

# Nutrition Information Requirements

## User Guide to Standard 1.2.8 – Nutrition Information Requirements

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## Background

**In this user guide, the ‘old Code’ means Volume 1 of the *Food Standards Code* (the *Australian Food Standards Code*). The ‘new Code’ means Volume 2 of the *Food Standards Code* (the *Australia New Zealand Food Standards Code*). The ‘New Zealand regulations’ means the *New Zealand Food Regulations 1984*.**

In adopting the new Code in November 2000, the Ministerial Council agreed to a two-year transition period. After this, the new Code will replace both the old Code and the New Zealand regulations.

During the two-year phase-in period, foods in Australia may comply with either the old Code or the new Code (but not a combination of these). In New Zealand, foods may comply with the old Code or the new Code or the New Zealand regulations (but not a combination of these).

After this, the old Code and New Zealand regulations will be repealed and all food sold in Australia and New Zealand will have to comply with the new Code.

The new Code will mean changes in the way manufacturers and retailers make and present food for sale.

Food Standards Australia New Zealand (FSANZ)<sup>1</sup> has developed this user guide, in consultation with Australian and New Zealand government and industry representatives, to help manufacturers and retailers interpret and apply Standard 1.2.8 – Nutrition Information Requirements in the new Code. The guide may also be used by food officers to help interpret food standards in the new Code.

This user guide, unlike the standard itself, is not legally binding. If in any doubt about interpreting the standards, you should seek independent legal advice.

As well as complying with food standards requirements, you must also continue to comply with other legislation. In Australia, this legislation includes the *Trade Practices Act 1974*, the *Imported Food Control Act 1992*, and State and Territory Fair Trading Acts and Food Acts. In New Zealand, this legislation includes the *Food Act 1981* and *Fair Trading Act 1986*.

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<sup>1</sup> Formerly the Australia New Zealand Food Authority – ANZFA.

## **Purpose**

This guide explains when nutrition information is required, and the way in which it must be presented. It is not a substitute for independent legal advice.

This guide does not follow Standard 1.2.8 clause by clause. It concentrates on those provisions of the Standard that have been identified in public submissions as benefiting from further clarification.

In Australia not all nutrition claims are regulated by the new Code. The voluntary *Code of Practice on Nutrient Claims in Food Labels and in Advertisements* (CoPoNC) provides criteria for the use of additional claims. Whilst not enforceable by law, the success of codes of practice is dependent on manufacturers adhering to the guidelines as specified. CoPoNC should be read in conjunction with the Standard. It is currently being considered as part of the broader review of nutrition content and related claims, Proposal P234. In this guide cross-references are made to the CoPoNC where appropriate. A copy of CoPoNC can be obtained from the Information Officer at FSANZ: tel: +61 2 6271 2241, email:

[info@foodstandards.gov.au](mailto:info@foodstandards.gov.au) or from the FSANZ website: [www.foodstandards.gov.au](http://www.foodstandards.gov.au) or [www.foodstandards.govt.nz](http://www.foodstandards.govt.nz)

## **Do any other standards refer to nutrition labelling?**

The following standards also have provisions relevant to nutrition labelling:

- Standard 1.2.1 – Application of Labelling and Other Information Requirements sets out general labelling requirements and exemptions and defines small packages.
- Standard 1.3.2 – Vitamins and Minerals sets out the labelling requirements when a claim is made about the vitamin and mineral content of a food.
- Standard 2.9.1 – Infant Formula Products sets out the specific nutrition labelling requirements that apply to infant formula products.
- Standard 2.9.3 – Formulated Meal Replacements and Formulated Supplementary Foods sets out the nutrition labelling requirements that apply to formulated meal replacements and formulated supplementary foods.

- Standard 2.9.4 – Formulated Supplementary Sports Foods sets out the requirements when a claim is made about the vitamin and mineral content and other nutritive ingredients of these foods.

## **What has changed?**

All packaged foods must now carry a nutrition information panel, except where they are specifically exempted. This differs from the previous requirement, where a panel was required only for special purpose foods or when a nutrition claim was made.

The nutrients that must be declared are energy, protein, fat, saturated fat, carbohydrate, sugars and sodium.

Some foods are exempt from displaying a panel (see *Part 2 — Foods exempt from carrying a nutrition information panel*). However, irrespective of the exemptions, where a nutrition claim is made, a nutrition information panel must be included on the label (see *Part 3 — Nutrition information panels where a nutrition claim is made*). Where exempt, manufacturers can still provide this information voluntarily, in the format prescribed in Standard 1.2.8 (see *Requirements when giving voluntary nutrition information*).

If you produce a packaged food that is not for retail sale, not for catering purposes nor supplied as an intra company transfer, you are required to provide a purchaser with sufficient information to be able to design a panel for their product if they request it. For example, if you supply a cream cheese to a company and they ask you to provide them with the energy, protein, fat, saturated fat, carbohydrate, sugars and sodium values for this product, then you are required to do so.

*Clause 4 of Standard 1.2.1 outlines the requirements for provision of information in relation to food not for retail sale.*

The remainder of this guide is divided into three parts:

Part 1 — Nutrition information panels

Part 2 — Foods exempt from carrying a nutrition information panel

Part 3 — Nutrition information panels where a nutrition claim is made

## **Part 1 — Nutrition information panels (where no nutrition claim is made)**

### ***What information should be in the panel?***

The nutrients that must be declared are:

- energy
- protein
- fat
- saturated fat
- carbohydrate
- sugars, and
- sodium.

*Clause 1 of Standard 1.2.8 provides definitions for several of these nutrients, which are explained in Attachment 7.*

### ***How should it be presented?***

There is a prescribed format for the panel.

The following is an example of how the core panel would be set out for a jar of peanut butter.

<b>NUTRITION INFORMATION</b>		
Servings per package: 25		
Serving size: 15 g		
	Average* Quantity per Serving**	Average* Quantity per 100 g**
Energy	384 kJ ***	2560 kJ ***
Protein	4.4 g	29.3 g
Fat, total	7.6 g	50.7 g
– saturated****	1.5 g	10.0 g
Carbohydrate *****	2.0 g	13.3 g
– sugars	0.9 g	6.0 g
Sodium	41 mg ***	273 mg ***

\* In this guide, the term ‘Average’ is used at the beginning of the ‘Quantity per Serving’ column headings in the panel—the format for providing this information is not prescribed (see *How do I display the average quantity?*).

\*\*For solid and semi-solid foods, the values in the ‘average quantity per serving’ and ‘average quantity per 100 g’ columns should be expressed in grams. For liquid foods, the values in these columns should be expressed in mL.

\*\*\* The terms ‘Cal’ and ‘mmol’ are not mandatory. The energy content can be listed in kilojoules or both in kilojoules and calories (kilocalories) and the sodium content can be listed in milligrams or both milligrams and millimoles.

\*\*\*\* For the purposes of nutrition labelling, specific fatty acids sub-groups can be abbreviated. For example, saturated fatty acids can be listed in the panel as ‘saturated’.

\*\*\*\*\*Carbohydrate can be calculated by difference or as available carbohydrate. The word ‘Carbohydrate’ may be replaced by ‘Carbohydrate, total’.

*Clause 5 of Standard 1.2.8 sets out the requirements for setting out the nutrition information panel.*

*Subclause 5 (3A) permits the use of the term ‘Carbohydrate’ or ‘Carbohydrate, total’.*

*Subclauses 5 (6), 5 (6A), 5 (6B) and 5 (6C) of Standard 1.2.8 outline the declarations required in the nutrition information panel when using carbohydrate by difference or available carbohydrate.*

### ***What values should I use in the panel?***

The nutrient values listed must be average quantities except in the case of claims in relation to polyunsaturated or monounsaturated fatty acids (see below).

### ***How should a serving be expressed?***

For solid and semi-solid foods, for example ice cream, the values in the ‘average quantity per serving’ and ‘average quantity per 100 g’ columns should be expressed in grams. For liquid foods, the values in these columns should be expressed in mL.

### ***How do I display the average quantity?***

Consumers must be alerted to the average nature of these declarations or, if applicable, to maximum or minimum values. The new Code does not prescribe how this should be done. It is up to the manufacturer to determine how to clearly indicate average or minimum or maximum quantities. For example, the word ‘Average’ or the abbreviation ‘Avg’ may be inserted at the beginning of the ‘Quantity per Serving’ and the ‘Quantity per 100 g (or per 100 mL)’ columns. Alternatively, a note below the panel can be included, e.g. ‘All values are considered averages unless otherwise indicated’.

For the purposes of this guide, the term ‘Average’ is used at the beginning of the ‘Quantity per Serving’ column headings in the panel.

### ***When can I replace ‘average’ quantity with ‘minimum’ and ‘maximum’?***

You can use minimum and maximum quantities only for fatty acids when you make a polyunsaturated or monounsaturated fatty acids claim (discussed in Part 3). There is no prescribed format for minimum or maximum quantities. For example, they may be shown as bracketed abbreviations ‘(min)’ and ‘(max)’ after the relevant fatty acid quantities (in grams) listed in the ‘Quantity per Serving’ column.

*Clause 2 of Standard 1.1.1 states that average quantities may be determined by analysis or calculation.*

*Clause 5(2) of Standard 1.2.8 requires that it must be made clear in the panel which quantities are average quantities and which (where permitted) are minimum and maximum quantities.*

### ***To how many decimal places should I declare the values in the panel?***

Values in the nutrition information panel should be declared to no more than three significant figures using the prescribed units. A significant figure refers to the digits in a number excluding the zeros after an integral number or before a decimal fraction. For example, both 0.0352 and 35 200 are both declared to three significant figures. The rules for rounding significant figures are as follows:

- if the 4<sup>th</sup> significant figure is in the range 1 to 4, the 3<sup>rd</sup> significant figure is unchanged eg 0.03524 is rounded to 0.0352.
- if the 4<sup>th</sup> significant figure is in the range 6 to 9, the 3<sup>rd</sup> significant figure is rounded up eg 0.03528 is rounded to 0.0353.
- if the 4<sup>th</sup> significant figure is 5, rounding occurs as follows: if the 3<sup>rd</sup> significant figure is an even number, it remains unchanged eg 0.03525 is rounded to 0.0352; if the 3<sup>rd</sup> significant figure is an odd number, it is rounded up eg 0.03575 is rounded to 0.0358.

Note that the Standard only requires that numbers be declared to a MAXIMUM of three significant figures, this does not preclude manufacturers from declaring values to less than three significant figures.

*Clause 6 (1) of Standard 1.2.8 requires that the average energy content and average or minimum or maximum quantities of nutrients and biologically active substances must be expressed in the panel to no more than three significant figures.*

### ***What is a serving?***

The serving size used in the panel is not prescribed. Serving sizes specified by the manufacturer should reflect a realistic portion of the food that a person might normally consume. Fair trading laws require that the serving size should not be false, misleading or deceptive. If the serving size is equal to 100 g, the two columns are still required to be displayed in the Nutrition Information Panel, namely the 'per serve' and 'per 100 g' columns.

The word 'slice', 'pack', or 'package' may replace the term 'serving'. For example, one slice of bread (28 g) may be used to represent a serving. You may also use any word describing a common measure or unit including 'metric cup' or 'metric tablespoon'.

### ***What are food components?***

Food is made up of the basic macronutrients, such as fat, carbohydrate and protein as well as other components such as micronutrients (vitamins and minerals), organic acids and alcohol, which may be major or minor constituents of the food.

In some foods the fat, protein or carbohydrate may be substituted by another form of that food component. For example, sugar may be replaced by polyols (sugar alcohols).

### ***How do I calculate a panel?***

To calculate a panel, you will need certain information (food composition data), including the quantity of food components per 100 g or 100 mL and per serve.

### ***How do I get food composition data for calculating a panel?***

There are a number of methods that can be used to calculate a panel. These include:

- Nutrition Panel Calculator
- other software
- laboratory analysis
- food composition tables or databases

#### **NUTRITION PANEL CALCULATOR**

The Nutrition Panel Calculator (NPC) is an on-line application, which has been designed to assist food retailers and manufacturers derive average nutrient quantities for the purpose of calculating a nutrition information panel. The NPC will automatically generate a core panel for the seven mandatory nutrients – energy, fat, saturated fat, protein, carbohydrate (available), sugars and sodium. The NPC and accompanying Explanatory Notes can be accessed from FSANZ's website: [www.foodstandards.gov.au](http://www.foodstandards.gov.au) or [www.foodstandards.govt.nz](http://www.foodstandards.govt.nz)

Further information about the NPC including limitations is at Attachment 1.

### **OTHER SOFTWARE**

There are a small number of software companies that develop more sophisticated nutritional analysis software than provided by the NPC.

Contact details for these software companies are listed at Attachment 1.

### **LABORATORY ANALYSIS**

Foods can be analysed, preferably by laboratories accredited by either the National Association of Testing Authorities (NATA) or International Accreditation New Zealand (IANZ).

A more detailed discussion on the issues associated with laboratory analysis is at Attachment 1.

### **FOOD COMPOSITION TABLES OR DATABASES**

Food composition tables or databases can be used to calculate the average quantity of specific nutrients in 100 g of the food. For some foods the average quantity of fat, saturated fat, protein, carbohydrate, energy, sugars and sodium can be taken directly from food composition tables, providing the definitions of carbohydrate, dietary fibre and energy conform to the requirements of the new Code. This is especially the case where the product is a basic food or comes from a standard recipe. As values in food tables are generally for 100 g of the edible portion of the food, it will still be necessary to calculate the average quantity of these nutrients per serving.

It is not always possible or appropriate to determine the nutrient composition of foods, especially recipe foods, directly from food composition tables. There may be no entry for the food in question, or it may differ significantly from its standard counterpart in formulation, making the use of existing nutrient data inappropriate. In such cases, the nutrient composition of the food should be determined from the nutrient content of each of its ingredients.

For a manual calculation, Attachments 2–4 provide examples of calculation of values to go in the panel for foods that do not require cooking, a cooked food, and a liquid food or beverage, respectively.

Attachment 6 provides templates for the calculation of values to go into the panel.

A more detailed discussion on the issues associated with food composition tables is at Attachment 1.

#### **WHAT ABOUT FOODS THAT ARE PREPARED IN SOME WAY BEFORE CONSUMPTION?**

The requirement for foods that should be reconstituted with water or drained before consumption is that the panel should reflect the nutritional content of the food prepared for consumption. For example, it is recommended that cordial be diluted one part cordial to four parts water, so the values in the panel should be based on the cordial in its ready-to-drink form. It is expected that the information in the panel would describe the food as drained or diluted.

Where a manufacturer suggests that the food be prepared or consumed with at least one other food, the requirement is that the panel contains a 'per serve' and a 'per 100 g' column that reflects the contents of the package. In addition, manufacturers have the option to include an additional column that reflects the nutritional value of the food made as per the directions on the package. The top of this column should outline what the additional ingredients are and the column should reflect the nutritional value of the food made up as per the directions on the package. It is at the manufacturers discretion whether this column is displayed per serve or per 100 g or 100 mL.

The following is an example of how the nutrition information panel should be set out.

<b>NUTRITION INFORMATION</b>			
Servings per package: (insert number of servings)			
Serving size: g (or mL or other units as appropriate)			
	Average Quantity per Serving	Average Quantity per 100g	Average quantity per serving with ..... + ..... (list ingredients)
Energy	kJ (Cal)	kJ (Cal)	kJ (Cal)
Protein	g	g	g
Fat, total	g	g	g
– saturated	g	g	g
Carbohydrate	g	g	g
– sugars	g	g	g
Sodium	mg (mmol)	mg (mmol)	mg (mmol)
(Insert any other nutrient or biologically active substance to be declared)	g, mg, µg (or other units as appropriate)	g, mg, µg (or other units as appropriate)	g, mg, µg (or other units as appropriate)

*Clauses 9 and 10 of Standard 1.2.8 refer to foods where the manufacturer suggests that they be drained, re-hydrated, diluted, or prepared with another food before consumption.*

*Clause 11 of Standard 1.2.8 refers to foods where the manufacturer suggests that they be prepared or consumed with at least one other food.*

## **Part 2 — Foods exempt from carrying a nutrition information panel**

Foods exempt elsewhere in the Code from bearing a label are also exempt from carrying a panel unless a nutrition claim is made. These foods are:

- food other than in a package;
- food in inner packages not designed for sale without the outer package (a panel would still be required on the outer package);
- food made and packaged on the premises from which it is sold, e.g. foods sold from display cabinets at cafés, delicatessens, butchers, and bakeries; pre-packaged filled rolls/sandwiches/bagels;
- food packaged in the presence of the purchaser, e.g. bulk bin food, delicatessen food, self-serve salads;
- whole or cut fresh fruit and vegetables, except sprouting seeds or similar products, in packages that do not obscure the nature or quality of the fruit or vegetables;
- food delivered packaged and ready for consumption, at the express order of the purchaser, e.g. pizza ordered by telephone;
- foods sold at a fundraising event.

Manufacturers may voluntarily provide a panel on these foods in the format prescribed in Standard 1.2.8 if they wish.

*Clause 2(1)(a)–(g) of Standard 1.2.1 – Application of Labelling and Other Information Requirements lists foods exempt from having to bear a label.*

The following foods are also exempt from carrying a panel unless a nutrition claim is made:

- foods sold at a fund-raising event (Standard 1.2.1);
- standardised alcoholic beverages (defined in Part 2.7);
- herbs, spices, herbal infusions;
- vinegar and related products (defined in Standard 2.10.1);
- salt and salt products (defined in Standard 2.10.2);

- tea, decaffeinated tea, decaffeinated instant or soluble tea, instant or soluble tea, coffee, decaffeinated coffee, decaffeinated instant or soluble coffee, instant or soluble coffee (defined in Standard 1.1.2);
- food additives (defined in Standard 1.3.1);
- processing aids (defined in Standard 1.3.3);
- fruit, vegetables, meat, poultry, and fish that comprise a single ingredient or category of ingredients (although sprouting seeds and similar products are not exempt from general labelling they are exempt from carrying a panel);
- food in a small package (a small package defined in Standard 1.2.1 has a surface area of less than 100 cm<sup>2</sup>);
- gelatine (defined in Standard 1.1.2);
- water, mineral or spring (defined in Standard 2.6.2);
- prepared filled rolls, sandwiches, bagels and similar products;
- jam setting compound.

It is important to note that a combination of exempt foods is not exempt from the requirement to carry a panel. For example, a package of meat coated with herbs and spices would be required to carry a panel. These exemptions only apply when the food is present on its own. When a food is part of a mixed food, the nutritional contribution of this food must still be taken into account. For example, the apple in apple crumble, must be taken into account in the final value of the panel even though the apple on its own would be exempt from carrying a panel.

