

New Zealand Food Composition Database 2026 Data Manual

The New Zealand Food Composition Database

August 2026



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Updated manual for:

New Zealand Ministry of Health

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PUBLICATION DATA

The New Zealand Food Composition Database

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List of abbreviations

Abbreviation/Acronym	Meaning
AFCD	Australian Food Composition Database
ANS	Australian Nutrition Survey
AP	Applix Presents (file extension)
ASCII	American Standard Code for information changes
AOAC	Association of Official Analytical Chemists
BSI	Bioeconomy Science Institute
CoFID	Composition of Foods Integrated Dataset
CSM	Common Standard Measure
EP	Edible Portion
FAO	Food and Agriculture Organization (United Nations)
FIMS	Food Information Management System
FT	Full Text index file extension
FSANZ	Food Standards Australia and New Zealand
FoodCASE	Food Composition And System Environment
FoodID	Food Index
HPLC	High Performance Liquid Chromatography
ICP-MS	Inductivity Coupled Plasma Mass Spectrometry
ICP-OES	Inductivity Coupled Plasma Optical Emission Spectroscopy
IU	International Unit
IUPAC	International Union of Pure and Applied Chemistry
INFOODS	International Network of Food Data Systems
LC	Liquid Chromatography
NIP	Nutrition Information Panel
NRF	Nutrient Retention Factor
NUTTAB	NUTrition TABles
NZFCD	New Zealand Food Composition Database
RAE	Retinol Activity Equivalent
RTD	Ready To Drink
RE	Retinol Equivalent
TFA	Total Fatty Acid
TMAH	Tetramethylammonium hydroxide
USDA	United States Department of Agriculture
UV	Ultra-Violet
YF	Yield Factor
WHO	World Health Organization
WYF	Weight Yield Factor

Glossary of terms

Term	Definition
Analytical Plan	Contains the justification to analyse or not analyse the Core Components for each Food Record and is documented along with the Nutrient Plan.
Class I	Foods of New Zealand reference dataset: - Majority New Zealand analytical data, and other analytical by exception e.g. Australia where truly representative of product that is locally available to consumers in New Zealand - Foods that contribute substantially to intake in the NZ population because they are widely consumed and/or high in nutrient(s) of interest (and NZ specific foods) 'Gold standard' data (meets specific requirements of sampling, analysis methods etc) - Class I Component Set as per Appendix 1, with scope for variation as appropriate to the particular food¹.
Class II	Survey/Nutrient Intake dataset: - Borrowed data from reputable sources that have robust analytical programmes behind them (e.g. USDA FoodData Central, and the Australian Food Composition Database) - Recipe data, including recipes from nutrition surveys. These will be calculated from NZ analytical data with the exception of ingredients that may only be imported or present in very small amounts (e.g. dried herbs and spices) - Entries created by aggregation of individual ingredients/foods (creating a generic line for survey use, e.g. salt) - Class II Component Set as per Appendix 1 (reduced component set in alignment with survey nutrient data set).
Components	The set of nutrient and non-nutrient components included in the NZFCD. Currently there are up to 434 components in the NZFCD, of which the Core Components (90 ²) are a subset.
Component Set	The subset of Components required to meet the definition of Class I or Class II data as defined in Appendix 1.
Core Components	This is the subset list of Components, for which data are included in the Standard FOODfiles™ dataset and as agreed in writing by the Ministry of Health (MoH) and the New Zealand Institute for Bioeconomy Science Limited (BSI). The current list of Core Components for the 2024 release is 90 and this number will remain the same for the 2026 release. The number of the Core Components has changed over time, so some Food Records do not have data for all Core Components. Class II Food Records also do not always have a complete Core Component set.
Concise Tables	The Concise New Zealand Food Composition Tables, which are formatted in PDF, a printable version and Microsoft® Excel®. The current Edition is 14 th Edition, 2021 consisting of over 1200 Food Records and 38 Core Components: it can be downloaded from the website: www.foodcomposition.co.nz .
Data provenance	Data provenance is the documentation of where a piece of data comes from and the processes and methodology by which it was generated. For the NZFCD, 'Data provenance' is a value derivation description that includes six mandatory properties (Acquisition Type, Value Type, Method Type, Method Indicator, Unit and Matrix Unit) based on the EuroFIR thesauri. 'Data provenance' is used for the new and updated foods added in FOODfiles 2021 and subsequent releases. The remaining foods carried over from FOODfiles 2018 still use the old description 'source code'. The details can be found in the 'Data provenance' downloadable files from the website.

¹ Not all Core Components will be analysed for all foods: some nutrients do not occur in all foods or the level in individual food items may not be significant. Examples of nutrients that may or may not be present in all food include: specific vitamins, starch, sugars, dietary fibre and cholesterol. Where a nutrient is not expected the data may be allocated as a 'presumed zero'.

² This includes 87 components reported in the FOODfiles standard dataset plus three derived components (common standard measure (CSM), density and edible portion (EP)).

Term	Definition
Edible Portion	Refers to the edible material remaining after the inedible waste (e.g. bones, stones, and peel) has been trimmed away.
FoodCASE™	The database system licensed from Premotec, Switzerland, and used to manage food data for the NZFCD since July 2020 when it superseded the legacy system FIMS (Food Information Management System).
Food Composition Analysis ('Z total')	Determination of component levels in foods or beverages by chemical analysis including direct analytical data (z), data derived from analytical data (cz) and data derived from recipe calculation based on analytical values (crz). This does not include the data derived presumed zero (p) and data borrowed from other databases.
FOODfiles™	Electronic subset of data from the NZFCD. The current FOODfiles 2024 consists of 2857 Food Records: • Standard FOODfiles have data for all or most of the 90 Core Components. • Unabridged FOODfiles have data for up to 434 components. FOODfiles data can be incorporated into dietary assessment software. FOODfiles data files along with supporting and update files can be downloaded from the website: www.foodcomposition.co.nz.
Food Record	Unique food or beverage in the NZFCD as indicated by unique identifier (FoodID) and food descriptor.
Intake24	Intake24 is a self-completed computerised dietary recall system based on multiple-pass 24-hour recall (https://intake24.org/). A New Zealand food list was developed including data from the NZFCD (Mackay et al. 2025).
Non-Core Component	Components not included in the Core Component dataset but deemed important for inclusion in the NZFCD dataset.
Non-Nutrient Component	These are derived components: density, edible portion (EP) and Common Standard Measure (CSM).
Nutrient Plan	Summarises a table of Food Records cross-tabulated by Core Components with a Source Code (data derivation code) for each food–component pair.
Nutrient Retention Factor (NRF)	Term used for the assumed proportional retention of a nutrient after food preparation, processing or other treatment. This is usually applied to changes in water, fat, vitamin and mineral content.
Priority Foods	List of the foods prioritised for updating data (new entry or replacement) during the reporting period. One type of Priority Food may have more than one Food Record.
Recipe	In the context of the NZFCD a recipe is a food for which data are derived from calculation of individual listed ingredients. This may include Food Records not conventionally considered a recipe, e.g. coffee with milk.
Sample Plan	Information on sampling strategies for foods and beverages, including sample framework, purchase plans, composite samples and supporting information as required.
Source Code	An alphabetic code that indicates the source of data. All of the component values for the foods in FOODfiles 2021, and subsequent releases, that were carried over from FOODfiles 2018 (originally 2383 Food Records) are assigned with source code(s). The lower-case letter code indicates the source of the data, such as analysis, calculation or borrowing from another source. The full list of the source code and description can be found in the 'Data provenance' downloadable files from the website.
Weight Yield factor (WYF)	The final weight of the food retained after food preparation, processing or other treatment in relation to total weight of the ingredients before the preparation. Weight change is a result of moisture (e.g. water) and solid (e.g. fat) losses or gains.

Units of measurement and New Zealand metric standards

Units	Definition
1 teaspoon	5 mL
1 tablespoon	15 mL
1 cup	250 mL
mL	millilitres
L	litre
cm ³	cubic centimetre
µg	microgram
mg	milligram
g	grams
kg	kilogram
cm	centimetre
kcal	kilocalories
kJ	kilojoules
g/100 g TFA	grams per 100 g of total fatty acids or grams per percentage of total fatty acids
mg/g N	milligrams of amino acid per gram of nitrogen present in food
°C	degrees Celsius
%ABV	percentage alcohol by volume

Overview

New Zealand Food Composition Database 2026 Data Manual

The New Zealand Food Composition Database
Bioeconomy Science Institute Maiangi Taiao

August 2026

The New Zealand Food Composition Database (NZFCD) is a national database providing information to the government, medical and nutritional practitioners, universities and other researchers, the food industry and the public on nutrient composition for foods consumed in New Zealand. It is managed jointly by the Ministry of Health (MoH) and the New Zealand Institute for Bioeconomy Science Limited (BSI; formerly The New Zealand Institute for Plant and Food Research Limited).

The website www.foodcomposition.co.nz provides a 'Search' facility with a number of report options, including a Nutrition Information Panel (NIP) and claimable nutrients, in addition to the full datasets. Downloads of the New Zealand FOODfiles™ 2024 and Concise Tables 14th Edition 2021 are also freely accessible through the website for all users. Previous versions of New Zealand FOODfiles (2010 onwards) and the Concise Tables (8th–13th editions) are archived on the same website.

Purpose of this manual

This reference manual has been produced by BSI to facilitate the use of the NZFCD data outputs. The manual provides technical information for users, and information for computing personnel involved in setting up database management systems utilising data from the NZFCD. It also provides information regarding programmers' application software.

The NZFCD data files are intended to be used in database or spreadsheet applications and, depending on their intended use, may require additional computer programming input to be used fully and effectively.

Updates 2024 to 2026

The 2026 version of the online search contains the following updates.

