



**Appendices**  
**for**  
**Programme Guidance on the Use of**  
**Iodised Salt in Industrially Processed**  
**Foods**

*Final Draft – October 2020*

*Revisions based on the outcomes from piloting the Guidance in 5 countries and review  
by the Advisory Partner Group*

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## Appendix 1

Examples of how data for different brands of the same product type can be averaged (Module 4)

Table A. Example calculation of average serving size for one product, based on different recommended serving sizes from different companies

Companies producing/ importing Product A	Domestic market share for Product A	Stated serving size for Product A (g)
Company 1	67%	80
Company 2	20%	65
Company 3	13%	70
<b>TOTAL</b>	<b>100%</b>	<b>215</b>
<b>Formula</b>		
<b>Average serving size (g) based on market share</b>	$(0.67 \times 80) + (0.2 \times 65) + (0.13 \times 70)$	<b>76</b>
<b>Average serving size (g) when no market share information available</b>	$215/3$	<b>72</b>

Table B. Example calculation of average salt content for one product, from packaging information from different companies

		<i>Sodium to salt conversion factor</i>	
		2.54	
Companies producing/ importing Product A	Domestic market share for Product A	Stated sodium content for Product A (%)	Converted salt content for Product A (%) <i>Sodium content x 2.54</i>
Company 1	67%	1.4	3.6
Company 2	20%	1.3	3.3
Company 3	13%	1.0	2.5
<b>TOTAL</b>	<b>100%</b>	<b>3.7</b>	<b>9.4</b>
<b>Formula</b>			
<b>Average salt content (%) based on market share</b>	$(0.67 \times 3.6) + (0.2 \times 3.3) + (0.13 \times 2.5)$		<b>3.4</b>
<b>Average salt content (%) when no market share information available</b>	$9.4/3$		<b>3.1</b>

Note the conversion factor for sodium content to salt content is 2.54.

## Appendix 2

**Table A. Example of key salt-containing industrially processed foods identified during pilot implementation in five countries, along with the reported product salt content**

Industrially processed food	Approximate salt content (% product weight)
Seasoning powders and soup	
Seasoning powder (high salt)	60 - 80
Bouillon	45 - 55
Seasoning powder (medium salt)	40 - 45
Powdered soup	20 - 45
Seasoning sauces and pastes	
Fish sauce	30
Soy sauce	13 - 23
Fermented fish sauce	11
Oyster sauce	8
Chili, suki, black soy and other sauces	3 - 6
Tomato ketchup	2.5 - 3
Shrimp paste	17.5
Tomato paste	1.5
Processed meat and fish	
Sausages (different types)	2 - 4
Salami	5
Ham	5
Meat balls	4.5
Processed sea food (e.g. crab stick, fish ball)	1.5 - 2
Dried salted fish	3 - 16
Canned fish	2
Cheese and spreads	
Cheese (feta type)	3 - 3.5
Cheese (hard)	1.9
Butter	2
Margarine	1.5
Pasta, bread, snacks	
Instant noodles	3.5 - 5
Pasta (dried)	2.5
Bread	1 - 2.5
Biscuit	1.5
Salty snacks (e.g. nuts, potato, corn or fish protein based)	1 - 1.5

### Appendix 3

Table A. Example calculation of average percent iodised salt content for one product, based on information for the proportion of product salt that is iodised from different companies

Companies producing/importing Product A	Domestic market share for Product A	Stated salt content for Product A (%)	Stated proportion of salt that is iodised, for Product A, by company (%)	Total iodised salt content for Product A (%)
Company 1	67%	3.6	100%	3.6
Company 2	20%	3.3	50%	1.7
Company 3	13%	2.5	0%	0.0
<b>TOTAL</b>	<b>100%</b>	<b>9.4</b>		<b>5.3</b>
Formula				
<b>Average % Product A salt that is iodised, based on market share (%)</b>	$(67\% \times 100\%) + (20\% \times 50\%) + (13\% + 0\%)$			<b>77%</b>
<b>Average % Product A salt that is iodised, when no market share information available</b>	$5.3/9.4$			<b>56%</b>

## Appendix 4

The tables shown below are from the Excel sheet tools for the three Options. Light blue shaded cells indicate where data entry is required.