*Clause 3 of Standard 1.2.8 lists foods exempted from nutrition information requirements.*

## **Part 3 — Nutrition information panels where a nutrition claim is made**

### ***What is a nutrition claim?***

A nutrition claim is a statement that suggests that the food has a nutritional property and includes references to energy, carbohydrate, sugars, starch, protein, amino acids, fat, cholesterol, fatty acids, dietary fibre, salt, sodium, potassium, and vitamins and minerals.

The definition has been expanded to include biologically active substances. For the purpose of nutrition labelling, biologically active substances refers to substances, other than the traditionally recognised nutrients, that are associated with health effects, for example, plant sterols and anti-oxidants.

A quantified declaration of the claimed substance must be included in the panel as well as the mandatory nutrient declarations.

The following are examples of nutrition claims:

- ‘good source of calcium’
- ‘high in dietary fibre’
- ‘contains less cholesterol’
- ‘reduced salt’.

While the following may relate to processing procedures, terms such as ‘sweetened’, ‘unsweetened’, ‘salted’ and ‘no added sugars’ are also considered to be nutrition claims.

There are, however, a number of commonly used names of foods that may include such terms as sweetcorn, where obviously no sugar or sweetening agent has been added. Such terms do not necessitate a panel.

Under the new labelling provisions, the voluntary disclosure of a nutrient in the panel is also considered a nutrition claim. For example, if a manufacturer voluntarily provides the polyunsaturated fat content of a food, additional information as required for a polyunsaturated fat claim must also be provided.

If a nutrition claim is made, other information specific to the nature of the claim must be included in the panel. This information is outlined below.

### ***What if I make a nutrition claim on an exempt food?***

When a nutrition claim is made for a food, the exemptions do not apply and a panel must be provided. Small packages, i.e. packages with a surface area of less than 100cm<sup>2</sup>, need not display a panel as such, but must provide certain related information (see below).

### ***What are the requirements for the panel if a nutrition claim is made?***

Where a nutrition claim is made, the panel must include the seven mandatory nutrients:

- energy
- protein
- fat
- saturated fat
- carbohydrate
- sugars, and
- sodium.

You must also give information on any claimed nutrient or biologically active substance, and any other nutrients that constitute a nutrition claim (see Attachment 7 for definition). The following example shows how to set out a panel for a strawberry yoghurt with a claim on the label that it is 'a good source of calcium'.

### NUTRITION INFORMATION

Servings per package: 3

Serving size: 150 g

	Average Quantity per Serving	Average Quantity per 100 g
Energy	608 kJ	405 kJ
Protein	4.2 g	2.8 g
Fat, total	7.4 g	4.9 g
– saturated	4.5 g	3.0 g
Carbohydrate	18.6 g	12.4 g
– sugars	18.6 g	12.4 g
Sodium	90 mg	60 mg
Calcium	300 mg (38% RDI)*	200 mg

\* Percentage of recommended dietary intake

### *Conditions for making certain claims*

There are conditions associated with making claims about:

- vitamin or mineral content
- dietary fibre, any specifically named dietary fibre, sugars or carbohydrate
- salt, sodium, and potassium
- fatty acid or dietary cholesterol
- omega fatty acids
- energy
- lactose, and

- gluten.

*Division 3 (clauses 12–17) of Standard 1.2.8 sets out the conditions, or eligibility criteria, for making certain nutrition claims.*

### **CONDITIONS FOR VITAMIN OR MINERAL CONTENT CLAIMS**

In order to make a claim about the vitamin or mineral content of the food, the food must be a ‘claimable food’<sup>1</sup>, as defined in Standard 1.3.2. In order to make a ‘source’ claim, the product must contain at least 10% of the recommended dietary intake (RDI)<sup>2</sup> or estimated safe and adequate daily dietary intake (ESADDI)<sup>2</sup> per serve for the vitamin or mineral. To be a ‘good source’ of a vitamin or mineral, the food must contain no less than 25% of the RDI<sup>2</sup> or ESADDI<sup>2</sup> per serve for the vitamin or mineral. The percentage of the RDI<sup>2</sup> of the vitamin or mineral contributed by a serving of food must be stated in the panel, in addition to the µg/mg per serving and µg/mg per 100 g or 100 mL.

The following is an example of a vitamin C claim and the required panel format.

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1 A claimable food means a food which consists of at least 90% by weight of

- (a) (i) primary foods; or
- (ii) foods listed in the table to clause 3 of Standard 1.3.2; or
- (b) (i) a mixture of primary foods; and/or
- (ii) water; and/or
- (iii) food listed in the table to clause 3 of Standard 1.3.2 excluding butter, cream and cream products, edible oils, edible oil spreads and margarine.

2 Reference RDIs and ESSADDIs are given in the Schedule to Standard 1.1.1.

### NUTRITION INFORMATION

Servings per package: (insert number of servings)

Serving size: g (or mL or other units as appropriate)

	Average Quantity per Serving	Average Quantity per 100 g (or 100 mL)
Energy	kJ (Cal)	kJ (Cal)
Protein	g	g
Fat, total	g	g
– saturated	g	g
Carbohydrate	g	g
– sugars	g	g
Sodium	mg (mmol)	mg (mmol)
Vitamin C	mg (...% RDI)	mg

*Standard 1.3.2 outlines conditions for making claims about the vitamin or mineral content of a food and reference values for RDIs and ESADDIs are given in the Schedule to Standard 1.1.1.*

#### **TRIGGERED CLUSTER CLAIMS**

Triggered clusters are groups of related nutrient declarations that are triggered by a claim relating to any nutrient in the cluster. The clusters share common characteristics and refer to fatty acids; carbohydrate, dietary fibre, any specifically named fibre and sugars; and sodium and potassium.

When the panel contains nutrients that are sub-groups of other declared nutrients, they should be indented under the main nutrient and set out in logical groupings.

**CONDITIONS FOR DIETARY FIBRE, SUGARS OR CARBOHYDRATE CLAIMS**

Claims relating to dietary fibre, any specifically named fibre, sugars or any type of carbohydrate also require the declaration of the presence or absence of dietary fibre as well as the claimed nutrient and mandatory nutrients (which include carbohydrate and sugars).

For claims such as ‘no added sugar’ or ‘no added sugars’ (as defined in CoPoNC), the declaration of total sugars in the NIP is expected to meet the requirements of Standard 1.2.8. The rationale for declaring total sugars rather than sucrose or any other monosaccharides or disaccharides in this case is that consumers would be able to compare the total sugars content of a food bearing a ‘no added sugar’ claim with a sweetened counterpart.

The following is an example of the required panel format in relation to a claim about a specifically named dietary fibre claim (inulin).

<b>NUTRITION INFORMATION</b>		
Servings per package: (insert number of servings)		
Serving size: g (or mL or other units as appropriate)		
	Average Quantity per Serving	Average Quantity per 100 g (or 100 mL)
Energy	kJ (Cal)	kJ (Cal)
Protein	g	g
Fat, total	g	g
– saturated	g	g
Carbohydrate	g	g
– sugars	g	g
Dietary fibre, total	g	g
– inulin	g	g
Sodium	mg (mmol)	mg (mmol)

*Clause 18 of Standard 1.2.8 lists the required methods of analysis that determine dietary fibre and components of dietary fibre.*

*For more information about conditions for making claims about sugars and dietary fibre see the Code of Practice on Nutrient Claims in Food Labels and in Advertisements (pp 12–13).*

### **CONDITIONS FOR SALT, SODIUM OR POTASSIUM CLAIMS**

A claim that a food is ‘low in sodium’ may be made only if the food contains less than 120 mg of sodium per 100 g of the food. In addition, where a nutrition claim is about the salt, sodium or potassium content of the food, then both sodium and potassium need to be declared in the panel together with the mandatory nutrients. Examples of nutrition claims about salt include ‘no added salt’ and ‘unsalted’.

The following is an example of how to set out a panel when you make a claim about sodium.

<b>NUTRITION INFORMATION</b>		
Servings per package: (insert number of servings)		
Serving size: g (or mL or other units as appropriate)		
	Average Quantity per Serving	Average Quantity per 100 g (or 100 mL)
Energy	kJ (Cal)	kJ (Cal)
Protein	g	g
Fat, total	g	g
– saturated	g	g
Carbohydrate	g	g
– sugars	g	g
Sodium	mg (mmol)	mg (mmol)
Potassium	mg (mmol)	mg (mmol)

*Clause 17 of Standard 1.2.8 sets out the criteria for claims about salt, sodium or potassium. The Code of Practice on Nutrient Claims in Food Labels and in Advertisements (p.15) also provides conditions for making claims about salt and sodium.*

## CONDITIONS FOR FATTY ACIDS OR CHOLESTEROL CLAIMS

A nutrition claim must not be made for polyunsaturated and monounsaturated fatty acids unless:

- the total of saturated fatty acids and trans fatty acids comprises no more than 28% of the total fatty acid content of the food; and
- the fatty acid in respect of which the nutrition claim is made comprises no less than 40% of the total fatty acid content of the food.

If you make a claim about trans, polyunsaturated, or monounsaturated fatty acids, cholesterol or omega-3, omega-6 or omega-9 fatty acids, the panel must include declarations of the claimed nutrient (e.g. omega-3) as well as trans, polyunsaturated and monounsaturated fatty acids and the mandatory nutrients.

*Clause 12 of Standard 1.2.8 sets out the criteria for claims about poly or monounsaturated fatty acids.*

*For more information regarding conditions for making claims about some fatty acids or cholesterol see the Code of Practice on Nutrient Claims in Food Labels and in Advertisements (pp 9–11).*

The following is an example of how to set out a panel when a claim about polyunsaturated fat is made.

### NUTRITION INFORMATION

Servings per package: (insert number of servings)

Serving size: g (or mL or other units as appropriate)

	Average Quantity per Serving	Average Quantity per 100 g (or 100 mL)
Energy	kJ (Cal)	kJ (Cal)
Protein	g	g
Fat, total	g	g
– saturated (max)	g	g
– trans (max)	g	g
– polyunsaturated (min)	g	g
– monounsaturated (min)	g	g
Carbohydrate	g	g
– sugars	g	g
Sodium	mg (mmol)	mg (mmol)

#### CONDITIONS FOR OMEGA FATTY ACID CLAIMS

To make a claim relating to the omega-3 fatty acid content of a food eg ‘source of’ (other than fish or fish products which are a natural source of omega-3 fatty acids and have no added saturated fatty acids), the food must contain:

- less than 28% of the total fatty acids as saturated and trans fatty acids; or
  - less than 5 g total of saturated and trans fatty acids per 100 g /100 mL of food;
- and
- 200 mg alpha-linolenic acid (ALA) per serving; or
  - 30 mg total eicosapentaenoic (EPA) and docosahexaenoic (DHA) acid per serving.

To make an omega-3 ‘good source’ claim, or a claim with similar import, the food must contain:

- less than 28% of the total fatty acids as saturated and trans fatty acids; or
  - less than 5 g total of saturated and trans fatty acids per 100 g /100 mL of food.
- and
- at least 60 mg total EPA + DHA per serving.

If either an omega-3 claim or ‘good source’ of omega-3 claim is made, the panel must indicate the type of omega-3 fatty acid, eg ALA or EPA + DHA.

To make an omega-6 or omega-9 fatty acid claim, the food must meet the following criteria:

- the total of saturated fatty acids and trans fatty acids comprises no more than 28% of the total fatty acid content of the food; and
- the fatty acid in respect of which the nutrition claim is made comprises no less than 40% of the total fatty acid content of the food.

The following is an example of an omega-3 claim and the required panel.

### NUTRITION INFORMATION

Servings per package: (insert number of servings)

Serving size: g (or mL or other units as appropriate)

	Average Quantity per Serving	Average Quantity per 100 g (or 100 mL)
Energy	kJ (Cal)	kJ (Cal)
Protein	g	g
Fat, total	g	g
– saturated (max)	g	g
– trans (max)	g	g
– polyunsaturated (min)	g	g
– omega 3	g	g
– eicosapentaenoic acid	mg	mg
– docosahexaenoic acid	mg	mg
– monounsaturated (min)	g	g
Carbohydrate	g	g
– sugars	g	g
Sodium	mg (mmol)	mg (mmol)

*Clause 13 of Standard 1.2.8 sets out the criteria for claims about omega fatty acids.*

#### CONDITIONS FOR LOW OR REDUCED ENERGY CLAIMS

‘Low joule’ claims are permitted on foods that have a maximum kilojoule content of 80 kJ per 100 mL for beverages and a maximum kilojoule content of 170 kJ per 100 g for other foods. Other foods include semi-solid foods such as custards, yoghurts and sauces. The criteria relate to foods and beverages when made up as directed.

Where polyols, polydextrose and intense sweeteners are added to foods to substitute for macronutrients, e.g. fat or carbohydrates, then it is likely that the food would qualify to carry a ‘low joule’ or ‘reduced joule’ claim.

In the case of the modified chocolate cake example in Attachment 5, a low joule claim would not be allowed because the average energy content is more than 170 kJ/100 g. However, a reduced joule claim could be made since the modified cake contains at least 25% less energy than a normal chocolate cake and contains at least 170 kJ less energy per 100 g cake (545 kJ less energy or 28% energy reduction).

To make a low joule claim on foods intrinsically low in energy, i.e. foods that are naturally low in kilojoules that meet the low joule criteria such as green leafy vegetables, the label must include a statement that indicates the whole class of the food is low joule. For example, 'lettuce is a low joule food'.

*Clause 14 of Standard 1.2.8 provides conditions for making low joule claims.*

*For more information on conditions for making for 'reduced energy/reduced joule' claims, see the Code of Practice for Nutrient Claims in Food Labels and in Advertisements (p.16).*

#### **CONDITIONS FOR LACTOSE CLAIMS**

To make a claim that a food is 'low in lactose', the food must contain no more than 0.3 g of lactose per 100 g of the food. If the food is 'lactose free' there are to be no detectable traces of lactose. A 'lactose reduced' food must be accompanied by a declaration of the proportion by which the lactose content of the food has been reduced when compared to the normal counterpart food. When a claim is made in relation to lactose, the amount of lactose and galactose in the food, in addition to the mandatory nutrients, must be provided in the panel.

The following is an example of the required panel format for a lactose claim.

### NUTRITION INFORMATION

Servings per package: (insert number of servings)

Serving size: g (or mL or other units as appropriate)

	Average Quantity per Serving	Average Quantity per 100 g (or 100 mL)
Energy	kJ (Cal)	kJ (Cal)
Protein	g	g
Fat, total	g	g
– saturated	g	g
Carbohydrate	g	g
– sugars	g	g
– lactose	g	g
– galactose	g	g
Sodium	mg (mmol)	mg (mmol)

*Clause 15 of Standard 1.2.8 sets out the criteria for claims about lactose.*

#### CONDITIONS FOR GLUTEN CLAIMS

To make a ‘gluten free’ claim, the food must contain no detectable traces of gluten, oats or malt. If a food is claimed to be ‘low in gluten’, it must contain no more than 20 mg gluten per 100 g of the food and no oats or malt. Claims that a food contains gluten or is high in gluten may be made, provided they have greater than 20 mg gluten per 100 g of food. If a claim is made in relation to gluten, the quantity of gluten in the food—in addition to the mandatory nutrients—must be provided in the panel.

The following is an example of the required panel format for a gluten claim.

### NUTRITION INFORMATION

Servings per package: (insert number of servings)

Serving size: g (or mL or other units as appropriate)

	Average Quantity per Serving	Average Quantity per 100 g (or 100mL)
Energy	kJ (Cal)	kJ (Cal)
Protein, total	g	g
Fat, total	g	g
– saturated	g	g
Carbohydrate	g	g
– sugars	g	g
Sodium	mg (mmol)	mg (mmol)
Gluten	mg	mg

*Clause 16 of Standard 1.2.8 sets out the criteria for claims about gluten.*

#### ***How do I fit a panel on a small package?***

(See definition of ‘a small package’ in Part 2 of this guide.)

Small packages are exempt from providing a panel. When you make a nutrition claim for a food in a small package, the label must show the average quantity of the claimed nutrient or biologically active substance present per 100 g of food. It does not need to include the mandatory nutrients: energy, protein, fat, saturated fat, carbohydrate, sugars, and sodium unless a nutrition claim is made about them.

**Example**

‘This product is high in calcium.’

If you make this claim, the label must declare the amount of calcium per 100 g.

Calcium: 486 mg/100 g

When a nutrition claim is made relating to dietary fibre, sugars or any other type of carbohydrate, the average quantity of energy, carbohydrate, sugars and dietary fibre present per 100 g of the food must be shown on the label.

**Example**

‘This product is high in dietary fibre.’

If you make this claim, the label must declare the amount of energy, carbohydrate, sugars and dietary fibre per 100 g.

Amounts per 100 g    Energy: 1470 kJ; Carbohydrate: 81.7 g; Sugars: 21.4 g; Dietary fibre: 21.0 g

When a nutrition claim is made relating to cholesterol, saturated, trans, polyunsaturated or monounsaturated fatty acids or any omega-related claims, the amount of saturated fatty acids, trans fatty acids, polyunsaturated fatty acids and monounsaturated fatty acids present in the food must be shown on the label.

**Example**

‘Brand X is a monounsaturated margarine.’

If you make this claim, the label must declare the quantity per gram of saturated fatty acids, monounsaturated fatty acids, polyunsaturated fatty acids and trans fatty acids in the food.

Amounts per total fat—saturated fatty acids: 15.6 g maximum; monounsaturated fatty acids: 27 g minimum; polyunsaturated fatty acids: 12 g minimum; trans fatty acids: 0.4 g maximum.

**Note:** Where you make a polyunsaturated or monounsaturated fatty acid claim, you may declare the minimum and maximum fatty acid content of the types of fatty acids instead of the average quantity. Total fat must still be expressed as an average quantity.

When you make a claim that the food is fat-free, sugar-free, low joule or any similar term, the label must show the average quantity of energy present per 100 g of the food.

#### **Example**

‘This product is low in energy.’

If you make this claim, the label must show the average quantity of energy per 100g.

Energy: 466 kJ/100 g

*Clause 8 of Standard 1.2.8 sets out the nutrition labelling requirements for small packages.*

### **Requirements when giving voluntary nutrition information**

#### ***What is percentage of daily intake (%DI)?***

Information about the percentage daily intake may be provided in the panel. Percentage daily intake refers to the total amount of macronutrients that should be consumed daily. These are expressed as a percentage, relative to the amount of energy that the food will provide. It is intended to assist consumers understand the relationship between the nutrient content in a serving of the product and targeted intakes of particular nutrients. This differs from %RDI and %ESADDI information which refers to vitamins and minerals.

Where percentage daily intakes are included in the panel the percentage daily intake must be calculated using the reference values at Attachment 9 and the following formula:

$$\%DI = \frac{\text{Quantity in a serve}}{\text{Reference value}} \times 100$$

**Example**

‘How do I calculate the ‘percentage daily intake?’