- A total of 92 new or updated Food Records are generated from New Zealand analytical data are included.
- In addition, 510 new recipes, derived from work for an Intake 24 food list, have been added.
- There are 22 Food Records that have been archived.

Note these changes do not apply to FOODfiles at present and the 2024 version remains as published in August 2024.

Recommended citation for this manual:

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1 Background to the NZFCD data

The New Zealand Food Composition Database (NZFCD) is jointly owned by the Ministry of Health (MoH) and the New Zealand Institute for Bioeconomy Science Limited. The NZFCD is a reference database that contains information on the nutrient and non-nutrient components (food components) of many New Zealand foods and beverages. The MoH and the BSI (or its predecessors) have co-invested in the development and maintenance of the NZFCD since the mid-1980s. The objective of our work is to continue to increase the number of foods with up-to-date, accurate data for the Core Components³ (a list of the NZFCD Components is provided in Appendix 1). Data have been regularly disseminated from the NZFCD by producing updated freely accessible versions of NZFCD products on the website www.foodcomposition.co.nz.

1.1 History of the NZFCD

The New Zealand FOODfiles™ were first released in 1989 by the Biotechnology Division, Department of Scientific and Industrial Research (DSIR), with the majority of the data coming from overseas sources. Since then, 24 upgrades have been released, with the latest being this 2026 release. The data have been regularly disseminated from the New Zealand Food Composition Database (NZFCD) by producing updated, freely accessible versions of FOODfiles and associated products on the website www.foodcomposition.co.nz since 2011. In June 2018 the website was refreshed to incorporate new online search functions, making data more accessible and user-friendly.

The most recent release of the NZFCD products prior to the current release in 2026 occurred on the foodcomposition.co.nz website on 30 August 2024. This included FOODfiles, online Search and the data manual (New Zealand Food Composition Database 2024a, b, c). There are two versions of the data files in the New Zealand FOODfiles 2024:

- A standard version that contains information for 87 components in 2857 foods. Some foods do not have data for all 87 components because the number of core components has changed over time.
- An unabridged version that contains information on up to 434 food components of the same 2857 foods listed in the standard version. Most foods do not have data for all 434 components, for a variety of reasons.

Through the online search, all current foods contained in the NZFCD are available with up to 217 components displayed. An updated version of The Concise New Zealand Food Composition Tables was not released in 2024 so remains at the 14th Edition 2021 and contains data for 38 components for 1281 foods (New Zealand Food Composition Database 2022).

1.2 Data quality

The Food and Agriculture Organization (FAO) has published their new website for food composition databases (FAO 2026) and the NZFCD is on the map. As part of FAO's ongoing efforts to strengthen global food composition activities and to support data managers in enhancing the documentation and quality of published food composition tables and databases (FCTs), they have recently conducted a standardised quality assessment of published datasets. This initiative is aligned with the INFOODS aim of improving the quality, availability, reliability and use of food composition data worldwide. Among

³ A 'Core Component' is generally defined as a component that is included in the Standard dataset for FOODfiles. For the 2026 release the number of components is 87 plus three derived measures (CSM, density and EP) for a total of 90. Some foods do not have data for all components because the set of Core Components has changed over time.

the resources included in this evaluation was the New Zealand Food Composition Database (release 2024). This assessment was carried out by two independent experts using the FAO/INFOODS Evaluation Framework (Charrondiere et al. 2023), which comprises eight screening questions grouped into four key categories:

- Food description and coverage
- Component description and coverage
- Data documentation
- Publication format

Each question contributed to a cumulative score, with a maximum of 120 points. FCTs scoring below 100 are considered to have areas that may benefit from improvement. The NZFCD scored the maximum of 120! We are one of only a few gold standard databases internationally.

The NZFCD is transitioning to a tiered data categorisation. At present new data are being categorised into Class I and II records based on the criteria below.

- Class I – Foods of New Zealand reference dataset:
 - Majority of the NZ analytical data, and other analytical by exception, e.g. Australia, where the food is representative of what is locally available to consumers in NZ
 - Foods that contribute substantially to intake in the NZ population because they are widely consumed and/or high in nutrient(s) of interest (and NZ specific foods)
 - 'Gold standard' data (meets specific requirements of sampling, analysis methods etc)
 - Class I Component Set as per Appendix 1, with scope for variation as appropriate to the particular food.
- Class II –Survey/Nutrient Intake dataset:
 - Borrowed data from reputable sources that have robust analytical programmes behind them (e.g. USDA FoodData Central, and the Australian Food Composition Database)
 - Recipe data, including recipes from nutrition surveys. These will be calculated from NZ analytical data, with the exception of ingredients that may only be imported or present in very small amounts (e.g. dried herbs and spices)
 - Entries created by aggregation of individual ingredients/foods (creating a generic line for survey use, e.g. salt)
 - Class II Component Set as per Appendix 1 (reduced component set in alignment with survey nutrient data set).

As raw ingredients can vary slightly within and between seasons, users should note that the data contained in the NZFCD do not represent absolute values. Rather, the data provided reflect the typical composition of foods as available and/or consumed in NZ, and thus actual values may differ at times.

For additional information on how we have prioritised foods for analysing or derived values from recipe methods, or information on images, sampling, analytical and nutrient plans, please contact the NZFCD team: foodcomp@plantandfood.co.nz. Some of this information can also be found in the publication Sivakumaran et al. (2018).

1.3 Data sources

Data contained in the NZFCD are derived from a range of sources. Where possible data are derived from analytical laboratory results from appropriately accredited laboratories. Some of the data have been obtained from overseas food composition databases/tables, Nutrition Information Panels on packaged foods, or from the New Zealand Manufactured Food Database; and some data have been imputed from related foods or derived from recipe calculations by applying the nutrition retention factor. The following sources are acknowledged for the contribution of food compositional data (note some data may have come from earlier database versions):

- Food Composition Table for Use in Africa (Leung et al. 1968)
- Pacific Islands Food Composition Tables (Dignan et al. 2004)
- Canadian Nutrient File (Health Canada 2026)
- Fineli-Finnish Food Composition Database (National Institute for Health and Welfare 2019)
- FoodData Central (U.S. Department of Agriculture 2024)
- Australian Food Composition Database (Food Standards Australia New Zealand 2025)
- Indian Food Composition (Longvah et al. 2017)
- UK/National Nutrient Databank/McCance and Widdowson's The Composition of Foods Integrated Dataset (CoFID) (Finglas et al. 2021)
- Japan Food Composition Tables (Ministry of Education, Culture, Sports, Science and Technology (MEXT), Japan 2015).

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2 Updates from 2024 to 2026

The 2026 version of the online search contains the updates detailed below. Note these changes do not apply to FOODfiles at present and the 2024 version remains as published in August 2024.

- A total of 92 Class I Food Records (individual food or beverage allocated a unique identifier and Food Name) are included (these are summarised in Table 1 with the details provided in Appendix 2A).
- In addition, 510 new Class II Food Records, derived from work for an Intake 24 food list (Mackay et al. 2015), have been added as summarised in Table 2 and detailed in Appendix 2B. These are mainly recipes or are composites of existing data (e.g. a generic salt entry), with a smaller number borrowed from overseas databases.
- There are 22 Food Records that have been archived from the online search (Table 3). These are still available in FOODfiles 2024 (and also in earlier versions).

Table 1. Summary of the 92 Food Records included in the 2026 online release that are derived from New Zealand analytical data (Class I).

	Derivation	# Food records	Type of foods
New Foods	By analysis/partial analysis	72	Bakery: fruit bread, pikelet or pancake (commercial) Breakfast cereals (including gluten free options): cornflakes, mixed whole grain, puffed rice Dairy beverages: probiotic drink (e.g. Yakult®), Kefir, milk (high protein) Flour: cornflour, wheaten cornflour Cacao: powder, nibs Cheese: Brie, Camembert, haloumi, mozzarella (standard and dairy-free) Infant cereals: rice, mixed grain Nutritional yeast Pizza: cheese, meat, meat and vegetable, vegetarian, chicken Salmon: tinned Mayonnaise Soup: tomato (canned, fresh, powder), tomato & vegetable Spreads: hummus, Marmite™ Sugars: coconut sap, maple syrup, palm Vegetables: capsicum, courgette, kumara Water: flavoured (sweetened and unsweetened, fortified), sparkling (sweetened and unsweetened)
	Recipe from NZ analysis	10	Capsicum, guacamole, infant rice cereal, infant mixed grain cereal, tomato soup
	Composite	1	Nutritional yeast
Replacing old foods	By analysis	9	Avocado oil, cornflour, cheese (mozzarella, Camembert, Brie), ham, pastrami, pizza (Hawaiian)
Total		92	

Table 2. Summary of the Class II records included in the 2026 online release.

Derivation method		Number of Food Records
Borrowed	Food	25
	Recipe	10
Composite	Generic	148
	Ingredient for recipe	7
Recipe	New (simple)	11
	New (complex)	177
	ANS derived recipe using NZ ingredients where available	121
	ANS loss/gain factors applied to NZ ingredients	11
<i>Total</i>		<i>510</i>

Abbreviations: ANS = Australian Nutrition Survey; NZ = New Zealand

Table 3. Food Records that have been archived and do not appear in the 2026 release.