Additional fields in the Module 4 tools, not sure shown here, include the national salt iodine standards, the population group that intake levels are based on (for Option 1) and the stated salt reduction target where this is applicable. The EAR, RNI and UL iodine used in the examples below are for non-pregnant adults, 95µg/day, 150µg/day and 600µg/day respectively. There is space below each table in the tool to record references for the source of data.

The calculations shown assume 100% of salt is iodised at the mean of the national standard (25 mg/kg in the examples for Options 1 and 2) and use a conservative estimate of 30% iodine loss from production to end product.

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Table A. Example data input and output for **Module 4 tool - OPTION 1**. To estimate the *potential* contribution of *typical intake levels* for household salt and selected processed foods to iodine intake and to iodine intake relative to the EAR, RNI and UL for iodine

					Main Outcome: If all food grade salt is iodised at mean mg/kg of the national salt iodine standard, and assuming 30% loss of iodine			
Column label:		A	B	C	D	E	F	G
Food product (aim for at least 4 products). Include household (HH) salt where possible	Source reference code	Estimated average <u>daily</u> per capita <u>consumption</u> (g)	Salt content (% product weight)	Estimated <u>daily salt</u> <u>intake</u> from the product (g)	Potential iodine intake (µg) from <u>daily intake</u> (g) of the product	Potential % EAR for <u>iodine from typical</u> <u>daily intake</u> of the product	Potential % RNI for <u>iodine from typical</u> <u>daily intake</u> of the product	Potential % UL for <u>iodine from typical</u> <u>daily intake</u> of the product
Calculation for each column:				A * B	C * mean of salt iodine std * 70% (for losses)	D / EAR iodine for population group	D / RNI iodine for population group	D / UL iodine for population group
Food type					Potential iodine intake (µg)	Potential % EAR iodine	Potential % RNI iodine	Potential % UL iodine
Household salt		4.2	100.0%	4.2	73.5	77.4%	49.0%	12.3%
Seasoning powder		10.0	45.0%	4.5	78.8	82.9%	52.5%	13.1%
Bread		75.0	1.5%	1.1	19.7	20.7%	13.1%	3.3%
Instant noodles		7.7	3.2%	0.2	4.3	4.5%	2.9%	0.7%
Food 5				0.0	0.0	0.0%	0.0%	0.0%
Food 6				0.0	0.0	0.0%	0.0%	0.0%
<b>For all selected products</b>		<b>96.9</b>		<b>10.1</b>	<b>176.2</b>	<b>185.5%</b>	<b>117.5%</b>	<b>29.4%</b>
<b>For all products except HH salt</b>		<b>92.7</b>		<b>5.9</b>	<b>102.7</b>	<b>108.2%</b>	<b>68.5%</b>	<b>17.1%</b>

Table A (continued). Example data input and output for **Module 4 tool - OPTION 1**. To estimate the *estimated current* contribution of *typical intake levels* for household salt and selected processed foods to iodine intake and to iodine intake relative to the EAR, RNI and UL for iodine

		Optional - estimated current intake: If data on current household and food industry use of iodised salt known Based on estimated current % salt iodised with assumed mean (mg/kg) national salt iodine standard and 30% iodine loss				
Column label:	D	H	I	J	K	L
Food product (aim for at least 4 products). Include household (HH) salt where possible	Potential iodine intake (µg) from <u>daily intake</u> (g) of the product	Estimated percent of total salt used in the product that is iodised	Estimated current iodine intake (µg) from <u>daily intake</u> of the product (g)	Estimated current % EAR for <u>iodine from typical daily intake</u> of the product	Estimated current % RNI for <u>iodine from typical daily intake</u> of the product	Estimated current % UL for <u>iodine from typical daily intake</u> of the product
Calculation for each column:	C * mean of salt iodine std * 70% (for losses)		D * H	I / EAR iodine for population group	I / RNI iodine for population group	I / UL iodine for population group
Food type	Potential iodine intake (µg)		Current estimated iodine intake (µg)	Current % EAR iodine	Current % RNI iodine	Current % UL iodine
Household salt	73.5	70%	51.5	54.2%	34.3%	8.6%
Seasoning powder	78.8	100%	78.8	82.9%	52.5%	13.1%
Bread	19.7	50%	9.8	10.4%	6.6%	1.6%
Instant noodles	4.3	100%	4.3	4.5%	2.9%	0.7%
Food 5	0.0		0.0	0.0%	0.0%	0.0%
Food 6	0.0		0.0	0.0%	0.0%	0.0%
<b>For all selected products</b>	<b>176.2</b>		<b>144.4</b>	<b>152.0%</b>	<b>96.2%</b>	<b>24.1%</b>
<b>For all products except HH salt</b>	<b>102.7</b>		<b>92.9</b>	<b>97.8%</b>	<b>61.9%</b>	<b>15.5%</b>