If one serving of the product contains 10 g of fat and the reference value is 70 g, the %DI for fat, rounded to the nearest whole number, would be:

<u>Quantity in a serve</u>	x 100	<u>10</u> x 100 = 14.28 = 14%
Reference amount		70

***What information must I provide for percentage daily intake?***

Where %DI is displayed in the panel, the %DI for energy, protein, fat, saturated fat, carbohydrate, sugars, and sodium provided by one serving of the food must all be included. It is at the discretion of the manufacturer whether %DI for dietary fibre is included.

The statement ‘Percentage daily intakes are based on an average adult diet of 8700 kJ. Your daily intakes may be higher or lower depending on your energy needs’, must be included in the panel where %DIs are used.

***How does this information apply to individuals?***

The %DI values are based on a single set of average adult reference values and as such, are not directly applicable to individual needs or specific sub-groups of the population such as pregnant women or vegetarians. Any accompanying education material should note this.

The reference values are intended to provide an approximate reference measure. To use more specific reference values for particular sub-groups may be confusing and also lead to substantial inconsistency. This can then lead to lack of comparability between products.

The following is an example of a panel containing percentage daily intake.

## NUTRITION INFORMATION

Servings per package: (insert number of servings)

Serving size: g (or mL or other units as appropriate)

	Average Quantity per Serving	% Daily Intake* (per Serving)	Average Quantity per 100 g (or 100 mL)
Energy	kJ (Cal)	%	kJ (Cal)
Protein	g	%	g
Fat, total	g	%	g
– saturated	g	%	g
Carbohydrate	g	%	g
– sugars	g	%	g
Sodium	mg (mmol)	%	mg (mmol)
(Insert any other nutrient or biologically active substance to be declared)	g, mg, µg (or other units as appropriate)		g, mg, µg (or other units as appropriate)

\*Percentage daily intakes are based on an average adult diet of 8700 kJ. Your daily intakes may be higher or lower depending on your energy needs.

*Subclause 7(3) of Standard 1.2.8 sets out the reference values for these calculations.*

### **Where can I get more information?**

For more information on the new standards call the:

#### **Standards Information Unit**

**1300 652 166** (Australia)

**0800 441 571** (New Zealand), or

**Email:** [advice@foodstandards.gov.au](mailto:advice@foodstandards.gov.au)

## **Attachment 1 -**

### **Deriving food composition data**

There are a number of methods that can be used to derive food composition data to calculate a nutrition information panel. These include:

- Nutrition Panel Calculator
- other software
- laboratory analysis
- food composition tables or databases

#### **Nutrition Panel Calculator**

The Nutrition Panel Calculator (NPC) is an on-line application, which has been designed to assist food retailers and manufacturers derive average nutrient quantities for the purpose of calculating a nutrition information panel. The NPC will automatically generate a core panel for the seven mandatory nutrients – energy, fat, saturated fat, protein, carbohydrate, sugars and sodium. It should be noted that the carbohydrate and energy calculations used by the NPC comply with the requirements of Standard 1.2.8. The NPC<sup>3</sup> and accompanying Explanatory Notes can be accessed from FSANZ's website: [www.foodstandards.gov.au](http://www.foodstandards.gov.au) or [www.foodstandards.govt.nz](http://www.foodstandards.govt.nz)

The NPC draws data from a special edition of the *Australian Food and Nutrient Database (AUSNUT)*, released by ANZFA in 1999 and developed for the purposes of evaluating the 1995 National Nutrition Survey (NNS), not for calculating nutrition information panels. The *AUSNUT Special Edition* database contains nutrient data and associated information for approximately 4000 of the 4500 *AUSNUT 1999* foods, together with some additional data specific for food processing purposes. The NPC uses values for carbohydrate (available) and energy, which are consistent with the requirements of Standard 1.2.8.

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<sup>3</sup> The NPC has been produced in two formats. One version is text based and fully compliant with the Government's on-line requirements for disability access. The other version is a distributed database application that utilizes a Graphic User Interface where the calculation functions are shared between the user's PC and the FSANZ web server.

## **Limitations**

There are some specific limitations, which apply to using the NPC to calculate panel information. These limitations include:

- the NPC calculates carbohydrate using the available carbohydrate definition only, and is therefore not suitable for calculating carbohydrate by difference;
- the NPC does not make provision for the substances listed in Table 2 to subclause 2(2), which must be declared separately in the panel if quantified or added to a food when available carbohydrate is used;
- the results calculated for energy do not take into account the specific energy factors which apply to organic acids or to polyols and polydextrose if quantified or added to a food when available carbohydrate is used;
- the NPC is not designed to calculate the nutrient composition of fried foods. It is recommended that laboratory analysis be used for these foods;
- the NPC cannot take into account the effect on nutrients of a range of other processing steps such as washing and salting (except where specifically stated); and
- the NPC does not contain a comprehensive set of nutrient data for food additives and processing ingredients.

Further information on the use and limitations of the NPC is found in the NPC Explanatory Notes, available on the FSANZ website. See also 'limitations' discussed under the heading 'Food Composition Tables and Databases'.

## **Other software**

There are a small number of software companies that develop more sophisticated nutritional analysis software than provided by the NPC.

Examples include:

- XYRIS Software (Australia) have developed FoodWorks<sup>TM</sup>. Further details may be obtained from their website: [www.xyris.com.au](http://www.xyris.com.au)
- SERVE Nutrition Systems have developed the SERVE program. Further details may be obtained from their website: [www.serve.com.au](http://www.serve.com.au)

## **Laboratory analysis**

Foods can be analysed, preferably by laboratories accredited by either the National Association of Testing Authorities (NATA) or International Accreditation New Zealand (IANZ).

The advantage of having the nutrient composition of a food analysed by a laboratory is that this will generally provide a more accurate reflection of the nutrient composition of the product in question. However, it is important to bear in mind that the representativeness of the results may depend on the sampling protocol, and the accuracy of the results may depend on the analytical methods used and the complexity of the product.

## **Sampling**

The laboratory should be provided with food as it would be purchased by the consumer, together with clear written instructions on how to store and prepare the food, if required.

To ensure the analytical data are representative of average content, a sampling protocol should be designed. The protocol should define the number and size of food samples, when and where they are to be obtained, and how the foods are to be collected. The protocol should also outline how the sample is to be prepared and stored in the laboratory and what nutrients are to be analysed.

The protocol should specify whether replicate samples or composite samples are to be analysed. With replicate sampling, a number of like primary samples are collected and separately analysed. This method may usefully highlight variation within a product for example as a result of seasonal changes, but is more expensive. With composite sampling, a number of primary samples are collected and combined to form a composite, or mixture, before being analysed.

There are general rules regarding the number and size of the samples that should be collected, for replicate or composite analysis. For primary produce or prepared foods, at least 10 primary samples should be collected. For a processed food subject to a consistent formulation and high quality control of both the ingredients and final product, fewer samples are acceptable. Where 10 or more replicate samples are taken, each should weigh between 100–500 g.

Composite samples should reflect the distribution of production of the food. If a food is produced at two different sites where the production volume at one site is twice that of the

other, then the samples should be drawn from the two sites to reflect these volumes. To ensure compliance with the agreed definition of ‘average quantity’ of a substance in a food or foods that are known to have significant seasonal variations, samples may need to be collected in each of the major seasons or even monthly (see Standard 1.1.1 – Preliminary Provisions—Application, Interpretation and General Prohibitions).

It is important to take all due care in collecting, handling and transporting the food samples to minimise nutrient losses. Details such as the date, name and lot identification should be recorded and provided to the laboratory to help identification. Other details such as the use-by date, label claims (if relevant), listed ingredients, quantity of contents and the state of the food (raw, prepared, chilled, frozen) may also be useful. It is important to keep all records of analytical/laboratory results.

*Clause 18 of Standard 1.2.8 gives a prescribed method of analysis for determination of dietary fibre in food.*

## **Food composition tables and databases**

### ***Food composition tables***

Australian food composition tables, such as *Nutritional Values of Australian Foods* (English & Lewis, 1991) can be used to find out the average amounts of food components in 100 g edible portion of the food. This publication contains nutrient data for some 1,600 foods and is available from government information shops located in every capital city. Users should note however, that derivation of energy values may not conform to the requirements of the new Code. For these nutrient values, you are advised to recalculate them according to the requirements of Standard 1.2.8.

*The Concise New Zealand Food Composition Tables*, 4<sup>th</sup> edition (Athar, Spriggs & Lui, 1999) contains New Zealand nutrient data for around 840 foods (both per 100 g and per common serving sizes). It is available from the New Zealand Institute for Crop and Food Research, Palmerston North.

### ***Electronic databases***

Australian food composition data are also available on electronic databases such as *NUTTAB95*, *Supplement to NUTTAB95* and *AUSNUT*, as well as a range of commercial

software packages. Electronic databases are becoming increasingly common because they can hold much larger amounts of data and allow for easy retrieval and manipulation.

*NUTTAB95* contains nutrient data for around 1,800 foods, expressed per 100 g edible portion. The *Supplement to NUTTAB95* is a compilation of eight data files containing nutrient information for fatty acids, amino acids, carbohydrate components and organic acids. The data represents a subset of about 1,000 of the 1,800 foods listed in the main *NUTTAB95* database. Both databases are available from government information shops. *NUTTAB* and its supplement were developed for reference purposes and not specifically for calculating values for nutrition information panels. Energy values reported in *NUTTAB* do not take into account the contribution to energy from dietary fibre.

*AUSNUT* is a compilation of seven inter-related data files that include nutrient data on 4,500 foods, expressed per 100 g edible portion. It was developed as the technical support files for the 1995 NNS and not specifically for calculating values for nutrition information panels. It is available from the FSANZ Information Officer, on +61 (02) 6271 2241 or by email [info@foodstandards.gov.au](mailto:info@foodstandards.gov.au)

New Zealand food composition data are also available electronically from a number of sources including *FOODFiles 2000: New Zealand Food Composition Database* that includes data on 2443 foods expressed per 100 g edible portion and per common serving size. It is available from the New Zealand Institute for Crop and Food Research, Palmerston North.

### ***Overseas references***

Overseas sources should only be used to supplement missing data values from Australian or New Zealand sources as country differences in regulatory requirements, agricultural conditions/practices, formulations, food nomenclature, and retail presentation may result in inaccurate values.

You can get food composition data from overseas text references including:

- *McCance and Widdowson's The Composition of Foods* (1991) (5<sup>th</sup> edn) Holland, Welch, Unwin, Buss, Paul & Southgate (British Food Tables)
- *Food Composition and Nutrition Tables* (1994) (5<sup>th</sup> edn) Souci, Fachmann and Kraut (German food tables).

American food composition data can be obtained on-line and free of charge at <http://warp.nal.usda.gov/fnic/foodcomp/Data/>.

Readers are advised to check the introductory text for differences that may impact on compliance with the new Code.

### ***Limitations***

There are a number of limitations in using food composition tables and databases you should consider when calculating a panel.

The nutrient values presented in food composition tables and databases are mostly estimates that attempt to provide representative data. Foods, being biological materials, vary greatly in their nutrient composition.

For primary produce, the variability in nutrient composition may be due to different methods of plant and animal husbandry, storage, transport and marketing. Processed foods, despite being subject to quality control during production, also vary because of differences in the composition of ingredients and changes in formulation and production.

Also, the nutrient data themselves differ significantly in quality depending on the different ways in which they are obtained. Data may be original analytical values that are derived by direct analysis of the food or from a recipe. Or, they may simply be estimates worked out using similar foods or another form of the same food, e.g. values for boiled peas are used for steamed peas. Also, data for some recipe foods may be calculated by using the ingredients and correcting for preparation factors.

It is important for users to read the explanatory sections of these databases to determine whether the expression of the nutrients is compatible with the requirements of the Standard. This is particularly so for carbohydrate and energy.

Most food tables and databases express carbohydrate as the sum of total sugars, starch and perhaps other carbohydrate components such as dextrans, available oligosaccharides and sugar alcohols (polyols). This is similar to the available carbohydrate method except for polyols. Very few data sources calculate carbohydrate by difference, or give sufficient data for you to calculate carbohydrate by difference, for example, not many tables list the ash content of foods.

Food composition tables and databases generally do not include food components such as unavailable carbohydrates, polyols or polydextrose. Therefore, when added or occur in significant quantities, average amounts of these food components need to be known or determined by analysis. The average quantity of carbohydrate can still be calculated by difference (according to the definition given in Standard 1.2.8), providing the quantities of the other food components are subtracted.

A further limitation with using food composition tables and databases is that energy content is usually calculated by application of energy factors to the macronutrients that are the same as or similar to those shown in the Standard. The most likely variation in use of energy factors will be for carbohydrate (16 or 17), and dietary fibre (0 or 8).

A data source will be completely compatible with the Standard if:

- Carbohydrate is calculated by difference, or data are shown for all components of the calculation (water, protein, fat, dietary fibre, ash and alcohol); or
- Carbohydrate is calculated as available carbohydrate; and
- Energy is calculated using the same energy factors as listed in the Standard for protein, carbohydrate, fat, dietary fibre and alcohol.

## References

Greenfield, H & Southgate, DAT (1992) *Food Composition Data: Production, Management and Use*. Elsevier Science Publishers, England.

Holland B, Welch AA, Unwin ID, Buss DH, Paul AA & Southgate DAT (1991) *McCance and Widdowson's the Composition of Foods* (5<sup>th</sup> edn) The Royal Society of Chemistry, Cambridge.

## See also:

- *Nutritional Values of Australian Foods* (English & Lewis, 1991)
- *The Concise New Zealand Food Composition Tables* (4<sup>th</sup> edn) (Athar, Spriggs & Lui, 1999)
- *NUTTAB95, Supplement to NUTTAB95*
- *AUSNUT*. Available from the Information Officer, ANZFA on (02) 6271 2241.

- *FOODFiles 2000: New Zealand Food Composition Database*. Available from the New Zealand Institute for Crop and Food Research, Palmerston North.
- American food composition data. Available from <http://warp.nal.usda.gov/fnic/foodcomp/Data/>
- *The Code of Practice on Nutrient Claims in Food Labels and in Advertisements*.
- *New Zealand Food Regulations 1984*

## **Attachment 2 -**

### **How to manually calculate a panel for a food not requiring cooking (garlic bread, uncooked)**

**Note: In this example, only the carbohydrate by difference method for calculating carbohydrate is shown.**

#### **Section A1: Recipe data**

- Step 1** Prepare a recipe template similar to that provided in Attachment 6 under Section A1, allowing enough space for all ingredients required (note the example below allows for 10 ingredients). Alternatively, photocopy as required.
- Step 2** From food composition tables (or other appropriate sources), transcribe a short name for each ingredient and values per 100 g for protein, total fat, saturated fat, carbohydrate (if using the available carbohydrate method), total sugars, sodium, dietary fibre and alcohol. Proceed to Step 3 if using available carbohydrate. If calculating carbohydrate by difference, leave the carbohydrate column block blank for now. This column will be completed under the instructions in the next section (Section A1.1). In the worked example below the first ingredient required for making the garlic bread is bread (Food ID 02B10035)<sup>4</sup>.
- Step 3** In the first unshaded cell below the per 100 g column, write the ingredient weight (g) actually required to make up the recipe. For bread this is 846 g. Repeat for all remaining ingredients. If using the available carbohydrate method, proceed to Section A2.

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<sup>4</sup> All nutrient data have been obtained from AUSNUT, 1999.

A completed example for an uncooked garlic bread is provided below.

<b>Name</b>	Garlic bread, white
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**SECTION A1 and A2**

**Recipe data and derivation of nutrient composition for ingredient quantities**

THESE LAST 4 COLUMNS ARE FOR ENERGY CALCULATION (see Section CZ)

Food Id and short name	Ingredient quantity	Protein (g)	Fat (g)	Sat fat (g)	CHO (g) (diff or avail)	Sugars (g)	Sodium (mg)	Dietary Fibre (g)	Alcohol (g)	Other Unavail CHO # (g)	Other Subs * # (g)
Bread, white, french stick or vienna 02B10035	Per 100 g	9.0	3.8	0.5		4.0	570	3.7	0	0	0
	Per recipe amount 846 g										
Spread, domestic, used in cooking 04D10020	Per 100 g	0.5	78.4	24.7		0.5	580	0.0	0	0	0
	Per recipe amount 125 g										
Parsley, raw 13A10456	Per 100 g	1.9	0.2	0.0		0.4	48	4.7	0	0	0
	Per recipe amount 1.26 g										
Garlic, raw 13A10607	Per 100 g	6.1	2.8	0.7		1.5	8	16.9	0	0	0
	Per recipe amount 1.5 g										
<b>Total weight of recipe and ingredients</b>											

\* Other substances listed in Column 1 of Table 2 to subclause 2(2).

# May also need to be declared in NIP in accordance with Standard 1.2.8 subclauses 5(6), 5(6B) and 5(6C).

**Section A1.1: Calculating carbohydrate by difference**

Calculate carbohydrate by difference for each ingredient by subtracting the average quantity of water, protein, fat, dietary fibre, ash, alcohol, and if quantified or added to the food, any other unavailable carbohydrate and the substances listed in column 1 of Table 2 to subclause 2(2)

(expressed as a percentage) from 100. Water (moisture), dietary fibre and alcohol values are available from most standard food composition tables. Ash values are available from American food composition data on-line and free of charge at <http://warp.nal.usda.gov/fnic/foodcomp/Data/>.

This can be done using the template provided in Attachment 6 under Section A1.1.

Taking the first ingredient, bread as an example (Food ID 02B10035):

- Carbohydrate by difference  
= 100 – water – protein – fat – dietary fibre – any other unavailable carbohydrate – any substances listed in column 1 of Table 2 to subclause 2(2) – ash – alcohol
- = 100 – 30.6 – 9.0 – 3.8 – 3.7 – 0 – 0 – 2.5 – 0
- = 50.4

A completed example for an uncooked garlic bread is provided below.

## SECTION A1.1

**Calculating CHO by difference** (100 – water – protein – fat – dietary fibre – any other unavailable carbohydrate – any substances listed in column 1 of Table 2 to subclause 2(2) – ash – alcohol)

Food Id and short name	Water (g)	Protein (g)	Fat (g)	Dietary fibre (g)	Alcohol (g)	Other unavail CHO (g)	Other subs* (g)	Ash (g)	CHO by diff (g/100g)
Bread, white, french stick or vienna 02B10035	30.6	9.0	3.8	3.7	0	0	0	2.5	50.4
Spread, domestic, used in cooking 04D10020	18.5	0.5	78.4	0	0	0	0	1.4	1.2
Parsley, raw 13A10456	89.0	1.9	0.2	4.7	0	0	0	2.3	1.9
Garlic, raw 13A10607	59.9	6.1	2.8	16.9	0	0	0	1.9	12.4

\* Other substances listed in Column 1 of Table 2 to subclause 2(2)

Write the carbohydrate by difference value in the space provided in Section A1 and A2, under CHO by diff, the unshaded cell per 100 g.