Food ID	Food Name
F17	Cheese, Mozzarella
F99	Cream, double, brie, Ferndale
F5	Cheese, Camembert
N65	Ham, sliced
N66	Ham, sliced, premium
N31	Beef, pastrami
S73	Hummus, original, 6.5% fat, composite
S45	Dressing, mayonnaise, commercial
S64	Dressing, mayonnaise, reduced fat, commercial
V17	Soup, tomato, instant dry mix
V26	Soup, tomato, instant dry mix, Cup-a-Soup
V55	Soup, tomato, instant dry mix, prepared with water, Continental®
V67	Soup, tomato, instant dry mix, prepared with water
V13	Soup, tomato, condensed, canned
V14	Soup, tomato, condensed, canned, prepared with water
S39	Syrup, maple
P1004	Spread, yeast extract, Marmite™, Sanitarium™, fortified vitamins B1, B2, B3, B12 & folate, & Fe
J60	Oil, avocado
H177	Pizza, frozen, Hawaiian & House special, premium, baked
H178	Pizza, frozen, regular, Hawaiian & Supreme, baked
H179	Pizza, frozen, Hawaiian & Combination, individual size, baked
H180	Pizza, frozen, regular, Hawaiian & Combination, baked

3 Notes for users

3.1 Limitations in the dataset

The NZFCD online search 2026 contains a listing of 3327 Food Records (up from 2857 in the 2024 release). Note, there has been no release of the download files in 2026, and these will be reviewed in 2027. FOODfiles 2024 documents are still available for download, however these will not contain the 492 new Food Records outlined in Section 2, but will still contain the archived records. Earlier versions of FOODfiles are also still available in the website's archive.

Although there are 434 individual food components (nutrients and non-nutrients) in the NZFCD, only 87 of these ("core components", the most commonly referenced food components) are included in the standard version of FOODfiles 2024. Some foods do not have data for all 87 components because the set of core components has changed over time. The unabridged version of FOODfiles 2024 includes data for up to 434 components. The total data points are approximately 572,000. Where the data are unavailable for particular components, they are recorded as missing values. Food component data are expressed as per 100 g edible portion of food or as specified.

3.2 FoodID

Each food is identified by a unique alpha-numeric FoodID: a single letter denoting a food chapter (see Table 4) followed by one to five digits. As new Food Records are added to the NZFCD, they are given a unique FoodID. When Food Records are archived, their FoodIDs are also archived i.e. never used again. The FoodID is the record key that links data between NAME.FT, DATA.FT, DATA.AP, CSM.FT and INGREDIENT.FT files (these files are described in Section 0).

Table 4. Descriptions of food chapters.

Chapter	Food chapter	Types of products included
A	Bakery products	Bagels, biscuits, breads, buns, cakes, crackers, crumpets, doughnuts, muffins, scones wrap etc.
B	Beverages, alcoholic	Beers, ciders, liqueurs, mixed drinks (Ready to Drink, RTD), ports, sake, sherries, sprits, vermouths, wines etc.
C	Beverages, non-alcoholic	Beverage bases (e.g. cocoa powder); coffee beverages, energy drinks, energy food drinks, flavoured drinks, juice concentrates, fruit drinks and juices, plant-based milks (e.g. soy, almond, coconut), soft drinks, sports drinks, smoothies, teas (including kombucha), water etc.
D	Breakfast cereals	Extruded cereals, mixed grain cereals, mueslis, porridge etc.
E	Cereals and pseudo-cereals	Cereal constituents, flours, noodles, pasta, rice etc.
F	Dairy	Butters, cheeses, creams, milks, ice creams, protein powder, yoghurt etc.
G	Eggs	Chicken eggs (raw and cooked)
H	Fast foods and ready to eat meals	Takeaways, including burgers, pizzas, savoury items, and cooked frozen meals
J	Fats and oils	Cooking and salad oils, margarines, shortening etc.
K	Fin fishes	Raw, cooked, smoked, and canned fishes
L	Fruits	Raw, dried, canned, and cooked fruits
M	Meats	Raw and cooked varieties of meat cuts including beef, chicken, lamb, pork, venison, offal items etc.
N	Meat products	Cured meats include bacon, sausages, salami etc.
P	Miscellaneous	Salts, stocks, yeast and yeast spreads, spices, herbs, meat alternative, dairy-free etc.
Q	Nuts and seeds	Nuts, seeds, and their products

Chapter	Food chapter	Types of products included
R	Recipes	Multiple-ingredient recipes, derived from recipe calculations using Weight Yield Factor (WYF) and Nutrient Retention Factors (NRF)
S	Sauces	Dressings, dips, sauces including tomato, simmer, and soy
T	Shellfishes	Cockles, crab, mussels, prawns, scallops, squid etc.
U	Snack foods	Chips including potato, soy and corn, and bars including muesli, nuts, and fruits etc.
V	Soups	Dry mixes, prepared and canned
W	Sugars, confectionaries and sweet spreads	Chocolates, jams, lollies, marmalade, syrups, sugars, honeys etc.
X	Vegetables and pulses	Raw and cooked vegetables and pulses, tomato puree, tofu, potato fries etc.
Z	Infant formulas & baby food	Baby formulas (from cow, goat, oat, soy etc), baby/toddler food products (pouches, cans, crackers, muesli, cereals, snacks etc)

3.3 Value derivation description

Derivation codes are used to explain how the data are sourced for all the component values in the NZFCD. In the NZFCD, there are two types of value derivation descriptions. In 2021, when NZFCD transitioned from the old Food Information Management System (FIMS) to Food Composition and System Environment (FoodCASE), a new derivation system called 'Data provenance' was adapted and used for 38% (21,500) of data points, which include 708 of the foods in FOODfiles 2024. The remaining 62% (35,700) data points covering 2149 foods, were carried over from FOODfiles 2021 and still use the old description 'source code'. The list of 'Data provenance' including source codes can be found in the FOODfiles 2024 downloadable files (see Section 0).

3.3.1 Data provenance

'Data provenance' is a value derivation description that includes six mandatory properties (Table 5) based on the EuroFIR thesauri (Machackova et al. 2019). The full list of the Data provenance descriptions can be found in the FOODfiles 2024 downloadable files. The 'Data provenance' descriptions applied to each component value can be found in the DATA.FT, only for new and updated data points (214,650).

Table 5. Mandatory value properties used for 'Data provenance'.

Value properties	Description
Acquisition Type	Description of the origin of the value reported e.g. independent laboratory and value created within host system.
Value Type	Description of the value, e.g. best estimate, logical zero, below limit of detection, weighted.
Method Type	A general indication of the type of method used to obtain the associated value, e.g. analytical, estimated as logical reduction, calculated from a recipe, summation from constituent components.
Method Indicator	Details of the method used to obtain a value, including analytical methods, e.g. high performance liquid chromatography, microbiological assay, calculation by formula or recipe method, imputation.
Unit	A measure of the amount of the component, e.g. gram (g), microgram (µg), milligram (mg).
Matrix Unit	Amount of matrix material that has its quantity reported, usually expressed using the preposition "per" e.g. per 100 g edible portion (W), per 100 g fatty acid (F) and per g Nitrogen (N).

3.3.2 Source code

Data points totalling 357,167, covering 2149 foods from the FOODfiles 2021, are assigned with source code(s). The lower-case letter code indicates the source of the data, such as analysis, calculation or borrowing from another source. The full list of the source code and description can be found in the

'Data provenance' downloadable files from the website. The common source codes used are listed in Table 6.

Table 6. Common source codes and descriptions.

Code	Description
z	New Zealand analytical data – the majority of the values were derived by analysis.
c	Calculated by the system (FoodCASE) after data entry – component value can be calculated using the recipe calculation method and calculation formula, e.g. energy. The calculated value can have various combinations of source codes, e.g. the source code "cdz" for 'Protein, total; calculated from total nitrogen' represent by calculation (c) applying a conversion factor from published source (d) to New Zealand analytical value (z) for nitrogen, total.
p	Presumed or logical zero – if the food is not a source of the particular food component, e.g. for cows' milk and beef meat, the dietary fibre value is presumed zero, as milk and meat are not source of dietary fibres.
r	Value imputed from a related food – value source from similar or related foods.
a	Australian Food Composition Database (AFCD) sourced value – borrowed value expected to be representative of the New Zealand food.
d	Derived from published sources.

3.4 Food components

Each food component is uniquely identified by an INFOODS (International Network of Food Data Systems) tagname. Tagnames are compiled by an expert committee under the auspices of INFOODS and allocated to unique food components (Klensin et al. 1989; FAO/INFOODS 2012a). The INFOODS tagnames incorporate the component entity; the method of analysis where this is specific to the result (e.g. dietary fibre methodologies); and the default unit of measure. As INFOODS tagnames are not available for some of the food components recorded in the NZFCD, the NZFCD uses 'Component Identifiers'. The 'Component Identifier' includes the available INFOODS tagname or, if there is no tagname, it is generated following a similar naming convention to that used for the INFOODS tagnames. A list of the food components, their 'Component Identifiers' INFOODS tagnames and units of measure is given in Appendix 1. All components' values are expressed in per 100 g of edible portion. Additionally, fatty acids and amino acids values are expressed per 100 g of total fatty acids (TFA) and per g of nitrogen (N). Additional information for each component is also included: availability in data files (Standard and Unabridged), the number of foods having the value, and the percentage of foods having the value (calculated by dividing the number of foods with the value by the total number of foods, 2858). Furthermore, it is indicated which components are analysed (A) and which are calculated (C).

Each component's values are rounded to the number of significant figures and maximal decimal places, and described in Appendix 3.

The methods used for the analyses of the components are summarised in Appendix 4. The components that are calculated from analytical data are described in the following sections.

3.4.1 Proximate, total

The proximate total is calculated by summing the following components: Ash (ASH), protein (PROT); fat, total (FAT); water (WATER); dietary fibre (FIBTG); alcohol (ALC); and available carbohydrate by weight (CHOAVL). Sorbitol (SORTL_G) and organic acid (OA_G) were included in the proximate total formula for the first time for selected foods in 2024. If dietary fibre values are obtained by methods, gravimetric (FIBTG) and/or high performance liquid chromatography (FIBTLC), the proximate total using the value from the identified dietary fibre method, indicated by the method indicators MINZ1902 and MINZ1906 respectively, is reported in the DATA.FT files (see Section 4.5).