Table B. Example data input and output for **Module 4 tool - OPTION 2**. To estimate the *potential* contribution of *one serving size* of selected processed foods to iodine intake and to iodine intake relative to the EAR, RNI and UL for iodine.

					Main Outcome: If all food grade salt is iodised at mean mg/kg of the national salt iodine standard, and assuming 30% loss of iodine			
Column label:		A	B	C	D	E	F	G
Food product (aim for at least 4 products). Include household (HH) salt where possible	Source reference code	Estimated average serving size (g)	Salt content (% product weight)	Estimated salt intake from one serving size of the product (g)	Potential iodine intake (µg) from one serving size (g) of the product	Potential % EAR for iodine from one serving size of the product	Potential % RNI for iodine from one serving size of the product	Potential % UL for iodine from one serving size of the product
Calculation for each column:				A * B	C * mean of salt iodine std * 70% (for losses)	D / EAR iodine for population group	D / RNI iodine for population group	D / UL iodine for population group
Food type					Potential iodine intake (µg) per serving size	Potential % EAR iodine	Potential % RNI iodine	Potential % UL iodine
Seasoning powder		3.0	45.0%	1.4	23.6	24.9%	15.8%	3.9%
Bread		30.0	1.5%	0.5	7.9	8.3%	5.3%	1.3%
Instant noodles		70.0	3.2%	2.2	39.2	41.3%	26.1%	6.5%
Food 5				0.0	0.0	0.0%	0.0%	0.0%
Food 6				0.0	0.0	0.0%	0.0%	0.0%
Food 7				0.0	0.0	0.0%	0.0%	0.0%
Food 8				0.0	0.0	0.0%	0.0%	0.0%
<b>For all selected products</b>		<b>103.0</b>		<b>4.0</b>	<b>70.7</b>	<b>74.4%</b>	<b>47.1%</b>	<b>11.8%</b>

Table B (continued). Example data input and output for **Module 4 tool - OPTION 2**. To estimate the *current* contribution of *one serving size* of selected processed foods to iodine intake and to iodine intake relative to the EAR, RNI and UL for iodine.

		Optional - estimated current iodine intake from <u>one serving size</u> : If data on current household and food industry use of iodised salt known Based on estimated current % salt iodised with assumed mean (mg/kg) national salt iodine standard and 30% iodine loss				
Column label:	D	H	I	J	K	L
Food product (aim for at least 4 products). Include household (HH) salt where possible	Potential iodine intake ( $\mu\text{g}$ ) from <u>one serving size</u> (g) of the product	Estimated percent of total salt used in the product that is iodised	Estimated current iodine intake ( $\mu\text{g}$ ) from <u>one serving size</u> of the product (g)	Estimated current % EAR for <u>iodine from one serving size</u> of the product	Estimated current % RNI for <u>iodine from one serving size</u> of the product	Estimated current % UL for <u>iodine from one serving size</u> of the product
Calculation for each column:	C * mean of salt iodine std * 70% (for losses)		D * H	I / EAR iodine for population group	I / RNI iodine for population group	I / UL iodine for population group
Food type	Potential iodine intake ( $\mu\text{g}$ ) per serving size		Current estimated iodine intake ( $\mu\text{g}$ ) per serving size	Current % EAR iodine per serving size	Current % RNI iodine per serving size	Current % UL iodine per serving size
Seasoning powder	23.6	100%	23.6	24.9%	15.8%	3.9%
Bread	7.9	50%	3.9	4.1%	2.6%	0.7%
Instant noodles	39.2	100%	39.2	41.3%	26.1%	6.5%
Food 5	0.0		0.0	0.0%	0.0%	0.0%
Food 6	0.0		0.0	0.0%	0.0%	0.0%
<b>For all selected products</b>	<b>70.7</b>		<b>66.8</b>	<b>70.3%</b>	<b>44.5%</b>	<b>11.1%</b>

Table C. Example data input and output for **Module 4 tool - OPTION 3**. To estimate the relative contribution of retail and food industry salt to national salt and iodised salt intake.