### Section A2: Derivation of nutrient composition for ingredient quantities

For each ingredient, it is now necessary to derive the nutrient values (currently transcribed from food composition tables or other appropriate sources per 100g of the ingredient) to correspond with the quantity contained in each ingredient that actually makes up the recipe. This can be done using the template provided in Attachment 6 under Section A2.

**Step 1** For the first ingredient, take the amount (g) used in the recipe and divide it by 100 to get a conversion factor. Taking bread as an example (Food ID 02B10035):

- 846 g of bread is required to make up the recipe.

- $846 \div 100 = 8.46$
- Therefore, the conversion factor is 8.46.

**Step 2** Multiply each nutrient by this factor. Complete the recipe template for the first ingredient as shown in the example below.

<b>Name</b>	Garlic Bread, white
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**SECTION A1 and A2**

THESE LAST 4 COLUMNS ARE FOR ENERGY CALCULATION (see Section CZ)

Recipe data and derivation of nutrient composition for ingredient quantities

Food Id and short name	Ingredient quantity	Protein (g)	Fat (g)	Sat fat (g)	CHO (g) (diff or avail)	Sugars (g)	Sodium (mg)	Dietary fibre (g)	Alcohol (g)	Other Unavail CHO # (g)	Other Subs * # (g)
Bread, white, french stick or vienna 02B10035	Per 100 g	9.0	3.8	0.5	50.4	4.0	570	3.7	0.0	0	0
	Per recipe amount 846 g	x 8.46 =76.1	x 8.46 = 32.1	x 8.46 = 4.23	x 8.46 = 426.4	x 8.46 =33.8	x 8.46 = 4822.2	x 8.46 = 31.3	x 8.46 = 0	x 8.46 = 0	x 8.46 = 0

\* Other substances listed in Column 1 of Table 2 to subclause 2(2).

# May also need to be declared in NIP in accordance with Standard 1.2.8 subclauses 5(6), 5(6B) and 5(6C).

**Step 3:** Repeat Steps 1 and 2 for all remaining ingredients.

**Step 4:** Sum the total weight of the recipe (g) and write in the first shaded cell in the row labelled *Total weight of recipe and ingredients*.

**Step 5:** Calculate the total nutrient content of the raw ingredients. For each nutrient, tally down the values that are in the shaded cells. Write the totals along the shaded row (beginning from the second shaded cell) labelled *Total weight of recipe and ingredients*.

A completed example for an uncooked garlic bread is provided below.

Name	Garlic bread, white
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**SECTION A1 and A2**

Recipe data and derivation of nutrient composition for ingredient quantities

THESE LAST 4 COLUMNS ARE FOR ENERGY CALCULATION (see Section CZ)

Food Id and short name	Ingredient quantity	Protein (g)	Fat (g)	Sat fat (g)	CHO (g) (diff or avail)	Sugars (g)	Sodium (mg)	Dietary fibre (g)	Alcohol (g)	Other Unavail CHO # (g)	Other Subs* # (g)
Bread, white, french stick or vienna 02B10035	Per 100 g	9.0	3.8	0.5	50.4	4.0	570	3.7	0	0	0
	Per recipe amount <u>846g</u>	x 8.46 = 76.1	x 8.46 = 32.1	x 8.46 = 4.23	x 8.46 = 426.4	x 8.46 = 33.8	x 8.46 = 4822.2	x 8.46 = 31.3	x 8.46 = 0	x 8.46 = 0	x 8.46 = 0
Spread, domestic, used in cooking 04D10020	Per 100 g	0.5	78.4	24.7	1.2	0.5	580	0.0	0.0	0	0
	Per recipe amount <u>125g</u>	x 1.25 = 0.625	x 1.25 = 98	x 1.25 = 30.9	x 1.25 = 1.5	x 1.25 = 0.625	x 1.25 = 725	x 1.25 = 0	x 1.25 = 0	x 1.25 = 0	x 1.25 = 0
Parsley, raw 13A10456	Per 100 g	1.9	0.2	0	1.9	0.4	48	4.7	0	0	0
	Per recipe amount <u>1.26g</u>	x0.0126 = 0.0239	x 0.0126 = 0.00252	x 0.0126 = 0	x 0.0126 = 0.0239	x 0.0126 = 0.005	x 0.0126 = 0.605	x 0.0126 = 0.0592	x 0.0126 = 0	x 0.0126 = 0	x 0.0126 = 0
Garlic, raw 13A10607	Per 100 g	6.1	2.8	0.7	12.4	1.5	8	16.9	0	0	0
	Per recipe amount <u>1.5g</u>	x 0.015 = 0.0915	x 0.015 = 0.042	x0.015 = 0.0105	x 0.015 = 0.186	x 0.015 = 0.0225	x 0.015 = 0.12	x 0.015 = 0.254	x 0.015 = 0	x 0.015 = 0	x 0.015 = 0
<b>Total weight of recipe and ingredients</b>	<b>973.76</b>	<b>76.8</b>	<b>130</b>	<b>35.1</b>	<b>428</b>	<b>34.5</b>	<b>5548</b>	<b>31.6</b>	<b>0</b>	<b>0</b>	<b>0</b>

\* Other substances listed in Column 1 of Table 2 to subclause 2(2).

# May also need to be declared in NIP in accordance with Standard 1.2.8 subclauses 5(6), 5(6B) and 5(6C).

**Section B: Nutrient composition per 100g for foods not requiring cooking**

The values obtained above must now be adjusted to 100g of the food as follows:

**Step 1** Copy the template provided in Attachment 6 under Section B. For each nutrient, divide the total amount present in the recipe (ie those listed in the last row of Section A) by the total weight of the recipe (uncooked), and then multiply this by 100. Taking the protein content as an example:

- The total protein content is 76.8 g.
- The total weight of the recipe is 973.76 g.
- $(76.8 \div 973.76) \times 100 = 7.89$  g.
- Therefore, the protein content per 100 g of the food is 7.89 g.

Write these calculated values in the shaded cells provided at Section B. These values can now be inserted into the panel in the second data column, which details the average quantity per 100 g.

A completed example for an uncooked garlic bread is provided below.

## SECTION B

### Nutrient composition per 100g of foods not requiring cooking

THESE LAST 4 COLUMNS ARE FOR ENERGY CALCULATION (see Section CZ)

	Protein (g)	Fat (g)	Sat fat (g)	CHO (diff or avail) (g)	Sugars (g)	Sodium (mg)	Dietary fibre (g)	Alcohol (g)	Other Unavail CHO # (g)	Other Subs* # (g)
Composition of food per 100 g	7.89	13.35	3.6	43.95	3.54	569.8	3.25	0	0	0

\* Other substances listed in Column 1 of Table 2 to subclause 2(2).

# May also need to be declared in NIP in accordance with Standard 1.2.8 subclauses 5(6), 5(6B) and 5(6C).

### Section C: Nutrient composition per 100g for cooked foods

This section is not required for this example.

### Section CZ: Calculating the average energy content

Food components contribute varying amounts of energy. Energy factors describe the expected average energy content of 1 g of the food component. The energy factors for each food component are given in the tables to subclause 2(2) of Standard 1.2.8 and are also in Attachment 8 of this guide. The average energy content should not be determined directly

from food composition tables if the components in Table 2 to subclause 2(2) are present in more than minor quantities.

**Step 1** To calculate the energy value of 100 g of food, take the total protein, fat, carbohydrate, dietary fibre and alcohol values per 100 g from Section B, and apply the energy factors for these macronutrients from Attachment 8 of this guide. This can be done using the template provided in Attachment 6 under Section CZ.

Taking the protein content of 100 g of the uncooked garlic bread as an example:

- The protein content per 100 g of the food is 7.89 g.
- The energy factor for protein is 17 kJ/g.
- $7.89 \times 17 = 134$
- Therefore, the protein contribution to energy is 134 kJ.

**Step 2** Tally the energy contributions from protein, fat, carbohydrate, dietary fibre and alcohol to obtain a final energy value per 100 g. The energy calculations for an uncooked garlic bread are given below.

## Energy calculation for an uncooked garlic bread

Food component	Amount of component in whole food (g/100 g)	Energy factor (kJ/ g)	Energy content (kJ/ 100 g)
Protein	7.89	17	$7.89 \times 17 = 134$
Fat	13.35	37	$13.35 \times 37 = 494$
Carbohydrate	43.95	17	$43.95 \times 17 = 747$
Dietary fibre	3.25	8	$3.25 \times 8 = 26$
Alcohol	0	29	$0 \times 29 = 0$
Other unavailable carbohydrate	0	8	$0 \times 8 = 0$
Other substances*	0	Various - Refer Column 2 of Table 2 to subclause 2(2).	0
<b>TOTAL</b>			<b>1401</b>

\* Other substances listed in Column 1 of Table 2 to subclause 2(2).

Note that saturated fats and sugars are not included in energy calculations as they are already accounted for under total fat and carbohydrate. The average energy content may also be presented as calories. The conversion factor is one calorie for each 4.18 kilojoules.

The figure in the total line can now be inserted into the 'energy per 100g' column of the panel.

### Section D: Solid and semi-solid foods—adjustments for serving size

To calculate nutrient values for a nominated serving size (in grams):

**Step 1** Copy the template provided in Attachment 6 under Section D. Write the serving size in the unshaded cell labelled *Serving size*. Calculate the serving as a proportion of 100 g, by dividing it by 100. Then, multiply each nutrient by this value. Taking the protein content of the garlic bread for a 50 g serving as an example:

- $50 \div 100 = 0.5$ .
- The protein content is 7.89 g.
- Therefore, the protein content for a 50 g serving is

- $7.89 \times 0.5 = 3.9 \text{ g}$ .

Write these values in the shaded cells provided at Section D. These values can now be inserted into the panel in the first data column, which details the average quantity per serving.

A completed example of Section D for an uncooked garlic bread is provided below.

### Garlic bread, white

#### SECTION D

##### Adjustments for serving size

Serving size (g)	THESE LAST 4 COLUMNS ARE FOR ENERGY CALCULATION (see Section CZ)										
	Energy (kJ)	Protein (g)	Fat (g)	Sat fat (g)	CHO (g) (diff or avail)	Sugars (g)	Sodium (mg)	Dietary fibre (g)	Alcohol (g)	Other Unavail CHO # (g)	Other Subs* # (g)
50											
Composition of food per serving size (g)	701	3.9	6.68	1.8	22.0	1.77	284.9	1.63	0	0	0

\* Other substances listed in Column 1 of Table 2 to subclause 2(2).

# May also need to be declared in NIP in accordance with Standard 1.2.8 subclauses 5(6), 5(6B) and 5(6C).

#### Section E: Beverages and other liquid foods—converting grams to millilitres

This section is not required for this example.

#### Section F: Beverages and other liquid foods—adjustments for serving sizes

This section is not required for this example

A completed panel for an uncooked garlic bread is provided below.

<b>NUTRITION INFORMATION</b>		
Servings per package: 6		
Serving size: 50 g		
	Average Quantity per Serving	Average Quantity per 100 g
Energy	701 kJ *	1400 kJ *
Protein	3.9 g	7.9 g
Fat, total	6.7 g	13.4 g
– saturated	1.8 g	3.6 g
Carbohydrate	22.0 g	44.0 g
– sugars	1.8 g	3.5 g
Sodium	285 mg	570 mg

\*As required by subclause 6(1) of Standard 1.2.8, values are declared to a maximum of three significant figures.

## **Attachment 3 -**

### **How to manually calculate a panel for a cooked food (berry pie)**

**Note: In this example, only the carbohydrate by difference method for calculating carbohydrate is shown.**

#### **Section A1: Recipe data**

**Step 1:** Prepare a recipe template similar to that provided in Attachment 6 under Section A1, allowing enough space for all ingredients required (note the example below allows for 10 ingredients). Alternatively, photocopy as required.

**Step 2:** From food composition tables (or other appropriate sources), transcribe a short name for each ingredient and values per 100 g for protein, total fat, saturated fat, carbohydrate (if using the available carbohydrate method), total sugars, sodium, dietary fibre and alcohol. Proceed to Step 3. If calculating carbohydrate by difference, leave the carbohydrate column block blank for now. This column will be completed under the instructions in the next section (Section A1.1). In the worked example below the first ingredient required for making the berry pie is pastry (Food ID 02E40029)<sup>5</sup>.

**Step 3** In the first unshaded cell in the next row, write the ingredient weight (g) actually required to make up the recipe. For pastry this is 330 g. Repeat for all remaining ingredients. If using the available carbohydrate method proceed to Section A2.

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<sup>5</sup> All nutrient data have been obtained from AUSNUT 1999.

A completed example for the berry pie is provided below.

Name	Berry Pie
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**SECTION A1 and A2**

THESE LAST 4 COLUMNS ARE FOR ENERGY CALCULATION (see Section CZ)

Recipe data and derivation of nutrient composition for ingredient quantities

Food Id and short name	Ingredient quantity	Protein (g)	Fat (g)	Sat fat (g)	CHO (g) (diff or avail)	Sugars (g)	Sodium (mg)	Dietary fibre (g)	Alcohol (g)	Other Unavail CHO# (g)	Other Subs* # (g)
Pastry, shortcrust, raw, commercial	Per 100 g	5.9	25.4	13.4		1.1	390	1.7	0	0	0
02E40029	Per recipe amount 330 g										
Berry, unspecified as to type, raw	Per 100 g	1.7	0.1	0.0		3.1	6	2.3	0	0	0
06A10037	Per recipe amount 500 g										
Sugar, 12A10020	Per 100 g	0.0	0.0	0.0		99.7	2	0	0	0	0
	Per recipe amount 50.4 g										
<b>Total weight of recipe and ingredients</b>											

\* Other substances listed in Column 1 of Table 2 to subclause 2(2).

# May also need to be declared in NIP in accordance with Standard 1.2.8 subclauses 5(6), 5(6B) and 5(6C).

### Section A1.1: Calculating carbohydrate by difference

Calculate carbohydrate by difference for each ingredient by subtracting the average quantity of water, protein, fat, dietary fibre, ash, alcohol, and if quantified or added to the food, any other unavailable carbohydrate and the substances listed in column 1 of Table 2 to subclause 2(2) (expressed as a percentage) from 100. Water (moisture), dietary fibre and alcohol values are available from most standard food composition tables. Ash values are available from American food composition data on-line and free of charge at

<http://warp.nal.usda.gov/fnic/foodcomp/Data/>. This can be done using the template provided in Attachment 6 under Section A1.1.

Taking the first ingredient, pastry as an example (Food ID:02E40029)

- Carbohydrate by difference= 100 – water – protein – fat – dietary fibre – any other unavailable carbohydrate – any substances listed in column 1 of Table 2 to subclause 2(2) – ash – alcohol
- = 100 – 23.8 – 5.9 – 25.4 – 1.7 – 0 – 0 – 1.4 – 0
- = 41.8

A completed example for the berry pie is provided below.

### SECTION A1.1

**Calculating CHO by difference** (100 – water – protein – fat – dietary fibre – any other unavailable carbohydrate – any substances listed in column 1 of Table 2 to subclause 2(2) – ash – alcohol)

	Water (g)	Protein (g)	Fat (g)	Dietary fibre (g)	Alcohol (g)	Other unavail CHO (g)	Other subs* (g)	Ash (g)	CHO by diff (g/100g)
Pastry, shortcrust, raw, commercial 02E40029	23.8	5.9	25.4	1.7	0	0	0	1.4	41.8
Berry, unspecified as to type, raw 06A10037	91.9	1.7	0.1	2.3	0	0	0	0.4	3.6
Sugar 12A10020	0.1	0.0	0.0	0.0	0	0	0	0.1	99.8

\* Other substances listed in Column 1 of Table 2 to subclause 2(2).

Write the carbohydrate by difference value in the space provided in Section A1 and A2, under CHO by diff, the unshaded cell per 100 g.

### Section A2: Derivation of nutrient composition for ingredient quantities

For each ingredient, it is now necessary to derive the nutrient values (currently transcribed from food composition tables or other appropriate sources per 100g of the ingredient) to

correspond with the quantity contained in each ingredient that actually makes up the recipe. This can be done using the template provided in Attachment 6 under Section A2.

**Step 1:** For the first ingredient, take the amount (g) used in the recipe and divide it by 100 to get a conversion factor. Taking pastry as an example (Food ID 02E40029):

- 330 g of pastry is required to make up the recipe.
- $330 \div 100 = 3.3$ .
- Therefore, the conversion factor is 3.3.

**Step 2** Multiply each nutrient by this factor. Complete the recipe template for the first ingredient as shown in the example below.

Name	Berry Pie
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**SECTION A1 and A2**

**Recipe data and derivation of nutrient composition for ingredient quantities**

THESE LAST 4 COLUMNS ARE FOR ENERGY CALCULATION (see Section CZ)

Food Id and short name	Ingredient quantity	Protein (g)	Fat (g)	Sat fat (g)	CHO (g) (diff or avail)	Sugars (g)	Sodium (mg)	Dietary fibre (g)	Alcohol (g)	Other Unavail CHO# (g)	Other Subs* # (g)
Pastry, shortcrust, raw, commercial	Per 100 g	5.9	25.4	13.4	41.8	1.1	390	1.7	0	0	0
02E40029	Per recipe amount 330 g	x 3.3 =19.5	x 3.3 = 83.8	x 3.3 =44.2	x 3.3 = 138	x 3.3 =3.63	x 3.3 = 1287	x 3.3 = 5.61	x 3.3 = 0	x 3.3 = 0	x 3.3 = 0

\* Other substances listed in Column 1 of Table 2 to subclause 2(2).

# May also need to be declared in NIP in accordance with Standard 1.2.8 subclauses 5(6), 5(6B) and 5(6C).

**Step 3** Repeat Steps 1 and 2 for all remaining ingredients.

**Step 4** Sum the total weight of the recipe (g) and write in the first shaded cell in the row labelled *Total weight of recipe and ingredients*.

**Step 5** Calculate the total nutrient content of the raw ingredients. For each nutrient, tally down the values that are in the shaded cells. Write the totals along the shaded row (beginning from the second shaded cell) labelled *Total weight of recipe and ingredients*.

A completed example for a berry pie is provided below.