The sum of proximates should fall within a range of 95–105 g per 100 g edible portion. A margin of plus or minus 5% is considered acceptable (FAO/INFOODS 2012a) because many of the food components are determined independently on different samples in different laboratories. In the NZFCD, we accept that a small percentage of the Food Records have a sum outside this acceptable range. Explanations for this include the presence of constituents other than the major proximates listed above, and other miscellaneous organic compounds (e.g. resistant starch, oligosaccharides and polydextrose), which are not measured independently but which may contribute to the values. Where proximate values of entries are outside the $\pm 5\%$ allowance, the typical food component values are still reliable.

3.4.2 Energy

The energy values are calculated in four different ways according to the FAO/INFOODS guidelines (FAO/INFOODS 2012b) and Standard 1.2.8 (Food Standards Australia New Zealand 2021). In addition, they are expressed both in kilocalories (kcal) and kilojoules (kJ), thus providing eight calculated energy values for each food:

1. Energy, total metabolisable (kJ, ENERC)
2. Energy, total metabolisable (kcal, ENERC_KCAL)
3. Energy, total metabolisable (kJ, including dietary fibre, ENERC1)
4. Energy, total metabolisable (kcal, including dietary fibre, ENERC1_KCAL)
5. Energy, total metabolisable, carbohydrate by difference, FSANZ (kJ, ENERC_FSANZ1)
6. Energy, total metabolisable, carbohydrate by difference, FSANZ (kcal, ENERC_FSANZ1_KCAL)
7. Energy, total metabolisable, available carbohydrates, FSANZ (kJ, ENERC_FSANZ2)
8. Energy, total metabolisable, available carbohydrates, FSANZ (kcal, ENERC_FSANZ2_KCAL).

Note: Total dietary fibre values were obtained through analysis by two methods: Enzymatic–gravimetric [FIBTG, AOAC 985.29 and 991.43 (Official Methods of Analysis of AOAC International 2023)] and Enzymatic–HPLC (FIBTLC, AOAC 2017.16 (Official Methods of Analysis of AOAC International 2023)) for a few foods in. If the FIBTLC value is greater than the FIBTG value, FIBTG is replaced with FIBTLC in equations 3, 4, 5 and 7 as indicated by the method indicators in the DATA.FT files.

The values are calculated from the energy-producing food components (carbohydrate, protein, fat, total and alcohol), with and without dietary fibre and other energy-producing food components, using the appropriate energy conversion factors (Table 7).

Table 7. Conversion factors used for calculation of energy (Source: Food and Agriculture Organization of the United Nations and the World Health Organization 2003; Food Standards Australia New Zealand 2021).

Component identifier for conversion factor	Component (Component Identifier)	kJ/g	kcal/g
XPROT	Protein, total (PROT)	17	
XPROT_KCAL			4
XFAT	Fat, total (FAT)	37	
XFAT_KCAL			9
XCHOAVL	Available carbohydrate [by the weight, difference (CHOAVL)] ^a	17	
XCHOAVL_KCAL			4
XCHOCDF	Total carbohydrate by difference (CHOCDF)	17	
XCHOCDF_KCAL			4
XALC	Alcohol (ALC)	29	
XALC_KCAL			7
XFIBTG	Dietary fibre (FIBTG)	8	
XFIBTG_KCAL			2
XOA	Organic acid (OA_G)	13	
XOA_KCAL			3

^a The conversion factors for available carbohydrates by weight (XCHOAVL and XCHOAVL_KCAL) are used as conversion factors for all other carbohydrates when converting to energy.

FAO/INFOODS

This set of energy calculations meets international conventions as given in FAO/INFOODS (2012b).

Energy, total metabolisable (kJ, ENERC) is calculated using the factors given in Table 7. The energy-producing food components taken into account are protein (PROT), available carbohydrates by weight (CHOAVL), fat, total (FAT), and alcohol (ALC).

Equation 1:

$$\begin{aligned}
 \text{ENERC (kJ/100 g)} &= [\text{PROT (g/100 g)} \times \text{XPROT(kJ/g)}] \\
 &+ [\text{CHOAVL(g/100 g)} \times \text{XCHOAVL(kJ/g)}] \\
 &+ [\text{FAT(g/100 g)} \times \text{XFAT(kJ/g)}] \\
 &+ [\text{ALC(g/100 g)} \times \text{XALC (kJ/g)}]
 \end{aligned}$$

The 'Component Identifiers' XPROT, XCHOAVL, XFAT and XALC are the energy conversion factors expressed in kJ/g for protein (PROT), available carbohydrates by weight (CHOAVL), fat, total (FAT), and alcohol (ALC) as listed in Table 7.

Energy, total metabolisable (kcal, ENERC_KCAL) is calculated from the energy-producing food components: protein (PROT), available carbohydrates by weight (CHOAVL), fat, total (FAT), and alcohol (ALC).

Equation 2:

$$\begin{aligned}
 \text{ENERC_KCAL (kcal/100 g)} &= [\text{PROT (g/100 g)} \times \text{XPROT_KCAL (kcal/g)}] \\
 &+ [\text{CHOAVL(g/100 g)} \times \text{XCHOAVL_KCAL (kcal/g)}] \\
 &+ [\text{FAT(g/100 g)} \times \text{XFAT_KCAL (kcal/g)}] \\
 &+ [\text{ALC(g/100 g)} \times \text{XALC_KCAL (kcal/g)}]
 \end{aligned}$$

The 'Component Identifiers' XPROT_KCAL, XCHOAVL_KCAL, XFAT_KCAL and XALC_KCAL are the energy conversion factors expressed in kcal/g for protein (PROT), available carbohydrates by weight (CHOAVL), fat, total (FAT), and alcohol (ALC) as listed in Table 7.

Energy, total metabolisable (kJ, including dietary fibre, ENERC1) is calculated from the energy-producing food components: protein (PROT), available carbohydrates by weight (CHOAVL), fat, total (FAT), alcohol (ALC) and fibre, total dietary (FIBTG).

Equation 3:

$$\begin{aligned} \text{ENERC1 (kJ/100 g)} = & [\text{PROT (g/100 g)} \times \text{XPROT(kJ/g)}] \\ & + [\text{CHOAVL(g/100 g)} \times \text{XCHOAVL(kJ/g)}] \\ & + [\text{FAT(g/100 g)} \times \text{XFAT(kJ/g)}] \\ & + [\text{ALC(g/100 g)} \times \text{XALC (kJ/g)}] \\ & + [\text{FIBTG(g/100 g)} \times \text{XFIBTG(kJ/g)}] \end{aligned}$$

The 'Component Identifier' XFIBTG is the energy conversion factor expressed in kJ/g for fibre. Other energy conversion factors are explained above in Equation 1.

Energy, total metabolisable (kcal, including dietary fibre, ENERC1_KCAL) is calculated from the energy-producing food components: protein (PROT), available carbohydrates by weight (CHOAVL), fat, total (FAT), alcohol (ALC) and dietary fibre (FIBTG).

Equation 4:

$$\begin{aligned} \text{ENERC1_KCAL (kcal/100 g)} \\ = & [\text{PROT (g/100 g)} \times \text{XPROT_KCAL (kcal/g)}] \\ & + [\text{CHOAVL(g/100 g)} \times \text{XCHOAVL_KCAL + (kcal/g)}] \\ & + [\text{FAT(g/100 g)} \times \text{XFAT_KCAL (kcal/g)}] \\ & + [\text{ALC(g/100 g)} \times \text{XALC_KCAL (kcal/g)}] \\ & + [\text{FIBTG(g/100 g)} \times \text{XFIBTG_KCAL (kcal/g)}] \end{aligned}$$

The 'Component Identifier' XFIBTG_KCAL is the energy conversion factor expressed in kcal/g for fibre. Other energy conversion factors are explained above in Equation 2.

FSANZ Standard 1.2.8

This set of energy calculations follows the FSANZ guidelines (Food Standards Australia New Zealand 2021) and is used for food labelling in NZ.

Energy, total metabolisable, carbohydrate by difference, FSANZ (kJ, ENERC_FSANZ1) is calculated according to Standard 1.2.8. The energy-producing food components accounted for are protein (PROT), carbohydrates by difference (CHOAVLDF_FSANZ), fat, total (FAT), alcohol (ALC), dietary fibre (FIBTG) and organic acids (OA_G). The calculation of carbohydrate by difference (CHOAVLDF_FSANZ) value is explained below in Section 3.4.5.

Equation 5:

$$\begin{aligned} \text{ENERC_FSANZ1 (kJ/100 g)} &= [\text{PROT (g/100 g)} \times \text{XPROT(kJ/g)}] \\ &+ [\text{CHOAVLDF_FSANZ (g/100 g)} \times \text{XCHOAVL(kJ/g)}] \\ &+ [\text{FAT(g/100 g)} \times \text{XFAT(kJ/g)}] \\ &+ [\text{ALC(g/100 g)} \times \text{XALC (kJ/g)}] \\ &+ [\text{FIBTG(g/100 g)} \times \text{XFIBTG(kJ/g)}] \\ &+ [\text{OA_G(g/100 g)} \times \text{XOA(kJ/g)}] \end{aligned}$$

Note: Food components 'unavailable carbohydrates', 'polyols' and 'polydextrose' are not recorded in the NZFCD. Therefore, they are not included when calculating ENERC_FSANZ1.

Energy, total metabolisable, carbohydrate by difference, FSANZ (kcal, ENERC_FSANZ1_KCAL) is converted from ENERC_FSANZ1 by using the unit conversion factor 4.18.