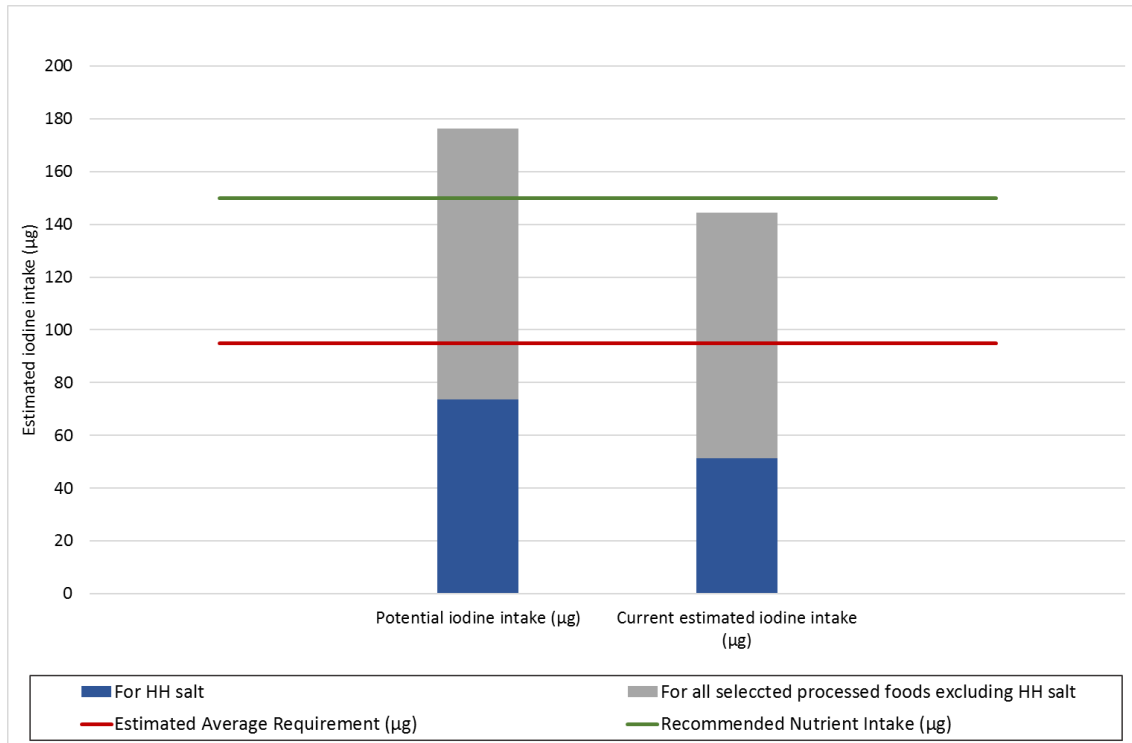
Food grade salt use	Source reference code	Estimated quantity (MT) of food grade salt distributed for different use	Relative percent food grade salt distributed for different purposes
Retail market salt (for household, small scale food production and local food outlets, etc.)		24,000	22%
Food industry salt		87,000	78%
<b>TOTAL</b>		<b>111,000</b>	<b>100%</b>

	Source reference code	Retail market salt (for household, small scale food production and local food outlets, etc.)	Food industry salt	Combined retail and food industry salt
Current estimates for percent of salt iodised		82%	35%	45%
Current estimates for percent of salt NOT iodised		18%	65%	55%