Name	Berry Pie
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**SECTION A1 and A2**

Recipe data and derivation of nutrient composition for ingredient quantities

THESE LAST 4 COLUMNS ARE FOR ENERGY CALCULATION (see Section CZ)

Food Id and short name	Ingredient quantity	Protein (g)	Fat (g)	Sat fat (g)	CHO (g) (diff or avail)	Sugars (g)	Sodium (mg)	Dietary fibre (g)	Alcohol (g)	Other Unavail CHO # (g)	Other Subs* # (g)
Pastry, shortcrust, raw, commercial 02E40029	Per 100 g	5.9	25.4	13.4	41.8	1.1	390	1.7	0	0	0
	Per recipe amount 330 g	x 3.3 =19.5	x 3.3 = 83.8	x 3.3 =44.2	x 3.3 = 138	x 3.3 = 3.63	x 3.3 = 1287	x 3.3 = 5.61	x 3.3 = 0	x 3.3 = 0	x 3.3 = 0
Berry, unspecified as to type, raw 06A10037	Per 100 g	1.7	0.1	0.0	3.6	3.1	6	2.3	0	0	0
	Per recipe amount 500 g	x 5 = 8.5	x 5 = 0.5	x 5 = 0	x 5 = 18	x 5 = 15.5	x 5 = 30	x 5 = 11.5	x 5 = 0	x 5 = 0	x 5 = 0
Sugar, 12A10020	Per 100 g	0.0	0.0	0.0	99.8	99.7	2	0	0	0	0
	Per recipe amount 50.4 g	x 0.504 = 0.0	x 0.504 = 0.0	x 0.504 = 0.0	x 0.504 = 50.3	x 0.504 = 50.2	x 0.504 = 1.01	x 0.504 = 0	x 0.504 = 0	x 0.504 = 0	x 0.504 = 0
<b>Total weight of recipe and ingredients</b>	<b>880.4</b>	<b>28</b>	<b>84.3</b>	<b>44.2</b>	<b>206</b>	<b>69.3</b>	<b>1318</b>	<b>17.1</b>	<b>0</b>	<b>0</b>	<b>0</b>

\* Other substances listed in Column 1 of Table 2 to subclause 2(2).

# May also need to be declared in NIP in accordance with Standard 1.2.8 subclauses 5(6), 5(6B) and 5(6C).

## **Section B: Nutrient composition per 100 g for foods not requiring cooking**

This section is not required in this example.

## **Section C: Nutrient composition per 100g for cooked foods**

The cooking process may cause changes to the recipe's raw weight. This section calculates the nutrient composition per 100 g for cooked foods by incorporating a weight change factor (accounted for as water gains/losses) to adjust the weight of the uncooked recipe. This can be done using the template provided in Attachment 6 under Section C.

**Step 1** Determine the weight changes on cooking. This information can be determined from Attachment 10 (Weight change factors), or calculate an appropriate weight change factor. Write this value in the unshaded cell labelled *Weight change factor* in the template for Section C.

**Step 2** Adjust the total weight of the recipe to account for weight changes due to cooking. For example, the weight change factor for a pie is -7. Therefore the new weight will be 7% less than the raw weight of 880.4 g or:

- $880.4 - (7\% \times 880.4) = 818.8 \text{ g}$

Write this value in the shaded cell labelled *Weight of cooked recipe*.

Nutrient values must now be calculated for 100g of the cooked food as follows:

**Step 3:** For each nutrient, divide the totals obtained for the raw food (i.e. those listed in the last row of Section A) by the total weight of the cooked food, and then multiply this by 100. Taking the protein content as an example:

- The protein content of 880.4g of raw food is 28 g.
- The total weight of the cooked recipe is 818.8 g.
- $(28 \div 818.8) \times 100 = 3.42 \text{ g}$ .
- Therefore, the protein content per 100g of the cooked food is 3.42 g.

Write these values in the shaded cells provided at Section C. These values can now be inserted into the panel in the second data column, which details the average quantity per 100 g.

A completed example of Section C for the berry pie is provided below.

## SECTION C

### Nutrient composition per 100g of foods requiring cooking

Weight change factor	-7									
Weight of cooked recipe	818.8	THESE LAST 4 COLUMNS ARE FOR ENERGY CALCULATION (see Section CZ)								
	<b>Protein (g)</b>	<b>Fat (g)</b>	<b>Sat fat (g)</b>	<b>CHO (g) (diff or avail)</b>	<b>Sugars (g)</b>	<b>Sodium (mg)</b>	<b>Dietary fibre (g)</b>	<b>Alcohol (g)</b>	<b>Other Unavail CHO # (g)</b>	<b>Other Subs* # (g)</b>
<b>Composition of food per 100 g</b>	3.42	10.3	5.40	25.2	8.46	161	2.09	0	0	0

\* Other substances listed in Column 1 of Table 2 to subclause 2(2).

# May also need to be declared in NIP in accordance with Standard 1.2.8 subclauses 5(6), 5(6B) and 5(6C).

### Section CZ: Calculating the average energy content

Food components contribute varying amounts of energy. Energy factors describe the expected average energy content of 1 gram of the food component. The energy factors for each food component are given in the tables to subclause 2(2) of Standard 1.2.8 and are also in Attachment 8 of this guide. The average energy content should not be determined directly from food composition tables if the components in Table 2 to subclause 2(2) are present in more than minor quantities.

**Step 1** To calculate the energy value of 100 g of food, take the total protein, fat, carbohydrate, dietary fibre and alcohol values per 100g from Section C, and apply the energy factors for these macronutrients from Attachment 8 of this guide. This can be done using the template provided in Attachment 6 under Section CZ.

Taking the protein content of 100 g of the berry pie as an example:

- The protein content per 100 g of the cooked food is 3.42 g.

- The energy factor for protein is 17 kJ/g.
- $3.42 \times 17 = 58.1$ .
- Therefore, the protein contribution to energy is 58.1 kJ.

**Step 2** Tally the energy contributions from protein, fat, carbohydrate, dietary fibre and alcohol to obtain a final energy value per 100 g. The energy calculation for a berry pie is given below.

### Energy calculation for a berry pie

Food component	Amount of component in whole food (g/100 g)	Energy factor (kJ/ g)	Energy content (kJ/ 100 g)
Protein	3.42	17	$3.42 \times 17 = 58.1$
Fat	10.3	37	$10.3 \times 37 = 381$
Carbohydrate	25.2	17	$25.2 \times 17 = 428$
Dietary fibre	2.09	8	$2.09 \times 8 = 16.7$
Alcohol	0	29	$0 \times 29 = 0$
Other unavailable carbohydrate	0	8	$0 \times 8 = 0$
Other substances*	0	Various - Refer Column 2 of Table 2 to subclause 2(2).	0
<b>TOTAL</b>			<b>883.8</b>

\* Other substances listed in Column 1 of Table 2 to subclause 2(2).

Note that saturated fats and sugars are not included in energy calculations as they are already accounted for under total fat and carbohydrate. The average energy content may also be presented as calories. The conversion factor is one calorie for each 4.18 kilojoules.

The figure in the total line can now be inserted into the 'energy per 100 g' column of the panel.

### Section D: Solid and semi-solid foods—adjustments for serving size

To calculate nutrient values for a nominated serving size (in grams):

**Step 1** Copy the template provided in Attachment 6 under Section D. Write the serving size in the unshaded cell labelled *Serving size*. Calculate the serving as

a proportion of 100g, by dividing it by 100. Then, multiply each nutrient by this value. Taking the protein content of the berry pie for a 60 g serving as an example:

- $60 \div 100 = 0.6$ .
- The protein content is 3.42 g.
- Therefore, the protein content for a 60 g serving is
- $3.42 \times 0.6 = 2.05$  g.

Write these values in the shaded cells provided at Section D. These values can now be inserted into the panel in the first data column, which details the average quantity per serving. A completed example of Section D for a berry pie is provided below.

#### SECTION D

##### Adjustments for serving size

Serving size (g)	THESE LAST 4 COLUMNS ARE FOR ENERGY CALCULATION (see Section CZ)										
	Energy (kJ)	Protein (g)	Fat (g)	Sat fat (g)	CHO (g) (diff or avail)	Sugars (g)	Sodium (mg)	Dietary fibre (g)	Alcohol (g)	Other Unavail CHO # (g)	Other Subs* # (g)
60											
Composition of food per serving size (g)	530	2.05	6.18	3.24	15.1	5.08	96.6	1.25	0	0	0

\* Other substances listed in Column 1 of Table 2 to subclause 2(2).

# May also need to be declared in NIP in accordance with Standard 1.2.8 subclauses 5(6), 5(6B) and 5(6C).

#### Section E: Beverages and other liquid foods—converting grams to millilitres

This section is not required for this example.

#### Section F: Beverages and other liquid foods—adjustments for serving sizes

This section is not required for this example.

A completed panel for a cooked berry pie is provided below.

<b>NUTRITION INFORMATION</b>		
Servings per package: 4		
Serving size: 60 g		
	Average Quantity per Serving	Average Quantity per 100 g
Energy	530 kJ	884 kJ
Protein	2.1 g	3.4 g
Fat, total	6.2 g	10.3 g
– saturated	3.2 g	5.4 g
Carbohydrate	15.1 g	25.2 g
– sugars	5.1 g	8.5 g
Sodium	97 mg	161 mg

## **Attachment 4 -**

### **How to manually calculate a panel for a liquid food or beverage (salad dressing)**

**Note: In this example, only the carbohydrate by difference method for calculating carbohydrate is shown.**

#### **Section A1: Recipe data**

- Step 1** Prepare a recipe template similar to that provided in Attachment 6 under Section A1 allowing enough space for all ingredients required (note the example below allows for 10 ingredients). Alternatively, photocopy as required.
- Step 2** From food composition tables (or other appropriate sources), transcribe a short name for each ingredient, and values per 100 g for protein, total fat, saturated fat, carbohydrate (if using the available carbohydrate method), total sugars, sodium, dietary fibre and alcohol. Proceed to Step 3. If calculating carbohydrate by difference, leave the carbohydrate by difference column block blank for now. This column will be completed under the instructions in the next section (Section A1.1). In the worked example below the first ingredient required to make the salad dressing is vegetable oil (food ID 04C10030)
- Step 3** In the first unshaded cell in the next row, write the ingredient weight (g) actually required to make up the recipe. For vegetable oil this is 154.1 g. Repeat for all remaining ingredients. If using the available carbohydrate method proceed to Section A2.

A completed example for the salad dressing is provided below.

<b>Name</b>	Salad dressing
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**SECTION  
A1 and A2**

THESE LAST 4 COLUMNS ARE FOR ENERGY CALCULATION (see Section CZ)

**Recipe data and derivation of nutrient composition for ingredient quantities**

Food Id and short name	Ingredient quantity	Protein (g)	Fat (g)	Sat fat (g)	CHO (g) (diff or avail)	Sugars (g)	Sodium (mg)	Dietary Fibre (g)	Alcohol (g)	Other Unavail CHO #	Other Subs * #
Oil, vegetable, not further specified 04C10030	Per 100 g	0.0	100	12.2		0.0	0.0	0.0	0	0	0
	Per recipe amount 154.1 g										
Mustard, all types 10E10009	Per 100 g	5.8	3.1	0.1		3.6	1420	4.1	0	0	0
	Per recipe amount 3.3 g										
Vinegar 10F20042	Per 100 g	0.1	0.0	0.0		0.0	5	0.0	0	0	0
	Per recipe amount 74.25 g										
Sugar, not further specified 12A10020	Per 100g	0.0	0.0	0.0		99.7	2	0.0	0	0	0
	Per recipe amount 0.525 g										
Garlic, raw 13A10607	Per 100 g	6.1	2.8	0.7		1.5	8	16.9	0	0	0
	Per recipe amount 1.5 g										
<b>Total weight of recipe and ingredients</b>											

\* Other substances listed in Column 1 of Table 2 to subclause 2(2).

# May also need to be declared in NIP in accordance with Standard 1.2.8 subclauses 5(6), 5(6B) and 5(6C).

### **Section A1.1 Calculating carbohydrate by difference**

Calculate carbohydrate by difference for each ingredient by subtracting the average quantity of water, protein, fat, dietary fibre, ash, alcohol, and if quantified or added to the food, any other unavailable carbohydrate and the substances listed in column 1 of Table 2 to subclause 2(2) (expressed as a percentage) from 100. Water (moisture), dietary fibre and alcohol values are available from most standard food composition tables. Ash values are available from American food composition data on-line and free of charge at <http://warp.nal.usda.gov/fnic/foodcomp/Data/>.

This can be done using the template provided in Attachment 6 under Section A1.1.

Taking the first ingredient, vegetable oil as an example (Food ID 04C10030):

- Carbohydrate by difference = 100 – water – protein – fat – dietary fibre – any other unavailable carbohydrate – any substances listed in column 1 of Table 2 to subclause 2(2) – ash – alcohol
- = 100 – 0 – 0 – 100 – 0 – 0 – 0 – 0 – 0
- = 0.0

A completed example for a salad dressing is provided below.

## SECTION A1.1

**Calculating CHO by difference** (100 – water – protein – fat – dietary fibre – any other unavailable carbohydrate – any substances listed in column 1 of Table 2 to subclause 2(2) – ash – alcohol)

Ingredient	Water (g)	Protein (g)	Fat (g)	Dietary fibre (g)	Alcohol (g)	Other unavail CHO (g)	Other subs* (g)	Ash (g)	CHO by diff (g/100g)
Oil, vegetable, not further specified 04C10030	0	0	100	0	0	0	0	0	0
Mustard, all types 10E10009	75.4	5.8	3.1	4.1	0	0	0	4.7	6.9
Vinegar 10F20042	95.5	0.1	0.0	0.0	0.0	0.0	0	0.1	4.3
Sugar, not further specified 12A10020	0.1	0.0	0.0	0.0	0.0	0.0	0	0.1	99.8
Garlic, raw 13A10607	59.9	6.1	2.8	16.9	0.0	0.0	0	1.9	12.4

\* Other substances listed in Column 1 of Table 2 to subclause 2(2).

Write the carbohydrate by difference value in the space provided in Section A1 and A2, under CHO by diff, the unshaded cell per 100 g.

### Section A2: Derivation of nutrient composition for ingredient quantities

For each ingredient, it is now necessary to derive the nutrient values (currently transcribed from food composition tables or other appropriate sources per 100g of the ingredient) to correspond with the quantity contained in each ingredient that actually makes up the recipe. This can be done using the template provided in Attachment 6 under Section A2.

**Step 1** For the first ingredient, take the amount (g) used in the recipe and divide it by 100 to get a conversion factor. Taking vegetable oil as an example (Food ID 04C10030):

- 154.1 g of vegetable oil is required to make up the recipe.
- $154.1 \div 100 = 1.541$ .
- Therefore, the conversion factor is 1.541.

**Step 2** Multiply each nutrient by this factor. Complete the recipe template for the first ingredient as shown in the example below.

Name	Salad dressing
------	----------------

**SECTION A1 and A2**

Recipe data and derivation of nutrient composition for ingredient quantities

THESE LAST 4 COLUMNS ARE FOR ENERGY CALCULATION (see Section CZ)

Food Id and short name	Ingredient quantity	Protein (g)	Fat (g)	Sat fat (g)	CHO (g) (diff or avail)	Sugars (g)	Sodium (mg)	Dietary fibre (g)	Alcohol (g)	Other Unavail CHO# (g)	Other Subs * #(g)
Oil, vegetable, not further specified 04C10030	Per 100 g	0.0	100	12.2	0.0	0.0	0	0	0	0	0
	Per recipe amount 154.1 g	x 1.541 =0	x 1.541 = 154.1	x 1.541 = 18.8	x 1.541 = 0	x 1.541 = 0	x 1.541 = 0	x 1.541 = 0	x 1.541 = 0	x 1.541 = 0	x 1.541 = 0

\* Other substances listed in Column 1 of Table 2 to subclause 2(2).

# May also need to be declared in NIP in accordance with Standard 1.2.8 subclauses 5(6), 5(6B) and 5(6C).

**Step 3** Repeat Steps 1 and 2 for all remaining ingredients.

**Step 4** Sum the total weight of the recipe (g) and write in the first shaded cell in the row labelled *Total weight of recipe and ingredients*.

**Step 5** Calculate the total nutrient content of the raw ingredients. For each nutrient, tally down the values that are in the shaded cells. Write the totals along the shaded row (beginning from the second shaded cell) labelled *Total weight of recipe and ingredients*.

A completed example for the salad dressing is provided below.

Name	Salad Dressing
------	----------------

**SECTION A1 and A2**

Recipe data and derivation of nutrient composition for ingredient quantities

THESE LAST 4 COLUMNS ARE FOR ENERGY CALCULATION (see Section CZ)

Food Id and short name	Ingredient quantity	Protein (g)	Fat (g)	Sat fat (g)	CHO (g) (diff or avail)	Sugars (g)	Sodium (mg)	Dietary Fibre (g)	Alcohol (g)	Other Unavail CHO# (g)	Other Subs * #(g)
Oil, vegetable, not further specified 04C10030	Per 100 g	0.0	100	12.2	0.0	0.0	0	0	0	0	0
	Per recipe amount 154.1 g	x 1.541 = 0	x 1.541 = 154.1	x 1.541 = 18.8	x 1.541 = 0	x 1.541 = 0	x 1.541 = 0	x 1.541 = 0	x 1.541 = 0	x 1.541 = 0	x 1.541 = 0
Mustard, all types 10E10009	Per 100 g	5.8	3.1	0.1	6.9	3.6	1420	4.1	0.0	0	0
	Per recipe amount 3.3 g	x 0.033 = 0.191	x 0.033 = 0.102	x 0.033 = 0.003	x 0.033 = 0.228	x 0.033 = 0.119	x 0.033 = 46.9	4.1 x 0.033 = 0.135	0 x 0.033 = 0	0 x 0.033 = 0	0 x 0.033 = 0
Vinegar 10F20042	Per 100 g	0.1	0.0	0.0	4.3	0.0	5	0.0	0.0	0	0
	Per recipe amount 74.25 g	x 0.743 = 0.074	x 0.743 = 0	x 0.743 = 0	x 0.743 = 3.19	x 0.743 = 0	x 0.743 = 3.72	x 0.743 = 0	x 0.743 = 0	x 0.743 = 0	x 0.743 = 0
Sugar, not further specified 12A10020	Per 100 g	0.0	0.0	0.0	99.8	99.7	2	0.0	0.0	0	0
	Per recipe amount 0.525 g	0 x 0.005 = 0	x 0.005 = 0	x 0.005 = 0	x 0.005 = 0.499	x 0.005 = 0.499	x 0.005 = 0.01	x 0.005 = 0	x 0.005 = 0	x 0.005 = 0	x 0.005 = 0
Garlic, raw 13A10607	Per 100g	6.1	2.8	0.7	12.4	1.5	8	16.9	0	0	0
	Per recipe amount 1.5 g	x 0.015 = 0.0915	x 0.015 = 0.042	x 0.015 = 0.0105	x 0.015 = 0.186	x 0.015 = 0.0225	x 0.015 = 0.12	x 0.015 = 0.254	x 0.015 = 0	x 0.015 = 0	x 0.015 = 0
<b>Total weight of recipe and ingredients</b>	<b>233.68</b>	<b>0.357</b>	<b>154.24</b>	<b>18.81</b>	<b>4.10</b>	<b>0.641</b>	<b>50.75</b>	<b>0.389</b>	<b>0</b>	<b>0</b>	<b>0</b>

\* Other substances listed in Column 1 of Table 2 to subclause 2(2).