Equation 6:

$$\text{ENERC_FSANZ1_KCAL(kcal/100 g)} = \text{ENERC_FSANZ1 (kJ/100 g)}/4.18$$

Energy, total metabolisable, available carbohydrates, FSANZ (kJ, ENERC_FSANZ2) is calculated according to Standard 1.2.8. The energy-producing food components accounted are protein (PROT), available carbohydrates (CHOAVL_FSANZ), fat, total (FAT), alcohol (ALC), dietary fibre (FIBTG) and organic acids (OA_G). The calculation of available carbohydrates (CHOAVL_FSANZ) value is explained in Section 3.4.5.

Equation 7:

$$\begin{aligned} \text{ENERC_FSANZ2 (kJ/100 g)} &= [\text{PROT (g/100 g)} \times \text{XPROT(kJ/g)}] \\ &+ [\text{CHOAVL_FSANZ (g/100 g)} \times \text{XCHOAVL(kJ/g)}] \\ &+ [\text{FAT(g/100 g)} \times \text{XFAT(kJ/g)}] \\ &+ [\text{ALC(g/100 g)} \times \text{XALC (kJ/g)}] \\ &+ [\text{FIBTG(g/100 g)} \times \text{XFIBTG(kJ/g)}] \\ &+ [\text{OA_G(g/100 g)} \times \text{XOA(kJ/g)}] \end{aligned}$$

Note: Food components 'unavailable carbohydrates', 'polyols' and 'polydextrose' are not recorded in the NZFCD. Therefore, they are not included when calculating ENERC_FSANZ2.

Energy, total metabolisable, available carbohydrates, FSANZ (kcal, ENERC_FSANZ2_KCAL) is converted from ENERC_FSANZ2 by using the unit conversion factor 4.18.

Equation 8:

$$\text{ENERC_FSANZ2_KCAL (kcal/100 g)} = \text{ENERC_FSANZ2 (kJ/100 g)}/4.18$$

Note: Total dietary fibre values were obtained through analysis by two methods: Enzymatic–gravimetric [FIBTG, AOAC 985.29 and 991.43 (Official Methods of Analysis of AOAC International 2023)] and Enzymatic–HPLC (FIBTLC, AOAC 2017.16 (Official Methods of Analysis of AOAC International 2023)) for a few foods in online search 2026 and FOODfiles 2024. If the FIBTLC value is greater than the FIBTG value, FIBTG is replaced with FIBTLC in equations 3, 4, 5 and 7 indicated by the method indicators in the DATA.FT files (see Section 4.5).

Some examples showing calculations using the different methods of determining energy can be found in Appendix 5.

3.4.3 Protein, total

For all foods, protein (total; calculated from total nitrogen; PROT) is calculated from the measured total nitrogen (NT) multiplied by a specific nitrogen-to-protein conversion factor (XN) (Jones 1941; Greenfield & Southgate 2003). The conversion factor that is used for the calculation of the PROT for each food is tabulated in the CONVERSION FACTOR.FT file (see Section 0) or for new foods added in 2026 it can be calculated by dividing protein (PROT) by nitrogen (NT).

Equation 9:

PROT (g/100 g) = NT (g/100 g) × XN (g/g Nitrogen)

3.4.4 Sugars

Sugars total (SUGAR) is the sum of the free individual monosaccharides, glucose (GLUS), fructose (FRUS), and galactose (GALS) and the disaccharides lactose (LACS), maltose (MALS) and sucrose (SUCS).

Equation 10:

SUGAR (g / 100 g food)
= GLUS (g/100 g) + FRUS (g/100 g) + LACS (g/100 g) + GALS (g/100 g)
+ MALS (g/100 g) + SUCS (g/100 g)

Conversion to monosaccharide equivalents

Glycogen (GLYC), lactose (LACS), maltose (MALS), sucrose (SUCS), starch, total (STARCH), and oligosaccharides, total available (OLSAC) are also expressed as monosaccharide equivalents (GLYCM, LACSM, MALSM, SUCSM, STARCHM and OLSACM respectively) and are calculated using the conversion factors shown in Table 8.

Table 8. Conversion factors used for the calculation of monosaccharide equivalents (Source: Finglas et al. (2015)).

Food component	Conversion to monosaccharide equivalents (g/g)
Glycogen (GLYC)	x 1.10
Lactose (LACS)	x 1.05
Maltose (MALS)	x 1.05
Sucrose (SUCR)	x 1.05
Starch, total (STARCH)	x 1.10

Disaccharide, total; expressed in monosaccharide equivalents (DISACM) is calculated by summation of lactose, maltose and sucrose expressed in monosaccharide equivalents (LACSM, MALSM and SUCSM respectively).

Equation 11:

DISACM (g/100 g) = LACSM (g/100 g) + MALSM(g/100 g) + SUCSM (g/100 g)

Sugar, total; expressed in monosaccharide equivalents (SUGARM) is calculated by summation of the free monosaccharide (GLUS and FRUS) and disaccharides expressed in monosaccharide equivalents (DISACM).

Equation 12:

$$\text{SUGARM (g/100 g)} = \text{GLUSM (g/100 g)} + \text{FRUSM (g/100 g)} + \text{DISCM (g/100 g)}$$

Free and added sugars

Added sugars (SUGAD) are defined according to the United States Food and Drug Administration (US FDA) as: “sugars that are either added during the processing of foods, or are packaged as such, and include sugars (free, mono- and disaccharides), sugars from syrups and honey, and sugars from concentrated fruit or vegetable juices that are in excess of what would be expected from the same volume of 100 percent fruit or vegetable juices of the same type. The definition excludes fruit or vegetable juice concentrated from 100 percent fruit juice that is sold to consumers (e.g. frozen 100 percent fruit juice concentrate) as well as some sugars found in fruit and vegetable juices, jellies, jams, preserves, and fruit spreads” (Erickson & Slavin 2015).

Free sugars (SUGFR) are defined according to the World Health Organization (WHO) as: “free sugars include monosaccharides and disaccharides added to foods and beverages by the manufacturer, cook or consumer, and sugars naturally present in honey, syrups, fruit juices, and fruit juice concentrates” (World Health Organization 2015).

Added and free sugars are estimated using the 10-step method described by Louie et al. (2015) and Louie et al. (2016). Free sugars are estimated adapting the method of Louie et al. (2015) with some modifications (e.g. to include fruit juice) as described by Kibblewhite et al. (2017). Appendix 6 describes the 10-step process, steps 1–6 being objective and steps 7–10 being subjective.

3.4.5 Carbohydrate totals

Carbohydrate values are expressed in different ways in the NZFCD to meet the definitions for INFOODS (FAO/INFOODS 2012a) and for FSANZ Standard 1.2.8 (Food Standards Australia New Zealand 2021).

Note: Total dietary fibre values were obtained through analysis by two methods: Enzymatic–gravimetric [FIBTG, AOAC 985.29 and 991.43 (Official Methods of Analysis of AOAC International 2023)] and Enzymatic–HPLC (FIBTLC, AOAC 2017.16 (Official Methods of Analysis of AOAC International 2023)) for a few foods in the NZFCD. If the FIBTLC value is greater than the FIBTG value, FIBTG is replaced with FIBTLC in equations 15, 17 and 18, as indicated by the method indicators in the DATA.FT files (see Section 4.5).

INFOODS

The carbohydrate contents in foods are expressed in five different ways, based on the FAO/INFOODS (2012b) guidelines. Total carbohydrates value includes fibre, total dietary (FIBTG or FIBTLC) whereas available carbohydrates are expressed ‘by weight’ or as a ‘monosaccharide equivalent’, excluding the FIBTG or FIBTLC value. Carbohydrate values are calculated either as the sum of the analytically analysed carbohydrate components or as the difference of 100 minus the sum of the other proximate components.

Available carbohydrates by weight (CHOAVL) is the sum of the analytical values of sugar, total (SUGAR); starch (STARCH) and glycogen (GLYC).

Equation 13:

$$\text{CHOAVL (g/100 g)} = \text{SUGAR (g/100 g)} + \text{STARCH (g/100 g)} + \text{GLYC (g/100 g)}$$

Available carbohydrates in monosaccharide equivalent (CHOAVLM) is the sum of the analytical values of sugar, total (SUGAR), starch (STARCH) and glycogen (GLYC). It includes the residual water from hydrolysis around each monosaccharide (monosaccharide equivalents SUGARM, STARCHM and GLYCM).

Equation 14:

$$\text{CHOAVLM (g/100 g)} = \text{SUGARM (g/100 g)} + \text{STARCHM (g/100 g)} + \text{GLYCM (g/100 g)}$$

Available carbohydrate by difference (CHOAVLDF) is calculated by deducting the sum of the percentage of water (WATER), protein, total (PROT), fat, total (FAT), alcohol (ALC), ash (ASH) and fibre, total dietary (FIBTG) from 100.

Equation 15:

$$\text{CHOAVLDF (g/100 g)} = 100 - [\text{WATER(g/100 g)} + \text{PROT(g/100 g)} + \text{FAT(g/100 g)} + \text{ALC(g/100 g)} + \text{ASH(g/100 g)} + \text{FIBTG(g/100 g)}]$$

Note: Total dietary fibre values were obtained through analysis by two methods: Enzymatic–gravimetric (FIBTG) and Enzymatic–HPLC (FIBTLC) for a few foods in the NZFCD. If the FIBTLC value is greater than the FIBTG value, FIBTG is replaced with FIBTLC in the formula, indicated by the unique Method Indicator MINZ1108 in the DATA.FT files (see Section 4.5).

Total carbohydrate by difference (CHOCDF) is calculated by deducting the sum of the percentage of water (WATER), protein, total (PROT), fat (FAT), alcohol (ALC) and ash (ASH) from 100.