## Appendix 5

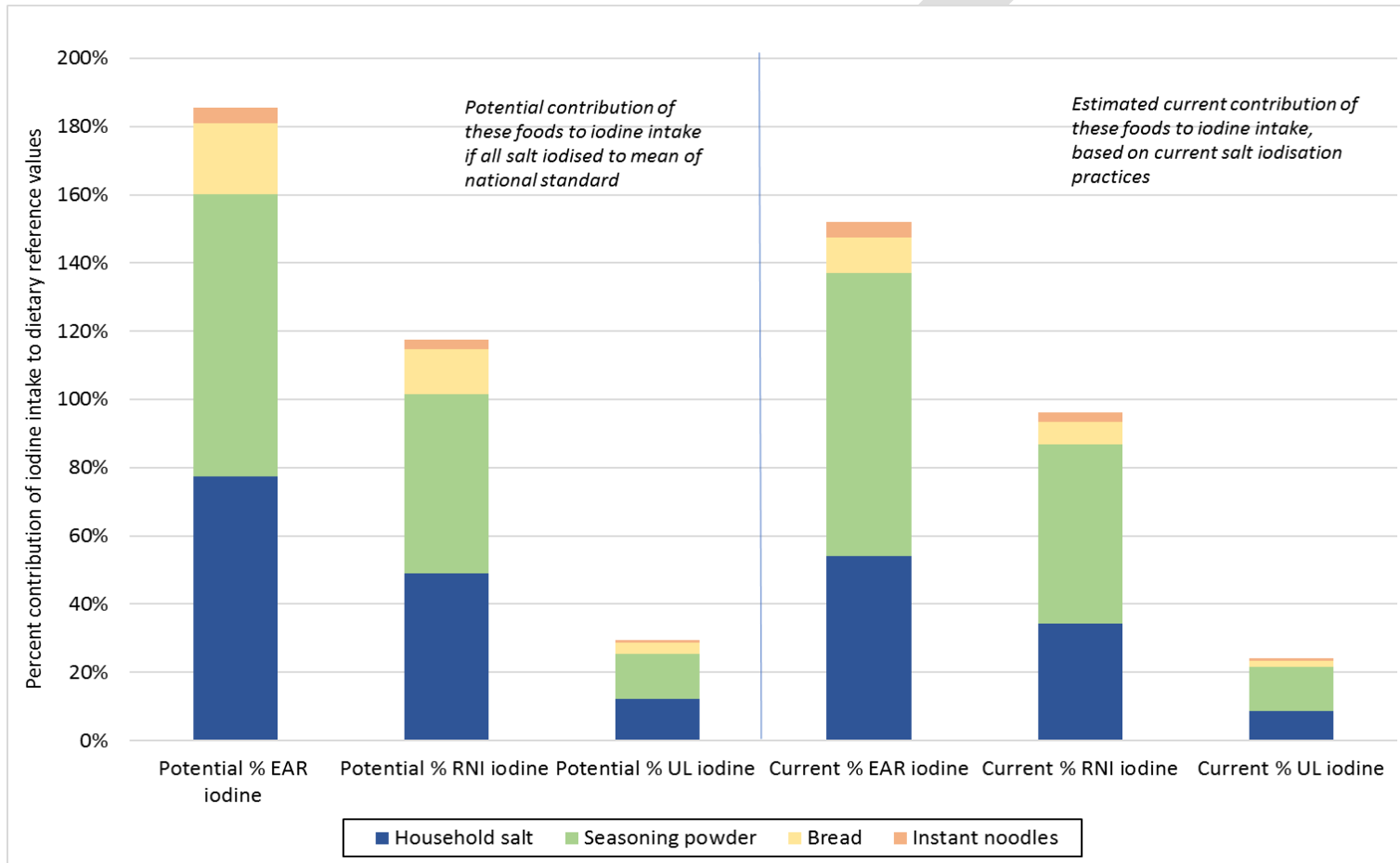
Alternative representation of the data from [Module 4 tool - OPTION 1](#)

**Chart A. Estimated *potential* iodine intake from adult consumption of household salt compared with food industry salt for the selected processed foods, if 100% salt iodised to the mean of national standards.**



For Fig A. Intake is presented in relation to the EAR and RNI for iodine for adults. The UL, not presented here, is 600µg.

**Chart B. Potential and estimated current contribution of iodised salt in household salt and processed foods as a percent of the EAR, RNI and UL for iodine.**



EAR = Estimated Average Requirement; RNI = Recommended Nutrient Intake; UL = Tolerable Upper Level