# May also need to be declared in NIP in accordance with Standard 1.2.8 subclauses 5(6), 5(6B) and 5(6C).

## Section B: Nutrient composition per 100 g for foods not requiring cooking

The values obtained above must now be adjusted to 100 g of the food as follows:

**Step 1** Copy the template provided in Attachment 6 under Section B. For each nutrient, divide the total amount present in the recipe (i.e. those listed in the last row of section A1) by the total weight of the recipe (uncooked), and then multiply this by 100. This can be done using the template provided in Attachment 6 under Section B.

Taking the protein content as an example:

- The total protein content is 0.357 g.
- The total weight of the recipe is 233.68 g.
- $(0.357/233.68) \times 100 = 0.153$  g.
- Therefore, the protein content per 100 g of the food is 0.153 g.

Write these calculated values in the shaded cells provided at Section B. These values can now be inserted into the panel in the second data column, which details the average quantity per 100 g.

A completed example for a salad dressing is provided below.

### SECTION B

#### Nutrient composition per 100 g of foods not requiring cooking

	Protein (g)	Fat (g)	Sat fat(g)	CHO (g) (diff or avail)	Sugars (g)	Sodium (mg)	Dietary fibre (g)	Alcohol (g)	Other Unavail CHO# (g)	Other Subs * # (g)
Composition of food per 100 g	0.153	66.0	8.05	1.75	0.274	21.7	0.166	0	0	0

THESE LAST 4 COLUMNS ARE FOR ENERGY CALCULATION (SEE section CZ)

\* Other substances listed in Column 1 of Table 2 to subclause 2(2).

# May also need to be declared in NIP in accordance with Standard 1.2.8 subclauses 5(6), 5(6B) and 5(6C).

## **Section C: Nutrient composition per 100 g for cooked foods**

This section is not required for this example.

### **Section CZ: Calculating the average energy content**

Food components contribute varying amounts of energy. Energy factors describe the expected average energy content of 1 g of the food component. The energy factors for each food component are given in the tables to subclause 2(2) of Standard 1.2.8 and are also in Attachment 8 of this guide. The average energy content should not be determined directly from food composition tables if the components in Table 2 to subclause 2(2) are present in more than minor quantities.

**Step 1** To calculate the energy value of 100 g of food, take the total protein, fat, carbohydrate, dietary fibre and alcohol values per 100 g from Section B, and apply the energy factors for these macronutrients from Attachment 8 of this guide. This can be done using the template provided in Attachment 6 under Section CZ.

- The protein content per 100 g of the food is 0.153 g.
- The energy factor for protein is 17 kJ/g.
- $0.153 \times 17 = 2.6$ .
- Therefore, the protein contribution to energy is 2.6 kJ.

**Step 2** Tally the energy contributions from protein, fat, carbohydrate, dietary fibre and alcohol to obtain a final energy value per 100 g. The energy calculation for a salad dressing is given below.

### Energy calculation for a salad dressing

Food component	Amount of component in whole food (g/100 g)	Energy factor (kJ/ g)	Energy content (kJ/ 100 g)
Protein	0.153	17	$0.153 \times 17 = 2.6$
Fat	66.0	37	$66.0 \times 37 = 2442$
Carbohydrate	1.75	17	$1.75 \times 17 = 29.8$
Dietary fibre	0.166	8	$0.166 \times 8 = 1.33$
Alcohol	0	29	$0 \times 29 = 0$
Other unavailable carbohydrate	0	8	$0 \times 8 = 0$
Other substances*	0	Various - Refer Column 2 of Table 2 to subclause 2(2).	0
<b>TOTAL</b>			<b>2475.7</b>

\* Other substances listed in Column 1 of Table 2 to subclause 2(2).

Note that saturated fats and sugars are not included in energy calculations as they are already accounted for under total fat and carbohydrate. The average energy content may also be presented as calories. The conversion factor is one calorie for each 4.18 kilojoules.

### Section D: Solids and semi-solid foods—adjustments for serving size.

This section is not required for this example.

### Section E: Beverages and other liquid foods—converting grams to millilitres

This section shows how to convert the nutrient values present in 100 g of liquid food to 100 mL. This is done by multiplying the quantities present in 100 g by the specific gravity. This can be done using the template provided in Attachment 6 under Section E.

**Step 1** Find the specific gravity and insert this value in the cell labelled *Specific Gravity*. Specific gravities can be obtained from Attachment 11.

**Step 2** For each nutrient, multiply the quantities present in 100 g by the specific gravity. Using the protein content of salad dressing as an example:

- The specific gravity of salad dressing = 0.94.
- The protein content in 100 g of salad dressing = 0.153 g.
- $0.94 \times 0.153 = 0.144$ .
- Therefore, the protein content of 100 mL of salad dressing is 0.144 g.

As can be seen from the above example, for most foods the difference in the nutrient composition will be small.

Write the values in the shaded cells provided at Section E. These values can now be inserted into the panel in the second data column, which details the average quantity per 100 mL.

A completed example for a salad dressing is shown below:

#### SECTION E

##### Converting grams to millilitres

Specific gravity	0.94	THESE LAST 4 COLUMNS ARE FOR ENERGY CALCULATION (see Section CZ)										
	Energy (kJ)	Protein (g)	Fat (g)	Sat fat (g)	CHO (g) (diff or avail)	Sugars (g)	Sodium (mg)	Dietary fibre (g)	Alcohol (g)	Other Unavail CHO # (g)	Other Subs* # (g)	
Composition of food per 100 mL	2327	0.144	62.0	7.57	1.65	0.258	20.4	0.156	0	0	0	

\* Other substances listed in Column 1 of Table 2 to subclause 2(2).

# May also need to be declared in NIP in accordance with Standard 1.2.8 subclauses 5(6), 5(6B) and 5(6C).

#### Section F: Beverages and other liquid foods—adjustments for serving size

Copy the template provided in Attachment 6 under Section F. To calculate nutrient values for beverages and other liquid foods for a nominated serving size (in mL):

**Step 1** Write the serving size in the unshaded cell labelled *Serving size*. Calculate the serving as a proportion of 100 mL, by dividing it by 100. Then, multiply each nutrient by this value. Taking the protein content of a 15 mL serving of salad dressing as an example:

- $15 \div 100 = 0.15$ .

- The protein content of 100 mL of salad dressing is 0.144 g.
- Therefore, the protein content for a 15 mL serving is
- $0.144 \times 0.15 = 0.0216$  g.

Write these values in the shaded cells provided at Section F. These values can now be inserted into the panel in the first data column, which details the average quantity per serving.

A completed example for a salad dressing is shown below:

**Section F**

**Adjustments for serving size**

<b>Serving size (mL)</b>	15 mL	<b>THESE LAST 4 COLUMNS ARE FOR ENERGY CALCULATION (see Section CZ)</b>										
		<b>Energy (kJ)</b>	<b>Protein (g)</b>	<b>Fat (g)</b>	<b>Sat fat (g)</b>	<b>CHO (g) (diff or avail)</b>	<b>Sugars (g)</b>	<b>Sodium (mg)</b>	<b>Dietary fibre (g)</b>	<b>Alcohol (g)</b>	<b>Other Unavail CHO# (g)</b>	<b>Other Subs * # (g)</b>
<b>Composition of food per serving size (mL)</b>		349	0.02	9.3	1.14	0.248	0.0387	3.06	0.023	0	0	0

\* Other substances listed in Column 1 of Table 2 to subclause 2(2).

# May also need to be declared in NIP in accordance with Standard 1.2.8 subclauses 5(6), 5(6B) and 5(6C).

A completed panel for a salad dressing is provided below.

<b>NUTRITION INFORMATION</b>		
Servings per package: 20		
Serving size: 15 mL		
	Average Quantity per Serving	Average Quantity per 100 mL
Energy	349 kJ *	2330 kJ *
Protein	0.02g **	0.1 g **
Fat, total	9.3 g	62 g
– saturated	1.1 g	7.6 g
Carbohydrate	0.3 g **	1.7 g
– sugars	0.04 g **	0.3 g **
Sodium	3 mg	20 mg

\* As required by subclause 6(1) of Standard 1.2.8, values have been declared to a maximum of three significant figures

\*\* This can be expressed as 'LESS THAN 1 g'

## Attachment 5 -

### How do I calculate the average energy content of a food that contains substitute food components?

When calculating the average energy content of a food that contains substitute food components such as polyols or polydextrose used to replace sugars or fat, there are specific energy factors assigned to these substances that must be used.

Energy calculation for a modified chocolate cake.

Food component*	Amount of component in whole food (g/100 g)	Energy factor** (kJ/g)	Energy content (kJ/100 g)
Protein	5	17	$5 \times 17 = 85$
Fat	12	37	$12 \times 37 = 444$
Carbohydrate	15	17	$15 \times 17 = 255$
Dietary fibre	1	8	$1 \times 8 = 8$
Sorbitol (a polyol)	20	14	$20 \times 14 = 280$
Isomalt (a polyol)	20	11	$20 \times 11 = 220$
Polydextrose	10	5	$10 \times 5 = 50$
Resistant starch (form of unavailable carbohydrate)	5	8	$5 \times 8 = 40$
TOTAL			1382

\* Amounts of food components from analysis (assuming, in this product that all 40 g sugars are replaced by polyols, that 5 g of remaining 20 g carbohydrate is replaced by resistant starch and that 10 g of fat is replaced by polydextrose, leaving 12 g fat in the product).

\*\* Energy factors in relation to food components are given in Attachment 8.

The amounts of food components, such as carbohydrate, fat, protein and dietary fibre, used in the calculation of total energy should be the same as those listed in the panel above. In this case, the amounts of other food components should be listed as well as carbohydrate, because

they have been used in the calculation of carbohydrate and total energy. The amount of carbohydrate assigned an energy factor of 17 kJ/g should not include any polyols, polydextrose or resistant starch.

The following is the panel for a modified chocolate cake, containing sorbitol, isomalt, polydextrose and resistant starch.

<b>NUTRITION INFORMATION</b>		
Servings per package: 8		
Serving size: 60g		
	Average Quantity per 60 g Serving	Average Quantity per 100 g
Energy	829 kJ	1382 kJ
Protein	3 g	5 g
Fat, total	7 g	12 g
– saturated	0 g	0 g
Carbohydrate	9 g	15 g
– sugars	0 g*	0 g*
Sorbitol	12 g	20 g
Isomalt	12 g	20 g
Polydextrose	6 g	10 g
Dietary fibre **	0.6 g	1 g
Resistant starch	3 g *	5 g
Sodium	194 mg	324 mg

\* Where the average quantity of protein, fat, classes of fatty acids, carbohydrates, sugars or dietary fibre in a serving or unit quantity of the food is less than 1 gram, the average quantity may be expressed in the panel as ‘LESS THAN 1 g’.

\*\* Dietary fibre does not have to be included in the panel.

## **Attachment 6 -**

### **Templates for calculation of nutrition information panel values**

#### **Step-by-step instructions**

Below is a hard copy of recipe templates that can be used for calculating a panel together with step-by-step instructions. The recipe templates are divided into nine sections labelled Sections A-F. **You may not need to use all nine sections.**

- Section A1 involves transcribing the recipe data from food composition tables or a database.
- Section A1.1 involves calculating carbohydrate by difference for each ingredient. This section is not required if using available carbohydrate.
- Section A2 involves calculating nutrient data for each ingredient according to the actual quantities used in the recipe.
- Section B calculates nutrient data per 100 g for foods that are not cooked.
- Section C calculates nutrient data per 100 g for foods that are cooked.
- Section CZ calculates the average energy content for the food.
- Section D adjusts nutrient data per g serving size.
- Section E is specifically for beverages and other liquid foods. It converts grams to millilitres.
- Section F is specifically for beverages and other liquid foods. It adjusts nutrient data per mL serving size.

Unshaded cells indicate data drawn directly from food composition tables or other sources. Shaded cells indicate user-calculated data.

#### **Section A1: Recipe data**

**Step 1** Prepare a recipe template similar to that provided below, allowing enough space for all ingredients required (note the example below allows for 10 ingredients). Alternatively, photocopy as required.

**Step 2** From food composition tables (or other appropriate sources), transcribe a short name for each ingredient and values per 100 g for protein, total fat, saturated fat, carbohydrate (if using the available carbohydrate method), total sugars, sodium, dietary fibre and alcohol. Proceed to Step 3. If calculating carbohydrate by difference, leave the carbohydrate column block blank for now. This column will be completed under the instructions in the next section (Section A1.1).

**Step 3** In the first unshaded cell below the per 100 g column, write the ingredient weight (g) actually required to make up the recipe. Repeat for all remaining ingredients. If using the available carbohydrate method proceed to Section A2.

**SECTION A1  
and A2**

Recipe data and derivation of nutrient composition for ingredient quantities								THESE LAST 4 COLUMNS ARE FOR ENERGY CALCULATION (see Section CZ)			
Food Id and short name	Ingredient quantity	Protein (g)	Fat (g)	Sat fat (g)	CHO (g) (diff or avail)	Sugars (g)	Sodium (mg)	Dietary fibre (g)	Alcohol (g)	Other Unavail CHO # (g)	Other Subs * # (g)
	Per 100 g										
	Per recipe amount										
	_____g										
	Per 100 g										
	Per recipe amount										
	_____g										
	Per 100 g										
	Per recipe amount										
	_____g										
	Per 100 g										
	Per recipe amount										
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	Per 100 g										
	Per recipe amount										
	_____g										
	Per 100 g										
	Per recipe amount										
	_____g										
	Per 100 g										

	Per recipe amount										
	_____g										
	Per 100 g										
	Per recipe amount										
	_____g										
<b>Total weight of recipe and ingredients</b>											

\* Other substances listed in Column 1 of Table 2 to subclause 2(2).

# May also need to be declared in NIP in accordance with Standard 1.2.8 subclauses 5(6), 5(6B) and 5(6C).

### Section A1.1: Calculating carbohydrate by difference

Calculate carbohydrate by difference for each ingredient by subtracting the average quantity of water, protein, fat, dietary fibre, ash, alcohol, and if quantified or added to the food, any other unavailable carbohydrate and the substances listed in column 1 of Table 2 to subclause 2(2) (expressed as a percentage) from 100. Water (moisture), dietary fibre and alcohol values are available from most standard food composition tables. Ash values are available from American food composition data on-line and free of charge at <http://warp.nal.usda.gov/fnic/foodcomp/Data/>

This can be done using the template below.

Write the carbohydrate by difference value in the space provided in Section A1 and A2, under CHO by diff, the unshaded cell per 100 g.



- Step 3** Repeat Steps 1 and 2 for all remaining ingredients.
- Step 4** Sum the total weight of the recipe (g) and write in the first shaded cell in the row labelled *Total weight of recipe and ingredients*.
- Step 5** Calculate the total nutrient content of the raw ingredients. For each nutrient, tally down the values that are in the shaded cells. Write the totals along the shaded row (beginning from the second shaded cell) labelled *Total weight of recipe and ingredients*.

### Section B: Nutrient composition per 100 g for foods not requiring cooking

Use this section only if your food does not require cooking. If your food requires cooking, proceed to Section C.

**The values obtained above must now be adjusted to 100 g of the food as follows:**

- Step 1** Copy the template provided below. For each nutrient, divide the total amount present in the recipe (i.e. those listed in the last row of Section A1) by the total weight of the recipe (uncooked), and then multiply this by 100.

Write these calculated values in the shaded cells provided at Section B. These values can now be inserted into the panel in the second data column, which details the average quantity per 100 g.

#### SECTION B

#### Nutrient composition per 100 g of foods not requiring cooking

	THESE LAST 4 COLUMNS ARE FOR ENERGY CALCULATION (see Section CZ)									
	Protein (g)	Fat (g)	Sat fat (g)	CHO (g) (diff or avail)	Sugars (g)	Sodium (mg)	Dietary fibre (g)	Alcohol (g)	Other Unavail CHO # (g)	Other Subs * # (g)
Composition of food per 100 g										

\* Other substances listed in Column 1 of Table 2 to subclause 2(2).

# May also need to be declared in NIP in accordance with Standard 1.2.8 subclauses 5(6), 5(6B) and 5(6C).

### **Section C: Nutrient composition per 100 g for cooked foods**

Use this section only if your food requires cooking. If your food does not require cooking, use Section B instead.

The cooking process may cause changes to the recipe's raw weight. This section calculates the nutrient composition per 100 g for cooked foods by incorporating a weight change factor (accounted for as water gains/losses) to adjust the weight of the uncooked recipe. This can be done using the template below.

**Step 1** Determine the weight changes on cooking. This information can be determined from Attachment 10 (Weight change factors), or calculate an appropriate weight change factor. Write this value in the unshaded cell labelled *Weight change factor* in the template for Section C.

**Step 2** Adjust the total weight of the recipe to account for weight changes due to cooking.

$$\text{weight of cooked recipe} = \frac{\text{raw weight} - (\text{weight change factor} \times \text{raw weight})}{100}$$

Write this value in the shaded cell labelled *Weight of cooked recipe*.

Nutrient values must now be calculated for 100g of the cooked food as follows:

**Step 3** For each nutrient, divide the totals obtained for the raw food (i.e. those listed in the last row of Section A) by the total weight of the cooked food, and then multiply this by 100.

Write these values in the shaded cells provided at Section C. These values can now be inserted into the panel in the second data column, which details the average quantity per 100 g.

## SECTION C

Nutrient composition per  
100 g of foods requiring  
cooking

Weight change factor											
Weight of cooked recipe								THESE LAST 4 COLUMNS ARE FOR ENERGY CALCULATION ONLY (see Section CZ)			
		Protein (g)	Fat (g)	Sat fat (g)	CHO (g) (diff or avail)	Sugars (g)	Sodium (mg)	Dietary fibre (g)	Alcohol (g)	Other Unavail CHO # (g)	Other Subs * # (g)
	Composition of food per 100 g										

\* Other substances listed in Column 1 of Table 2 to subclause 2(2).

# May also need to be declared in NIP in accordance with Standard 1.2.8 subclauses 5(6), 5(6B) and 5(6C).

### Section CZ: Calculating the average energy content

Food components contribute varying amounts of energy. Energy factors describe the expected average energy content of 1 g of the food component. The energy factors for each food component are given in the tables to subclause 2(2) of Standard 1.2.8 and are also in Attachment 8 of this guide. The average energy content should not be determined directly from food composition tables if the components in Table 2 to subclause 2(2) are present in more than minor quantities.