Equation 16:

$$\text{CHOCDF (g/100 g)} = 100 - [\text{WATER(g/100 g)} + \text{PROT(g/100 g)} + \text{FAT(g/100 g)} + \text{ALC(g/100 g)} + \text{ASH(g/100 g)}]$$

Total carbohydrate by summation (CHOCSM) is the sum of analytical values of sugar, total (SUGAR), starch (STARCH) oligosaccharides (OLSAC) and fibre, total dietary (FIBTG).

Equation 17:

$$\begin{aligned} \text{CHOCSM (g/100 g)} \\ = \text{SUGAR (g/100 g)} + \text{STARCH (g/100 g)} + \text{OLSAC (g/100 g)} + \text{FIBTG (g/100 g)} \end{aligned}$$

Note: Total dietary fibre values were obtained through analysis by two methods: Enzymatic–gravimetric (FIBTG) and Enzymatic–HPLC (FIBTLC) for a few foods in FOODfiles 2024. If the FIBTLC value is greater than the FIBTG value, FIBTG is replaced with FIBTLC in the formula, indicated by the unique Method Indicator MINZ1109 in the DATA.FT files (see Section 4.5).

FSANZ Standard 1.2.8

For nutrient labelling, two definitions of carbohydrate are found in Standard 1.2.8 of the FSANZ Food Standards Code (Food Standards Australia New Zealand 2021) either Carbohydrate by difference or Available carbohydrate. Neither definition includes dietary fibre (fibre, total dietary (FIBTG)).

Carbohydrate by difference, FSANZ (CHOAVLDF_FSANZ) is calculated by deducting the sum of the percentage of water (WATER), protein (protein, total; PROT), fat (fat, total; FAT), dietary fibre (fibre, total dietary (FIBTG)), ash (ASH), alcohol (ALC) and, if qualified or added to the food (any amount as additive or ingredients to the final food), any other unavailable carbohydrates and substances: sugar alcohols [erythritol (ERYTHL_G), glycerol (GLYRL_G), isomalt (ISOMAL_G),

lactitol (LACTL_G), maltitol (MALTL_G), mannitol (MANTL_G), sorbitol (SORTL_G), xylitol (XYLTL_G)], D-tagatose, polydextrose and/or organic acids, total (OA_G) from 100.

Equation 18:

$$\begin{aligned} \text{CHOAVLDF_FSANZ (g/100 g)} \\ = 100 - [\text{WATER (g/100 g)} + \text{PROT (g/100 g)} + \text{FAT (g/100 g)} \\ + \text{FIBTG (g/100 g)} + \text{ASH (g/100 g)} + \text{ALC (g/100 g)} + \text{OA_G (g/100 g)}] \end{aligned}$$

Note: Carbohydrate by difference (CHOAVLDF_FSANZ) is equal to the Available carbohydrate; by difference (CHOAVLDF) value if other additives or ingredients and unavailable carbohydrates and substances are not present or accounted for. The food components: erythritol, glycerol, isomalt, lactitol, maltitol, mannitol, xylitol, D-tagatose, and polydextrose are not recorded and sorbitol (SORTL_G) is recorded for only a few foods in the NZFCD and therefore are not included in this equation. A few foods do have values for organic acids, total (OA_G).

Available carbohydrate (CHOAVL_FSANZ) is the sum of analytical values of total available sugars (sugar, total; SUGAR) and starch (STARCH) and, if qualified or added to the food (any amount as additive or ingredients to the final food), any available oligosaccharides (oligosaccharides, total available, OLSAC), glycogen (GLYC) and/or maltodextrin (MALTDEX).

Equation 19:

$$\begin{aligned} \text{CHOAVL_FSANZ (g/100 g)} \\ = \text{SUGAR (g/100 g)} + \text{STARCH (g/100 g)} + \text{GLYC (g/100 g)} \\ + \text{MALTDEX (g/100 g)} \end{aligned}$$

Note: Available carbohydrate (CHOAVL_FSANZ) is equal to the Available carbohydrates by weight (CHOAVL) value if values for oligosaccharides and maltodextrin are not present or accounted for. The food components oligosaccharides, total available (OLSAC) are not recorded in the NZFCD. A few foods do have values for glycogen (GLYC) and maltodextrin (MALTDEX).

3.4.6 Fatty acids

Fatty acid, total (FACID)⁴ is determined in two different ways for the NZFCD:

1. It is calculated by multiplying the fat, total (FAT) with fat-to-fatty-acid conversion factor (XFA).

Equation 20:

$$\text{FACID (g/100 g)} = \text{FAT (g/100 g)} \times \text{XFA (g/g)}$$

2. It is determined from the analytical chromatography method by Sukhija & Palmquist (1988), so a conversion factor is not required.

Note: The method for determining the total fatty acids is not overtly specified in the NZFCD; either method can be used, and they are all tabulated under the Fatty acid, total (FACID). However, if XFA is listed for a food, the FACID has been calculated using Equation 20 above, and if the XFA value is not listed (left as blank) then the FACID has been determined analytically.

⁴ FACID is the INFOOD tagname for Fatty acid, total; determined by calculation using Equation 20.

3.4.7 Individual fatty acids

Fatty acids data are expressed as both g/100 g of food and as a percentage of the total fatty acid content. Individual fatty acid (g/100 g TFA⁵) values in food are derived from the value of each individual fatty acid (g/100 g Food) using the following equation.

Equation 21:

$$\text{Individual fatty acid (g/100 g)} = (\text{Individual fatty acid (g/100 g TFA)} \times \text{FACID (g/100 g)})/100$$

The individual fatty acids in the NZFCD are listed in Table 9-Table 11 with the 'Component Identifier', component names systematic names, and trivial names (Klensin et al. 1989; AOCS Lipid Library 2018).

Fatty acids, total saturated (FASAT) is the sum of all the individual saturated fatty acids listed in Table 9.

Table 9. Details of the saturated fatty acids.

Component Identifier	Fatty acid name	Systematic name	Trivial/common name
F4D0	Fatty acid 4:0	butanoic	butyric
F6D0	Fatty acid 6:0	hexanoic	caproic
F8D0	Fatty acid 8:0	octanoic	caprylic
F10D0	Fatty acid 10:0	decanoic	capric
F11D0	Fatty acid 11:0	undecanoic	undecylic
F12D0	Fatty acid 12:0	dodecanoic	lauric
F13D0	Fatty acid 13:0	tridecanoic	tridecylic
F14D0	Fatty acid 14:0	tetradecanoic	myristic
F15D0	Fatty acid 15:0	pentadecanoic	pentadecylic acid
F16D0	Fatty acid 16:0	hexadecanoic	palmitic
F17D0	Fatty acid 17:0	heptadecanoic	margaric
F18D0	Fatty acid 18:0	octadecanoic	stearic
F19D0	Fatty acid 19:0	nonadecanoic	nonadecylic
F20D0	Fatty acid 20:0	eicosanoic	arachidic
F21D0	Fatty acid 21:0	heneicosanoic	heneicosylic
F22D0	Fatty acid 22:0	docosanoic	behenic
F23D0	Fatty acid 23:0	tricosanoic	tricosylic
F24D0	Fatty acid 24:0	tetracosanoic	lignoceric

Fatty acids, total monounsaturated (FAMU) is the sum of undifferentiated individual fatty acids listed in Table 10. The undifferentiated fatty acid, e.g. fatty acid 18:1 omega-9 (F18D1N9), is calculated from the sum of its differentiated isomers, i.e. cis (F18D1CN9) and trans (F18D1TN9).

⁵ TFA is a commonly used abbreviation for the total fatty acid, which is equivalent to the 'Component Identifier' fatty acid, total (FACID); Note, TFA is not an INFOODS tagname or 'Component Identifier'. This abbreviation TFA is used for expressing the fatty acid content (g) as per 100 g of total fatty acid (g/100 g TFA).

Table 10. Details of the monounsaturated fatty acids.

