alternative
Preservative	Chilling to a lower temperature (Reducing storage temperatures by 2-3 degrees where possible may extend the life of the product.)
Flavour	Herbs, Spices, Garlic, Chilli, Lime, Lemon, Onion, Tomato, Black Pepper, Other fruits/vegetables
	Roasting, Grilling, Smoking
Colour	Paprika, Chilli, Tomato, Other fruits/vegetables
	Roasting, Smoking

Source: the British Meat Processors Associations - Guidance on Salt Reduction in Meat Products for Smaller Businesses. Available at http://www.bmpa.uk.com/_Attachments/Resources/1307_S4.pdf

Annex V: List of sodium/ salt claims and corresponding criteria in the Food and Drugs (Composition and Labelling) Regulations (Cap. 132W).

Claim	Criteria
Nutrient Content Claim	
"Low" sodium (or salt)	Not more than 120 mg of sodium per 100 g of solid food (or 100 mL of liquid food).
"Very low" sodium (or salt)	Not more than 40 mg of sodium per 100 g of solid food (or 100 mL of liquid food).
"Free" sodium (or salt)	Not more than 5 mg of sodium per 100 g of solid food (or 100 mL of liquid food).
Nutrient Comparative Claim	
Sodium (or salt)	Must meet the below two criteria: ● Minimum relative difference: 25%; **and** ● Minimum absolute difference: not less than 120 mg of sodium per 100 g of solid food (or 100 mL of liquid food).