**Step 1** To calculate the energy value of 100 g of food, take the total protein, fat, carbohydrate, and where shown, the dietary fibre and alcohol values per 100 g from Section B for foods that do not require cooking, or from Section C, for foods that require cooking, and apply the energy factors for these macronutrients from Attachment 8 of this guide. This can be done using the template provided below.

**Step 2** Tally the energy contributions from protein, fat, carbohydrate, dietary fibre and alcohol to obtain a final energy value per 100 g.

SECTION CZ			
Food component	Amount of component in final food (g/100 g)	Energy factor (kJ/ g)	Energy content (kJ/ 100 g)
Protein		17	
Fat		37	
Carbohydrate		17	
Dietary fibre		8	
Alcohol		29	
Unavailable carbohydrate		8	
Other substances*		Various - Refer Column 2 of Table 2 to subclause 2(2).	
TOTAL			

\* Other substances listed in Column 1 of Table 2 to subclause 2(2).

### Section D: Solid and semi-solid foods - adjustments for serving size

Use this section only if you have a solid or semi-solid food. For liquid foods or beverages, use sections E and F.

To calculate nutrient values for a nominated serving size (in grams):

**Step 1** Copy the template below. Write the serving size in the unshaded cell labelled *Serving size*. Calculate the serving as a proportion of 100 g, by dividing it by 100. Then, multiply each nutrient by this value.

Write these values in the shaded cells provided at Section D. These values can now be inserted into the panel in the first data column, which details the average quantity per serving.

**SECTION D**

**Adjustments for serving size**

Serving size (g)	THESE LAST 4 COLUMNS ARE FOR ENERGY CALCULATION (see Section CZ)										
	Energy (kJ)	Protein (g)	Fat (g)	Sat fat (g)	CHO (g) (diff or avail)	Sugars (g)	Sodium (mg)	Dietary fibre (g)	Alcohol (g)	Other Unavail CHO # (g)	Other Subs * # (g)
Composition of food per serving size (g)											

\* Other substances listed in Column 1 of Table 2 to subclause 2(2).

# May also need to be declared in NIP in accordance with Standard 1.2.8 subclauses 5(6), 5(6B) and 5(6C).

**Section E: Beverages and other liquid foods—converting grams to millilitres**

Use this section only if you have a liquid food or beverage.

This section shows how to convert the nutrient values present in 100 g of liquid food to 100 mL. This is done using the template below by multiplying the quantities present in 100 g by the specific gravity.

**Step 1** Find the specific gravity and insert this value in the cell labelled *Specific Gravity*. Specific gravities can be obtained from Attachment 11.

**Step 2** For each nutrient, multiply the quantities present in 100 g by the specific gravity.

Write the values in the shaded cells provided at Section E. These values can now be inserted into the panel in the second data column, which details the average quantity per 100 mL.

**SECTION E**

Converting grams to millilitres

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Specific gravity

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THESE LAST 4 COLUMNS ARE FOR ENERGY CALCULATION (see Section CZ)

	Energy (kJ)	Protein (g)	Fat (g)	Sat fat (g)	CHO (g) (diff or avail)	Sugars (g)	Sodium (mg)	Dietary fibre (g)	Alcohol (g)	Other Unavail CHO # (g)	Other Subs * # (g)
Composition of food per 100 mL											

\* Other substances listed in Column 1 of Table 2 to subclause 2(2).  
 # May also need to be declared in NIP in accordance with Standard 1.2.8 subclauses 5(6), 5(6B) and 5(6C).

**Section F: Beverages and other liquid foods—adjustments for serving size**

Use this section only if you have a liquid food or beverage.

To calculate nutrient values for beverages and other liquid foods for a nominated serving size (in mL):

**Step 1** Copy the template below. Write the serving size in the unshaded cell labelled *Serving size*. Calculate the serving as a proportion of 100 mL, by dividing it by 100. Then, multiply each nutrient by this value.

Write these values in the shaded cells provided at Section F. These values can now be inserted into the panel in the first data column, which details the average quantity per serving.

**SECTION F**

**Adjustments for serving size**

Serving size (mL)		THESE LAST 4 COLUMNS ARE FOR ENERGY CALCULATION (see Section CZ)										
		Energy (kJ)	Protein (g)	Fat (g)	Sat fat (g)	CHO (g) (diff or avail)	Sugars (g)	Sodium (mg)	Dietary fibre (g)	Alcohol (g)	Other Unavail CHO # (g)	Other Subs * # (g)
Composition of food per serving size (mL)												

\* Other substances listed in Column 1 of Table 2 to subclause 2(2).

# May also need to be declared in NIP in accordance with Standard 1.2.8 subclauses 5(6), 5(6B) and 5(6C).

## **Attachment 7 -**

### **Definitions and interpretation of terms for nutrition labelling**

The definitions that apply only to nutrition labelling are provided in clause 1 of Standard 1.2.8 – Nutrition Information Requirements. Further definitions that apply to the new Code as a whole are provided in Standard 1.1.1 – Preliminary Provisions—Application, Interpretation and General Prohibitions. Some of these will be relevant for nutrition labelling such as ‘nutritive substance’, ‘average quantity’, ‘claim’, ‘label’, and ‘nutrition information panel’.

A number of definitions have been added or amended in Standard 1.2.8. Some of these may differ from definitions of similar terms provided in other standards, such as ‘fat’ and ‘sugars’. This is because the definitions in Standard 1.2.8 are for labelling rather than compositional purposes. The analytical definitions do not always provide the most meaningful nutritional information for consumers.

#### **Biologically active substance**

For the purpose of nutrition labelling, ‘biologically active substance’ refers to substances other than the traditionally recognised nutrients. The term has been introduced to ensure substances such as phytoestrogens and anti-oxidants are included in the nutrition labelling requirements and will trigger a declaration in the panel. These may be either naturally occurring or added to the food.

#### **Carbohydrate**

Two definitions of carbohydrate have been included in Standard 1.2.8 to permit the calculation of carbohydrate as either carbohydrate by difference or as available carbohydrate. Carbohydrate by difference is calculated by subtracting from 100, the average quantity expressed as a percentage, of water, protein, fat, dietary fibre, ash, alcohol and if quantified or added to the food<sup>6</sup>, any other unavailable carbohydrate and the substances listed in column 1 of Table 2 to subclause 2(2).

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<sup>6</sup> ‘Added to the food’ means added in any amount as an additive or ingredient to the final food.

Available carbohydrate is calculated by summing the average quantity of total available sugars and starch, and if quantified or added to the food, any available oligosaccharides, glycogen and maltodextrins.

### **Dietary fibre**

Dietary fibre is defined in clause 1 as that fraction of the edible part of plants or their extracts, or synthetic analogues that are resistant to the digestion and absorption in the small intestine, usually with complete or partial fermentation in the large intestine; and promote one or more of the following beneficial physiological effects -

- laxation;
- reduction in blood cholesterol;
- modulation of blood glucose.

Dietary fibre includes polysaccharides, oligosaccharides (degree of polymerisation > 2) and lignins.

Compliance with the analytical methods listed in Clause 18 is required.

### **Energy**

The 'average energy content' of a whole food is that energy available for use in the body's metabolic processes, taking account of loss of energy as body waste or as gases (metabolic energy). 'Average energy content' is defined in Standard 1.2.8 – Nutrition Information Requirements. Specific energy factors for each food component are given in the tables to subclause 2(2) of Standard 1.2.8 and are also in Attachment 8 of this guide.

### **Fat**

A definition of 'fat' has been added to Standard 1.2.8 – Nutrition Information Requirements to make it clear that 'fat' as declared in the panel is total fat. This definition describes total fat for the purposes of labelling only and does not take account of whether it comes from fats, oils or other lipid components of foods.

### **Monounsaturated fatty acids**

Monounsaturated fatty acids refer to those fatty acids that have a chemical structure containing one double bond. These should be declared as monounsaturated fat in the panel.

### **Polyunsaturated fatty acids**

Polyunsaturated fatty acids refer to those fatty acids that have a chemical structure containing two or more double bonds. These should be declared as polyunsaturated fat in the panel.

### **Saturated fatty acids**

Saturated fatty acids refer to those fatty acids that have a chemical structure containing no double bonds. These should be declared as saturated fat in the panel.

### **Trans fatty acids**

Trans fatty acids refer to those fatty acids that have a chemical structure in which one or more of the double bonds is in the trans configuration. These should be declared as trans fat in the panel.

### **Triggered clusters**

See *What is a triggered cluster claim?* earlier in this guide for examples of panels with triggered clusters.

## Attachment 8 -

### Energy factors in relation to food components

Table 1 to subclause 2(2), Standard 1.2.8 – Nutrition Information Requirements

<b>Food Component</b>	<b>Energy Factor (kJ/g)</b>
Alcohol	29
Carbohydrate (excluding unavailable carbohydrate)	17
Unavailable carbohydrate (including dietary fibre)	8
Fat	37
Protein	17

Table 2 to subclause 2(2), Standard 1.2.8 – Nutrition Information Requirements

<b>Food Component</b>	<b>Energy Factor (kJ/g)</b>
Erythritol	1
Glycerol	18
Isomalt	11
Lactitol	11
Maltitol	16
Mannitol	9
Organic acids	13
Polydextrose	5
Sorbitol*	14
Xylitol	14

\* Energy factor for sorbitol taken as average of calculated range determined with or without ingestion of other foods.

## Attachment 9 -

### Reference values for an interpretive element — Percentage of daily intake (%DI)

Food component	Reference value	Basis for reference values	Source of health recommendations for reference amount
Energy	8700 kJ (2100 kcal)	Based on the average energy consumption/day for adults and children over 4 years of age in Australia and New Zealand.	1995 National Nutrition Survey, Australia <sup>1</sup> 1991 Life in NZ Survey <sup>2</sup>
Protein	50 g	Protein based on average for RDI for men (55 g) and non-pregnant, non-lactating women (45 g).	Australian RDI, as per NHMRC 1991 <sup>3</sup>
Fat	70 g	Fat based on 30% of energy	CDHSH 1994 <sup>4</sup>
Saturated fat – total	24 g	Saturated fat based on 10% of energy.	CDHSH 1994 <sup>4</sup>
Carbohydrate	310 g	Carbohydrate based on balance of energy and cross-referenced with survey data and international targets (60% of energy).	No RDI or targets set. US value for labelling set at 60 per cent of energy
Sugars	62 g*	Sugars based on 12 per cent of energy.	Better Health Commission Target, Commonwealth Dept Health, 1987 <sup>5</sup>
Dietary fibre	30 g/day	Dietary fibre based on 30 g per day.	Better Health Commission Target, Commonwealth Dept Health, 1987 <sup>5</sup>
Sodium	2300 mg/day		Australian RDI, as per NHMRC 1991 <sup>3</sup>

\* This value is currently being revised upwards

## References

1. Australian Bureau of Statistics (1998) *National Nutrition Survey: Selected Highlights, Australia 1995*. Australian Bureau of Statistics, Canberra.
2. Horwath C, Parnell W, Birkbeck J, Wilson N, Russell D and Herbison P. (1991) *Life In New Zealand Survey Commission Report: Volume VI: Nutrition*. University of Otago, Dunedin.
3. National Health and Medical Research Council (1991) *Recommended Dietary Intakes for Use in Australia*. AGPS Canberra.
4. Commonwealth Department of Human Services and Health (1994) *Better Health Outcomes for Australians. National Goals, Targets and Strategies for Better Health Outcomes into the Next Century*. Commonwealth Department of Human Services and Health, Canberra.
5. Commonwealth Department of Health. *Towards Better Nutrition for Australians. Report of the Nutrition Taskforce of the Better Health Commission*. AGPS Canberra, 1987.

## Attachment 10 - Weight change factors

The cooking process will often result in changes to the recipe's raw weight, due to gains and/or losses in both water and/or fat. To assist in the calculation of nutrition information panels for foods that require cooking, a table of weight change factors has been provided below.

These weight change factors are indicative of the **net** weight changes that occur in cooking. The majority of changes result from the loss or gain of water, but for foods including meats and fried foods, there may also be a loss or gain of fat. The factors may be either negative (e.g. where a food loses moisture during cooking) or positive (e.g. where a dried legume gains moisture during boiling).

The values have been calculated as follows:

$$\frac{\text{Weight of cooked food} - \text{Weight of raw food}}{\text{Weight of raw food}} \times 100$$

As an example, assume that 100 g of the raw food X weighs 300 g after cooking. The weight change factor can be calculated as follows:

$$\frac{300 - 100}{100} \times 100 = 200$$

From the above, a weight change factor of 200 does **not** indicate that the food has doubled its weight. Rather, the food has gained twice its original weight on cooking i.e. it has **tripled** in weight.

It is important to note that weight changes may be highly dependent on the type of processing equipment used. As a simple example, the absence of a saucepan lid may significantly impact on the weight of a cooked food such as a stew, due to water loss through evaporation. It is also important to note that as these factors are based on domestic food measures and cooking situations, they should be applied with caution as they do not account for industrial processes and/or where foods have been processed in bulk amounts.

Given the above, the weight change factors provided in this Attachment should be viewed as being only indicative of the weight changes that may occur. As such, they are provided solely as a guide; they may not adequately reflect your product.

These weight change factors have been drawn from five different sources including one local and four overseas sources. Values are not provided for some food groups due to the great variability within these groups.

It is recommended that wherever possible, you should use the NPC to calculate your own weight change factor for your specific recipe based on the total ingoing weight of your ingredients and the final weight of your cooked food.

<b>Food Group ID</b>	<b>Food Group</b>	<b>Specific Food and Preparation Method</b>	<b>Indicative Weight change factor (%)</b>
02A1	GRAINS (OTHER THAN RICE)	Porridge, from cooked grains (other than rice), simmered	-13
		Grains (other than rice), boiled	541
02A1	PASTA AND EGG NOODLES	Pasta and egg noodles, boiled	164
02A1	NOODLES, ASIAN STYLE	Noodles, Asian style, boiled	159
02A1	RICE	Rice, boiled	189
02B1	BREADS, ROLLS, WHITE	Breads, rolls, white, from raw ingredients, baked	-9
		Breads, rolls, white, toasted	-14
02B1	BREADS, ROLLS, MIXED GRAIN	Breads, rolls, mixed grain, from raw ingredients, baked	-9
		Breads, rolls, mixed grain, toasted	-15
02B1	BREADS, ROLLS, WHOLEMEAL	Breads, rolls, wholemeal, from raw ingredients, baked	-9

		Breads, rolls, wholemeal, toasted	-15
02B1	BREADS, ROLLS, RYE	Breads, rolls, rye, from raw ingredients, baked	-9
		Breads, rolls, rye, toasted	-15
02B1	BREADS, ROLLS, WHITE, FIBRE-INCREASED	Breads, rolls, white, fibre-increased, from raw ingredients, baked	-9
		Breads, rolls, white, fibre-increased, toasted	-16
02B1/ 02F4	TORTILLA, TACO SHELLS, AND CORN BREAD	Tortillas, from raw ingredients, pan-fried	-18
02B2	ENGLISH-STYLE MUFFINS	English-style muffins, from raw ingredients, baked	-13
		English-style muffins, toasted	-14
02B2	CRUMPETS	Crumpets, from raw ingredients, baked	-10
02C1	RICE PRODUCTS	Rice cake, from raw ingredients, baked	-11
02C1	SAVOURY BISCUITS, PLAIN, LOW TO MODERATE FAT	Savoury biscuits, plain, low to moderate fat, from raw ingredients, baked	-13
02C2	SWEET BISCUITS, PLAIN OR FLAVOURED	Sweet biscuits, plain or flavoured, from raw ingredients, baked	-13
02C2	SWEET BISCUITS, PLAIN WITH FRUIT OR NUTS	Sweet biscuits, plain with fruit or nuts, from raw ingredients, baked	-9
02C2	SWEET BISCUITS, FRUIT-FILLED OR FANCY	Sweet biscuits, fruit-filled or fancy, from raw ingredients, baked	-7
02C2	SWEET BISCUITS, CREAM FILLED	Sweet biscuits, cream filled, from raw ingredients, baked	-9
02C2	SWEET BISCUITS, CHOCOLATE-COATED, CHOCOLATE CHIP	Sweet biscuits, chocolate-coated, chocolate chip, from raw ingredients, baked	-8
02C2	BUNS, AND YEAST-BASED PRODUCTS	Buns, and yeast-based products, from raw ingredients, baked	-14
02D1	BREAKFAST CEREAL, BRAN, PROCESSED	Breakfast cereal, bran, processed, from raw ingredients, baked	-11

02D1	BREAKFAST CEREAL, MUESLI, TOASTED	Breakfast cereal, muesli, from raw ingredients, toasted	-11
02D1	BREAKFAST CEREAL, GRAIN MIXTURES	Breakfast cereal, grain mixtures, from raw ingredients, baked	-11
02D2	BREAKFAST CEREAL, HOT PORRIDGE TYPE	Porridge, from cooked oats, simmered	-11
02E1	CAKES, CAKE MIXES	Cakes, from cake mix, baked	-13
		Cakes, from raw ingredients, baked	-12
02E1	CAKE-TYPE MUFFINS AND MIXES	Cake-type muffins from raw ingredients, and mixes, baked	-9
02E1	CAKE-TYPE DESSERTS	Puddings, from raw ingredients, steamed	1
02E2	SCONES AND ROCK CAKES	Scones and rock cakes, from raw ingredients, baked	-14
02E2	SAVOURY DUMPLINGS	Savoury dumplings, from raw ingredients, steamed	39
02E3	DROP SCONES, PIKELETS	Drop scones, pikelets, from raw ingredients, grilled	-16
02E3	DOUGHNUTS	Doughnuts, cake type, from raw ingredients, baked	-4
		Doughnuts, yeast type, from raw ingredients, fried	6
02E4	PASTRY, CROISSANT	Pastry, croissant, from raw ingredients, baked	-19
		Vol au vent case, from raw ingredients, baked	-18
02E5	SLICES, BISCUIT AND CAKE-TYPE	Slices, biscuit and cake-type, from raw ingredients, baked	-8
02E5	SWEET PASTRY PRODUCTS, SINGLE CRUST - TARTS AND FLANS	Sweet pastry products, single crust - tarts and flans, from raw ingredients, baked	-7
02E5	SWEET PASTRY PRODUCTS, DOUBLE CRUST - PIES, SLICES AND DANISHES	Sweet pastry products, double crust - pies, slices and danishes, from raw ingredients, baked	-12