Component Identifier	Fatty acid name	Systematic name	Trivial/common name
F10D1	Fatty acid 10:1	decenoic	
F12D1	Fatty acid 12:1	dodecenoic	lauroleic
F14D1	Fatty acid 14:1 undifferentiated	tetradecenoic	myristoleic
F14D1C	Fatty acid <i>cis</i> 14:1		
F14D1CN5	Fatty acid <i>cis</i> 14:1 omega-5		
F14D1N5	Fatty acid 14:1 omega-5	tetradec-9-enoic	myristoleic
F15D1	Fatty acid 15:1 undifferentiated	pentadecenoic	oncobic
F15D1C	Fatty acid <i>cis</i> 15:1		
F15D1CN5	Fatty acid <i>cis</i> 15:1 omega-5		
F15D1N5	Fatty acid 15:1 omega-5		
F16D1	Fatty acid 16:1 undifferentiated	hexadecenoic	palmitoleic
F16D1C	Fatty acid <i>cis</i> 16:1	<i>cis</i> -hexadec-9-enoic	<i>cis</i> -palmitoleic
F16D1CN7	Fatty acid <i>cis</i> 16:1 omega-7		
F16D1N7	Fatty acid 16:1 omega-7	hexadec-9-enoic	palmitoleic
F16D1T	Fatty acid <i>trans</i> 16:1	<i>trans</i> -hexadecenoic	<i>trans</i> -palmitoleic
F17D1	Fatty acid 17:1	heptadenoic	civetic
F17D1C	Fatty acid <i>cis</i> 17:1		
F17D1CN7	Fatty acid <i>cis</i> 17:1 omega-7		
F17D1N7	Fatty acid 17:1 omega-7	heptadec-8-enoic	civetic
F18D1	Fatty acid 18:1 undifferentiated	octadecenoic	
F18D1C	Fatty acid <i>cis</i> 18:1	<i>cis</i> -octadecenoic	
F18D1CN7	Fatty acid <i>cis</i> 18:1 omega-7	<i>cis</i> -octadec-11-enoic	<i>cis</i> -vaccenic
F18D1CN9	Fatty acid <i>cis</i> 18:1 omega-9	<i>cis</i> -octadec-9-enoic	oleic
F18D1T	Fatty acid <i>trans</i> 18:1	<i>trans</i> -octadecenoic	
F18D1TN7	Fatty acid <i>trans</i> 18:1 omega-7	<i>trans</i> -octadec-11-enoic	<i>trans</i> -vaccenic
F18D1TN9	Fatty acid <i>trans</i> 18:1 omega-9	<i>trans</i> -octadec-9-enoic	elaidic
F18D1N7	Fatty acid 18:1 omega-7 undifferentiated	octadec-11-enoic	vaccenic
F18D1N9	Fatty acid 18:1 omega-9 undifferentiated	octadec-9-enoic	
F20D1	Fatty acid 20:1 undifferentiated	eicosenoic	
F20D1C	Fatty acid <i>cis</i> 20:1		
F20D1CN9	Fatty acid <i>cis</i> 20:1 omega-9	<i>cis</i> -eicos-11-enoic	gondoic
F20D1N9	Fatty acid 20:1 omega-9 undifferentiated	eicos-11-enoic	gondoic
F20D1N11	Fatty acid 20:1 omega-11	eicos-9-enoic	gadoleic
F22D1	Fatty acid 22:1 undifferentiated	docosenoic	
F22D1N9	Fatty acid <i>cis</i> 22:1 omega-9	<i>cis</i> -docos-13-enoic	
F22D1N9	Fatty acid 22:1 omega-9 undifferentiated	docos-13-enoic	erucic
F22D1N11	Fatty acid 22:1 omega-11	docos-11-enoic	catelaidic
F24D1	Fatty acid 24:1	tetracosenoic	nervonic
F20D4C	Fatty acid <i>cis</i> 24:1		
F24D1CN9	Fatty acid <i>cis</i> 24:1 omega-9	<i>cis</i> -tetracos-15-enoic	nervonic
F24D1N9	Fatty acid 24:1 omega-9 undifferentiated	tetracos-15-enoic	nervonic

Fatty acids, total polyunsaturated (FAPU) is the sum of undifferentiated individual fatty acids listed in Table 11.

Table 11. Details of the polyunsaturated fatty acids.

Component Identifier	Fatty acid name	Systematic name	Trivial/common name	Abbreviation
F18D2	Fatty acid 18:2 undifferentiated	octadecadienoic		
F18D2C	Fatty acid <i>cis</i> 18:2	<i>cis</i> -octadecadienoic		
F18D2CN6	Fatty acid <i>cis,cis</i> 18:2 omega-6	<i>cis,cis</i> -octadeca-9,12-dienoic	linoleic	
F18D2T	Fatty acid <i>trans</i> 18:2	<i>trans</i> -octadecadienoic		
F18D2TN6	Fatty acid <i>trans</i> 18:2 omega-6	<i>trans</i> -octadeca-9,12-dienoic	linoelaidic	
F18D2N6	Fatty acid 18:2 omega-6	octadeca-9,12-dienoic		
F18D2CN9TN11	Fatty acids <i>cis,trans</i> 18:2 omega-9, 11	<i>cis,trans</i> -octadeca-9,11-dienoic	rumenic	CLA
F18D3	Fatty acid 18:3 undifferentiated	octadecatrienoic		
F18D3C	Fatty acid <i>cis</i> 18:3	<i>cis</i> -octadecatrienoic		
F18D3CN3	Fatty acid <i>cis,cis,cis</i> 18:3 omega-3	all- <i>cis</i> -octadeca-9,12,15-trienoic	α -linolenic	ALA
F18D3CN6	Fatty acid <i>cis, cis, cis</i> 18:3 omega-6	all- <i>cis</i> -octadeca-6,9,12-trienoic	γ -linolenic	GLA
F18D3N3	Fatty acid 18:3 omega-3 undifferentiated	octadeca-9,12,15-trienoic		
F18D3N6	Fatty acid 18:3 omega-6 undifferentiated	octadeca-6,9,12-trienoic		
F18D3TN3	Fatty acid <i>trans</i> 18:3 omega-3	<i>trans</i> -octadeca-9,12,15-trienoic		
F18D4	Fatty acid 18:4 undifferentiated	octadecatetraenoic	parinaric	
F18D4N3	Fatty acid 18:4 omega-3	all- <i>cis</i> -octadeca-6,9,12,15-tetraenoic	stearidonic	
F20D2	Fatty acid 20:2 undifferentiated	eicosadienoic		
F20D2CN6	Fatty acid <i>cis,cis</i> 20:2 omega-6	all- <i>cis</i> -eicosa-11,14-dienoic	dihomolinoleic	
F20D2N6	Fatty acid 20:2 omega-6	eicosa-11,14-dienoic		
F20D3	Fatty acid 20:3 undifferentiated	eicosatrienoic		
F20D3C	Fatty acid <i>cis</i> 20:3	<i>cis</i> -eicosatrienoic		
F20D3CN3	Fatty acid <i>cis,cis,cis</i> 20:3 omega-3	all- <i>cis</i> -eicosa-11,14,17-trienoic	dihomo- α -linolenic	ETE
F20D3CN6	Fatty acid <i>cis,cis,cis</i> 20:3 omega-6	all- <i>cis</i> -eicosa-8,11,14-trienoic	dihomo- γ -linolenic	DHLA
F20D3N3	Fatty acid 20:3 omega-3	eicosa-11,14,17-trienoic		
F20D3N6	Fatty acid 20:3 omega-6	eicosa-8,11,14-trienoic		
F20D4	Fatty acid 20:4 undifferentiated	eicosatetraenoic		
F20D4CN6	Fatty acid 20:4 omega-6	all- <i>cis</i> -eicosa-5,8,11,14-tetraenoic	arachidonic	AA

Component Identifier	Fatty acid name	Systematic name	Trivial/common name	Abbreviation
F20D4N3	Fatty acid 20:4 omega-3	eicosa-8,11,14,17-tetraenoic		
F20D4N6	Fatty acid 20:4 omega-6	eicosa-5,8,11,14-tetraenoic	arachidonic	
F20D5	Fatty acid 20:5 undifferentiated	eicosapentaenoic		
F20D5C	Fatty acid <i>cis</i> 20:5	<i>cis</i> -eicosapentaenoic		
F20D5CN3	Fatty acid <i>cis,cis,cis</i> 20:5 omega-3	all- <i>cis</i> -eicosa-5,8,11,14,17-pentaenoic	timnodonic	EPA
F20D5N3	Fatty acid 20:5 omega-3	eicosa-5,8,11,14,17-pentaenoic		
F22D2	Fatty acid 22:2	docosadienoic		
F22D2C	Fatty acid <i>cis</i> 22:2	<i>cis</i> -docosadienoic		
F22D2CN6	Fatty acid <i>cis,cis</i> 22:2 omega 6	all- <i>cis</i> -docosa-13,22-dienoic	docosadienoic	
F22D2N6	Fatty acid 22:2 omega-6	docosa-13,22-dienoic	docosadienoic	
F22D4	Fatty acid 22:4 undifferentiated	docosatetraenoic		
F22D4N6	Fatty acid 22:4 omega-6	all- <i>cis</i> -docosa-7,10,13,22-tetraenoic	adrenic	
F22D5	Fatty acid 22:5 undifferentiated	docosapentaenoic		
F22D5C	Fatty acid <i>cis</i> 22:5	<i>cis</i> -docosapentaenoic		
F22D5CN3	Fatty acid <i>cis</i> 22:5 omega 3	all- <i>cis</i> -docosa-7,10,13,22,19-pentaenoic	clupanodonic	DPA
F22D5N3	Fatty acid 22:5 omega-3	docosa-7,10,13,22,19-pentaenoic		
F22D5N6	Fatty acid <i>cis</i> 22:5 omega-6	all- <i>cis</i> -docosa-4,7,10,13,22-pentaenoic	osbond	
F22D5N6	Fatty acid 22:5 omega-6	docosa-4,7,10,13,22-pentaenoic		
F22D6	Fatty acid 22:6 undifferentiated	docosahexaenoic		
F22D6C	Fatty acid <i>cis</i> 22:6	<i>cis</i> -docosahexaenoic		
F22D6CN3	Fatty acid <i>cis</i> 22:6 omega-3	all- <i>cis</i> -docosa-4,7,10,13,22,19-hexaenoic	cervonic	DHA
F22D6N3	Fatty acid 22:6 omega-3	docosa-4,7,10,13,22,19-hexaenoic		

Fatty acids, total omega-3 polyunsaturated (FAPUN3) and **Fatty acids, total omega-6 polyunsaturated (FAPUN6)** are the sums of the undifferentiated omega-3 fatty acid and undifferentiated omega-6 fatty acid in Table 11.

Fatty acids, total trans (FATRN) is the sum of the percentage of individual trans fatty acids in Table 10 and Table 11. See Appendix 7 for the list of the fatty acids that contribute to the FATRN.

3.4.8 Vitamins

Some vitamin data are expressed in equivalents in the NZFCD and were calculated using the appropriate conversion factors given in Table 12.

Table 12. Conversion factors used to determine the equivalents of selected vitamins (Sources: Finglas et al. 2015 and National Health and Medical Research Council (NHMRC) 2006).