02E6	SAVOURY PASTRY PRODUCTS, SINGLE CRUST - TARTS AND FLANS	Savoury pastry products, single crust - tarts and flans, from raw ingredients, baked	-14
02E6	SAVOURY PASTRY PRODUCTS, DOUBLE CRUST - PIES, ROLLS AND ENVELOPES	Savoury pastry products, double crust - pies, rolls and envelopes, from raw ingredients, baked	-16
02E6	'CHIKO-TYPE' ROLLS, DIM SIMS AND SPRING ROLLS	'Chiko-type' rolls, dim sims and spring rolls, from raw ingredients, boiled or steamed	30
		'Chiko-type' rolls, dim sims and spring rolls, from raw ingredients, deep fried	-14
		'Chiko-type' rolls, dim sims and spring rolls, from raw ingredients, pan-fried	-18
02E6	EGG DISHES, SAVOURY	Quiche, from raw ingredients, baked	-26
02F1	PIZZA	Bread, pizza base, thick, from raw ingredients, baked	-16
		Bread, pizza base, thin, from raw ingredients, baked	-15
02F2	SANDWICHES	Sandwiches, grilled	-18
02F3	FANCY BREADS (E.G. FOCCACIA, WITH CHEESE, VEGETABLES, OR FRUIT)	Fancy breads (e.g. foccacia, with cheese, vegetables, or fruit), from raw ingredients, baked	-9
		Fancy breads (e.g. foccacia, with cheese, vegetables, or fruit), pan-fried	-19
		Fancy breads (e.g. foccacia, with cheese, vegetables, or fruit), toasted	-14
02F4	FILLED PASTA, RAVIOLI	Filled pasta, ravioli, boiled	14
02F4	FLAVOURED RICE	Flavoured rice, simmered	-28
03A1	EGGS, CHICKEN	Eggs, chicken, fried	-12
03B1	EGG DISHES, SAVOURY	Eggs, chicken, benedict	-2
		Eggs, chicken, omelette	-7
		Eggs, chicken, scrambled	-12

		Eggs, chicken, from raw ingredients, soufflé	-15
05A1	FIN FISH, FRESH, FROZEN	Fin fish, fresh, frozen, baked	-24
		Fin fish, fresh, frozen, grilled	-26
		Fin fish, fresh, frozen, microwaved	-19
		Fin fish, fresh, frozen, poached	-16
		Fin fish, fresh, frozen, steamed	-17
05A1	SMOKED FISH	Smoked fish, baked	-24
		Smoked fish, grilled	-26
		Smoked fish, microwaved	-19
		Smoked fish, poached	-16
		Smoked fish, steamed	-17
05A1	PACKED FIN FISH (DRAINED)	Packed fin fish, drained, baked	-24
		Packed fin fish, drained, grilled	-26
		Packed fin fish, drained, microwaved	-19
		Packed fin fish, drained, poached	-16
		Packed fin fish, drained, steamed	-17
05D1	MIXED DISHES WITH FISH AS THE MAJOR COMPONENT, WITH CEREAL PRODUCTS	Mixed dishes with fish as the major component, with cereal products, from raw ingredients, stewed	-16
05D2	CRUSTACEA AND MOLLUSCS, BATTERED OR CRUMBED	Crustacea and molluscs, battered or crumbed, from raw ingredients, pan-fried	-16
05D2	MIXED SEAFOOD DISHES WITH CRUSTACEA, MOLLUSCS OR OTHER SEAFOOD PRODUCTS AS THE MAJOR COMPONENT, PLUS SAUCE	Mixed seafood dishes with crustacea, molluscs or other seafood products as the major component, plus sauce, from raw ingredients, baked	-17
05D2	MIXED SEAFOOD DISHES WITH CRUSTACEA, MOLLUSCS OR OTHER SEAFOOD PRODUCTS AS THE MAJOR	Mixed seafood dishes with crustacea, molluscs or other seafood products as the major component, with cereal products, from raw	-18

	COMPONENT, WITH CEREAL PRODUCTS	ingredients, baked	
06A1	BERRY FRUIT	Berry fruit (sweetened/unsweetened/artificially sweetened), stewed	-9
06C1	STONE FRUIT	Stone fruit (sweetened/unsweetened/artificially sweetened), stewed	-9
06C1/ 06D1	DRIED FRUIT AND MIXES (OTHER THAN DRIED VINE FRUIT)	Apples, dried (sweetened/unsweetened/artificially sweetened), stewed	305
		Apricots and peaches, dried (sweetened/unsweetened/artificially sweetened), stewed	181
		Figs, dried, stewed	49
		Pears, dried, stewed	113
06D1	APPLES	Apples (sweetened/unsweetened), baked	-13
		Apples (sweetened/unsweetened/artificially sweetened), stewed	26
06D1	BANANAS	Bananas, baked	-20
06D1	OTHER FRUIT	Other fruit (sweetened/unsweetened/artificially sweetened), stewed	-7
06E1	MIXED DISHES WHERE FRUIT IS THE MAJOR COMPONENT	Mixed dishes where fruit is the major component, from raw ingredients, baked	-7
08A1	BEEF	Beef, fried	-35
		Beef, grilled	-30
		Beef, roasted	-37
		Beef, stewed	-40
08A2	LAMB	Lamb, fried	-32
		Lamb, grilled	-27
		Lamb, roasted	-22

		Lamb, stewed	-32
08A3	PORK	Pork, fried	-29
		Pork, grilled	-31
		Pork, roasted	-32
		Pork, stewed	-37
08C1	CHICKEN	Chicken, deep fried	-26
		Chicken, grilled	-27
		Chicken, microwaved	-24
		Chicken, pan-fried	-24
		Chicken, roasted	-27
		Chicken, stewed	-30
08E2	SAUSAGE	Sausage, boiled	-6
		Sausage, grilled	-26
		Sausage, pan-fried	-21
08E2	FRANKFURTS, AND SAVELOYS	Frankfurts and saveloys, boiled	-3
08E3	BACON	Bacon, grilled	-32
		Bacon, microwaved	-36
		Bacon, pan-fried	-40
08E3	PROCESSED DELICATESSEN MEAT	Beef and pork meat, smoked, baked	-34
		Meatloaf, from raw ingredients, baked	-23
		Turkey meat, smoked, baked	-27
08F1	BEEF OR VEAL STEW, CASSEROLE, STIR FRY WITH GRAVY OR SAUCE ONLY	Beef or veal, with gravy or sauce only, from raw ingredients, stewed or stir fried	-22
08F1	BEEF OR VEAL STEW, CASSEROLE, STIR FRY WITH CEREAL PRODUCTS	Beef or veal, with cereal products, from raw ingredients, stewed, simmered or stir fried	-14

08F1	MEAT STEW, CASSEROLE, STIR FRY WITH GRAVY OR SAUCE ONLY	Meat, with gravy or sauce only, from raw ingredients, stewed, simmered or stir fried	-22
08F1	MEAT STEW, CASSEROLE, STIR FRY WITH CEREAL PRODUCTS	Meat, with cereal products, from raw ingredients, stewed, simmered or stir fried	-18
08F1	BEEF OR VEAL, CRUMBED, BATTERED, MEATLOAF OR PATTY TYPE WITH CEREAL	Beef or veal, crumbed, battered, meatloaf or patty type with cereal, from raw ingredients, pan-fried	-19
08F1	BEEF OR VEAL, CRUMBED, BATTERED, MEATLOAF OR PATTY TYPE WITH VEGETABLE	Beef or veal, crumbed, battered, meatloaf or patty type with vegetable, from raw ingredients, pan-fried	-20
08F1	BEEF OR VEAL, CRUMBED, BATTERED, MEATLOAF OR PATTY TYPE WITH CEREAL AND VEGETABLE	Beef or veal, crumbed, battered, meatloaf or patty type with cereal and vegetable, from raw ingredients, pan-fried	-18
08F1	LAMB STEW, CASSEROLE, STIR FRY WITH GRAVY OR SAUCE ONLY	Lamb, with gravy or sauce only, from raw ingredients, stewed or stir fried	-24
08F1	LAMB STEW, CASSEROLE, STIR FRY WITH CEREAL PRODUCTS	Lamb, with cereal products, from raw ingredients, stewed	-16
08F1	PORK, BACON, HAM STEW, CASSEROLE, STIR FRY WITH GRAVY OR SAUCE ONLY	Pork, bacon, ham, with gravy or sauce only, from raw ingredients, stewed or stir fried	-24
08F1	PORK, BACON, HAM STEW, CASSEROLE, STIR FRY WITH CEREAL PRODUCTS	Pork, bacon, ham, with cereal products, from raw ingredients, stewed, simmered or stir fried	-13
08F1	LAMB CRUMBED, BATTERED, MEATLOAF OR PATTY TYPE WITH EITHER CEREAL AND/OR VEGETABLE	Lamb, crumbed, battered, meatloaf or patty type with either cereal and/or vegetable, from raw ingredients, pan-fried	-25
08F1	PORK, BACON, HAM, CRUMBED, BATTERED, MEATLOAF, OR PATTY TYPE WITH EITHER CEREAL AND/OR VEGETABLE	Pork, chops, crumbed, battered, pan-fried	-21
		Pork, patty, crumbed, from raw ingredients, pan-fried	-25
08F1	PORK SAUSAGE DISHES	Pork sausage dishes, from raw ingredients, stewed	-15

		stewed	
08F1	POULTRY OR GAME STEW, CASSEROLE, STIR FRY WITH GRAVY OR SAUCE ONLY	Poultry or game, with gravy or sauce only, from raw ingredients, stewed or stir fried	-19
08F1	POULTRY OR GAME STEW, CASSEROLE, STIR FRY WITH CEREAL PRODUCTS	Poultry or game, with cereal products, from raw ingredients, stewed or stir fried	-16
09D2	CUSTARDS, AND SWEET SAUCES, MILK BASED	Custards, from powder, simmered	-15
		Custards, from raw ingredients, baked	-18
		Custards, from raw ingredients, simmered	-10
10A1	SAVOURY PASTA AND SAUCE DISHES	Savoury pasta and sauce dishes, from raw ingredients, casseroled	-9
		Lasagne, from raw ingredients	-9
10A1	GRAVIES	Gravies, from powder, simmered	-14
		Gravies, from raw ingredients, simmered	-18
10A1	SAVOURY SAUCES	Savoury sauces, from powder, simmered	-14
		Savoury sauces, from raw ingredients, simmered	-18
		Tomato sauce, from raw ingredients, simmered	-17
10A1	SIMMER SAUCES	Simmer sauces, from raw ingredients, simmered	-18
10A1	PASTA SAUCES, TOMATO-BASED (NO MEAT)	Pasta sauces, tomato-based (no meat), from raw ingredients, simmered	-17
10A1	PASTA SAUCES, OIL- OR CREAM- BASED	Pasta sauces, oil- or cream-based, from powder, simmered	-14
		Pasta sauces, oil- or cream-based, from raw ingredients, simmered	-17
10A1	SAUCE (WITH ONION), FROM MEAT- BASED STEWS AND CASSEROLES	Sauce (with onion), from meat-based stews and casseroles, from raw ingredients, simmered	-17
10C1	SOUP CONTAINING MEAT	Soup containing meat, from raw ingredients, simmered	-19

		simmered	
10C1	SOUP CONTAINING CHICKEN	Soup containing chicken, from condensed, simmered	-19
		Soup containing chicken, from raw ingredients, simmered	-19
10C1	SOUP CONTAINING FISH OR SEAFOOD	Soup containing fish or seafood, from condensed, simmered	-15
		Soup containing fish or seafood, from raw ingredients, simmered	-15
10C1	TOMATO-BASED SOUP	Tomato-based soup, from powder, simmered	-19
		Tomato-based soup, from raw ingredients, simmered	-19
10C1	OTHER VEGETABLE-BASED SOUP	Other vegetable-based soup, from powder, simmered	-19
		Other vegetable-based soup, from raw ingredients, simmered	-19
10D1	POTATO CRISPS	Potato crisps (slices coated with oil and baked)	-36
10D1	CORN CHIPS	Corn chips, from raw ingredients, baked	-17
10D1	POPCORN	Corn, popped in oil	-10
11A1	SEEDS AND SEED PRODUCTS	Seeds, dry roasted	-6
		Seeds, oil roasted	-2
11B1	PEANUTS AND PEANUT PRODUCTS	Peanuts, dry roasted	-2
		Peanuts, oil roasted	-2
12B1	TOPPINGS	Toppings, from raw ingredients, boiled	-14
12B1	JAMS AND CONSERVES	Jams and preserves, from raw ingredients, boiled	-14
12B1	SWEET SPREADS	Sweet spreads, from raw ingredients, boiled	-14
12B1	FROSTINGS AND ICING WITH ADDED FAT	Frostings and icing with added fat, from raw ingredients, boiled	-14

	ADDED FAT	ingredients, boiled	
12C1	CHOCOLATE	Chocolate, from raw ingredients, simmered	-23
12C1	CHOCOLATE-BASED CONFECTIONERY	Chocolate-based confectionery, from raw ingredients, simmered	-23
12C1	CAROB AND CAROB-BASED CONFECTIONERY	Carob and carob-based confectionery, from raw ingredients, simmered	-23
12C1	LOLLIES AND OTHER CONFECTIONERY	Lollies and other confectionery, from raw ingredients, boiled	-19
12D1	SUGAR-BASED DESSERTS	Sugar-based desserts, from raw ingredients, baked	-25
13A1	POTATOES	Potatoes, baked	-34
		Potatoes, boiled	-2
		Potatoes, boiled, mashed	-2
		Potatoes, chips, hot, fries, baked (8cm x 0.6cm x 0.6cm)	-30
		Potatoes, chips, hot, fries, deep fried (8cm x 0.6cm x 0.6cm)	-46
		Potatoes, chips, hot, fries, pan-fried (8cm x 0.6cm x 0.6cm)	-27
		Potatoes, chips, hot, regular, baked (6cm x 1cm x 1cm)	-24
		Potatoes, chips, hot, regular, deep fried (6cm x 1cm x 1cm)	-32
13A1	CABBAGE, CAULIFLOWER AND SIMILAR BRASSICA VEGETABLES	Cabbage, cauliflower and similar brassica vegetables, boiled	-4
13A1	CARROT AND SIMILAR ROOT VEGETABLES	Carrot and similar root vegetables, boiled	-7
		Sweet potatoes, baked	-18
		Sweet potatoes, pan-fried	-18

13A1	LEAF AND STALK VEGETABLES	Leaf and stalk vegetables, boiled	-15
13A1	PEAS AND EDIBLE-PODDED PEAS	Peas and edible-podded peas, boiled	-7
13A1	TOMATO	Tomato, boiled	-22
		Tomato, grilled	-20
		Tomato, stewed	-10
13A1	PUMPKIN	Pumpkin, baked	-15
		Pumpkin, boiled	-4
13A1	SQUASH AND ZUCCHINI	Squash and zucchini, boiled	-16
13A1	OTHER FRUITING VEGETABLES	Other fruiting vegetables, boiled	-7
13A1	OTHER VEGETABLES	Other vegetables, except corn and mushrooms, boiled	-5
		Corn, kernels, boiled or steamed	-4
		Corn, on cob, boiled	-1
		Mushrooms, boiled	-34
		Mushrooms, pan-fried	-47
13A1	ONION, LEEK AND GARLIC	Onion, leek and garlic, boiled	-10
		Onion, baked	-17
		Onion, pan-fried	-38
13A1	MIXTURES OF TWO OR MORE VEGETABLES	Mixtures of two or more vegetables (cubed carrots and swedes, cut green beans, peas and corn), boiled	-11
13A2	MATURE LEGUMES AND PULSES	Beans (9 types), dried, boiled	149
		Chick peas, dried, boiled	163
		Split lentils, dried, boiled	227
		Split peas, dried, boiled	150
		Whole lentils, dried, boiled	142

13B1	POTATO PRODUCTS	Potato products, from raw ingredients, baked (e.g. battered or crumbed)	-39
13B1	POTATO DISHES	Potato dishes, with potato as the major component, plus sauce, from raw ingredients, baked	-12
		Potato dishes, with potato as the major component, plus sauce, from raw ingredients, pan-fried	-18
13B1	VEGETABLES AND SAUCE	Vegetables and sauce, from raw ingredients, baked	-13
13B1	STUFFED VEGETABLES AND VEGETABLE DISHES	Stuffed vegetables and vegetable dishes, from raw ingredients, baked	-21
		Stuffed vegetables and vegetable dishes, from raw ingredients, pan-fried	-20
13B2	LEGUME AND PULSE PRODUCTS	Tofu, pan-fried	-27
13B2	DISHES WHERE MATURE LEGUMES ARE THE MAJOR INGREDIENT	Dishes where mature legumes are the major ingredient, from raw ingredients, baked	-12
		Dishes where mature legumes are the major ingredient, from raw ingredients, grilled	-16
		Dishes where mature legumes are the major ingredient, from raw ingredients, pan-fried	-19

## Attachment 11 -

### Indicative specific gravities of a selection of beverages and other liquid foods (for reference purposes only)

Food group ID	Food sub-group	Indicative Specific gravity (g/mL)
01A1	Beer, regular alcohol	1.01
01A2	Wine	1.00
01A2	Port	1.04
01A3	Spirits (mean value of gin, rum and whiskey – 35.8 g alcohol/100 g)	0.95
01B1	Tea, black	1.00
01B1	Coffee, black	1.01
01B1	Water	1.00
01B2	Cordial, fruit, concentrate	1.22
01B2	Cordial, fruit, prepared (50 g fruit cordial concentrate & 167 g water)	1.05
01B2	Soft drink, lemonade	1.04
01B2	Soft drink, fruit flavours, regular	1.04
01B2	Soft drink, cola	1.04
01B3	Juice, fruit	1.05
04A2	Cream, pure (fat > 35%)	1.01
09A1	Milk, fluid, whole	1.03
09A1	Milk, fluid, reduced fat (fat 1 - 2%)	1.04
09A1	Milk, fluid, skim or non-fat (fat < 0.16%)	1.04
09A1	Milk, whole, flavoured, commercial	1.06
09D1	Ice cream, regular fat, no additions *	0.56
10A1	Gravy	1.01

10A1	Sauce, barbecue	1.13
10A1	Sauce, soy	1.05
10A1	Sauce, tomato	1.04
10C1	Soup, meat & vegetable	1.02
10C1	Soup, meat & noodle	1.05
10C1	Soup, vegetable	1.03
10F2	Dressing, salad (containing oil & vinegar)	0.93
10F2	Vinegar	1.01
12A1	Honey, all types	1.43
12A1	Syrup, corn, light or dark	1.39
12A1	Syrup, golden	1.34
12A1	Syrup, maple (100% maple)	1.33
12B1	Toppings, flavoured	1.44

\* Ice cream is only listed in this table for the purpose of conversion and should not be interpreted as being a liquid food. Standard 2.5.6 defines ice cream as ‘a sweet frozen food made from cream or other milk products or both, and is generally aerated’.