Compound Identifier	Description	Conversion factor (g/g) ^a
Vitamin A		
XBCARTA	Beta-carotene equivalent of alpha-carotene	0.5
XRECARTB XRECARTBEQ	Retinol equivalent (RE) of beta-carotene or beta-carotene equivalent	0.167 (1/6)
XRAECARTB XRAECARTBEQ	Retinol activity equivalent (RAE) of beta-carotene or beta-carotene equivalent	0.083 (1/12)
Niacin (vitamin B3)		
XTRYP	Niacin equivalents of tryptophan	0.017
Vitamin E		
XTOCOPHA	Alpha-tocopherol	1
XTOCOPHB	Alpha-tocopherol equivalent of beta tocopherol	0.4
XTOCOPHD	Delta-tocopherol	0.01
XTOCOPHG	Gamma-tocopherol	0.1
Folate		
XFOLAC	Dietary folate equivalents of folic acid	1.67

Vitamin A

Beta-carotene equivalents (CARTBEQ) are calculated by multiplying alpha-carotene (CARTA) by the conversion factor for beta-carotene equivalent of alpha-carotene (XCARTA) and adding beta-carotene (CARTB).

Equation 22:

$$\text{CARTBEQ } (\mu\text{g}/100 \text{ g}) = \text{CARTB } (\mu\text{g}/100 \text{ g}) + [\text{CARTA}(\mu\text{g}/100 \text{ g}) \times \text{XBCARTA} (\text{g/g})]$$

Note: Other provitamin A carotenoids are not reported in the NZFCD and therefore are not included in beta-carotene equivalents calculation. However, for a few foods where data are “borrowed” from other sources, the food component cryptoxanthin might be reported as half the activity of beta-carotene, where that is the standard practice of the original source.

Vitamin A, expressed as retinol equivalents (VITA), is calculated by multiplying beta-carotene equivalents (CARTBEQ) by the conversion factor (1/6, i.e. 0.167) and adding retinol (RETOL).

Equation 23:

$$\text{VITA } (\mu\text{g}/100 \text{ g}) = \text{RETOL } (\mu\text{g}/100 \text{ g}) + [(\text{CARTBEQ } (\mu\text{g}/100 \text{ g})/6)]$$

Vitamin A, expressed as retinol activity equivalents (VITA_RAE), is calculated by multiplying beta-carotene equivalents (CARTBEQ) by the conversion factor (1/12, i.e. 0.083) and adding retinol (RETOL).

Equation 24:

$$\text{VITA_RAE } (\mu\text{g} / 100 \text{ g}) = \text{RETOL } (\mu\text{g} / 100 \text{ g}) + [(\text{CARTBEQ } (\mu\text{g} / (100 \text{ g}))/12)]$$

Niacin (vitamin B3)

Niacin equivalents, from tryptophan (NIATRP), are calculated by multiplying tryptophan (TRYP) by the conversion factor for niacin equivalents of tryptophan (XTRYP).

Equation 25:

$$\text{NIATRP (mg/100 g)} = \text{TRYP (mg/100 g)} \times \text{XTRYP (g/g)}$$

Note: Where the tryptophan value was not available, it has been imputed as 1.1% of total protein (Health Canada 2015).

Niacin equivalents total (NIAEQ) is the sum of the percentage of niacin, preformed (NIA) and niacin equivalent from tryptophan (NIATRP).

Equation 26:

$$\text{NIAEQ (mg/100 g)} = \text{NIA (mg/100 g)} + \text{NIATRP (mg/100 g)}$$

Vitamin E

Vitamin E, expressed as alpha-tocopherol equivalents (VITE), is calculated by multiplying alpha-beta-, gamma- and delta-tocopherols (TOCPHA, TOCPHB, TOCPHG, and TOCHPD) by their corresponding conversion factors for alpha-tocopherol equivalents of XTOCPHA, XTOCPHB, XTOCPHG, and XTOCHPD respectively and summing them.

Equation 27:

$$\begin{aligned} \text{VITE (mg/100 g)} &= [\text{TOCPHA (mg/100 g)} \times \text{XTOCPHA (g/g)}] \\ &+ [\text{TOCPHB (mg/100 g)} \times \text{XTOCPHB (g/g)}] \\ &+ [\text{TOCPHG (mg/100 g)} \times \text{XTOCPHG (g/g)}] \\ &+ [\text{TOCHPD (mg/100 g)} \times \text{XTOCHPD (g/g)}] \end{aligned}$$

Note: Where the tocopherol profile is incomplete, it has been assumed that all activity is alpha-tocopherol. There is an exception for seeds and seed oils where the gamma-tocopherol and other forms may be present in significant amounts and part of the tocopherol calculation for VITE. Tocotrienols are not recorded in the NZFCD; therefore, they are not included in the VITE calculation.

Folate

Dietary folate equivalents (FOLDFE) are calculated by multiplying folic acid (FOLAC) by the conversion factor for dietary folate equivalents of folic acid (XFOLAC) and adding food folate, naturally occurring folates (FOLFD).

Equation 28:

$$\text{FOLDFE (}\mu\text{g/(100 g))} = [\text{FOLAC (}\mu\text{g/100 g)} \times \text{XFOLAC (g/g)}] + \text{FOLFD (}\mu\text{g/100 g)}$$

Folate food, naturally occurring food folate (FOLFD) is calculated by subtracting folic acid (FOLAC) from folate, total (FOL).

Equation 29:

$$\text{FOLFD (}\mu\text{g/100 g)} = \text{FOL (}\mu\text{g/100 g)} - \text{FOLAC (}\mu\text{g/100 g)}$$

Vitamin D

Vitamin D (VITD) is the sum of cholecalciferol or vitamin D₃ (CHOCAL) and ergocalciferol or vitamin D₂ (ERGCAL).

Equation 30:

$$\text{VITD } (\mu\text{g}/100 \text{ g}) = \text{CHOCAL } (\mu\text{g}/100 \text{ g}) + \text{ERGCAL } (\mu\text{g}/100 \text{ g})$$

3.4.9 Amino acids

Amino acid profiles are expressed in three ways: mg/g of total nitrogen (mg/g N), mg/100 g of food, and g/100 g of food. The amino acids have been determined by analysis as mg/100 g of food. The values can be expressed as mg/g N using the total nitrogen (NT) value of the food.

Equation 31:

$$\text{Amino acid (mg/g N)} = \text{Amino acid (mg/100 g)} / \text{NT (g/100 g)}$$

The amino acid (mg/g N) values can be used to calculate the amounts of amino acids in 100 g food by using the total nitrogen values for foods containing proteins with the same amino acid profiles (Orr & Watt 1957; Paul & Southgate 1978).

3.4.10 Organic acids

Organic acids, total (grams, OA_G) are the sum of the grams per 100 g of acetic acid (ACEAC_G), citric acid (CITAC_G), lactic acid (LACAC_G), malic acid (MALAC_G), oxalic acid (OXALAC_G) and quinic acid (QUINAC_G).

Equation 32:

$$\begin{aligned} \text{OA_G (g/100 g)} = & \text{ACEAC_G (g/100 g)} + \text{CITAC_G (g/100 g)} + \text{LACAC_G (g/100 g)} \\ & + \text{MALAC_G (g/100 g)} + \text{OXALAC_G (g/100 g)} + \text{QUINAC (g/100 g)} \end{aligned}$$

Note: Only a few foods in the NZFCD have values for organic acids.

3.5 Recipes

Recipe Food Records are generated by calculation following a method known as the 'Mixed method' (FAO/INFOODS 2012a) using the food composition data management system, FoodCASE. In this recipe method, nutrient gains or losses during recipe preparation are estimated by applying Nutrient Retention Factors (NRFs) at the individual ingredient level and Weight Yield Factor (WYF) at the recipe level for total weight gain or loss.

3.5.1 Nutrient Retention Factor (NRF)

Nutrient retention is defined as the measure of the proportion of the nutrient remaining in the cooked dish in relation to the nutrient originally present in the raw ingredient.

The equation used for calculation of NRF (%) is:

Equation 33:

$$\text{NRF(\%)} = (\text{Nutrient content in cooked dish (g/100 g)}) / (\text{Nutrient content in raw ingredients (g/100 g)}) \times \text{WYF (\%)}$$

The NRFs have been derived largely from the U.S. Department of Agriculture (2007) document for vitamins and minerals. Iodine retention factors have been derived from Food Standards Australia New Zealand (2026⁶). A list of NRFs linked to specific NRF classification and preparation methods can be downloaded from the NUTRIENT RETENTION FACTOR.FT file. NRF classification and preparation method linked to each recipe Food Record can be found in the INGREDIENTS.FT file (Section 4.8).

The equation used for estimating the nutrient content of a recipe (cooked dish) is:

Equation 34:

$$\begin{aligned} \text{Nutrient content of cooked dish (g/100 g)} \\ = & (\text{Sum of nutrient content of each ingredient (g)} \times \text{NRF (\%)}) \\ & / (\text{Total cooked dish weight (g)}) \times 100 \end{aligned}$$

Note: Where the analytical values were available for vitamins and minerals in the cooked food, these were used instead of values derived (recipe calculation) using NRFs.

3.5.2 Weight Yield Factor (WYF)

The WYFs have been obtained largely during preparation of recipes by measuring the weight of the ingredients before and after cooking, using the formula below. Where the measure of weight change was not available, the WYF values were obtained from published sources (Matthews et al. 1975; Food Standards Australia New Zealand 2026; Finglas et al. 2015). WYFs that are used for each recipe can be downloaded from the WEIGHT YIELD FACTOR.FT (Section 4.10).

Equation 35:

$$\text{WYF (\%)} = (\text{Total cooked dish weight (g)}) / (\text{Total weight of raw ingredients (g)}) \times 100$$

All ingredient weights are based on edible portions.

3.5.3 Calculation of component values in recipes

The food component values for each recipe can be derived by the mixture of methods: recipe calculation (using WYF and NRFs) and direct chemical analysis. The values derived by these methods (calculation and analysis) are identified with codes in the DATA.FT file for each component.

If an analytical value was unavailable for water, the value was calculated by difference (subtracting other proximate components from 100). The proximate total (sum of the macro-nutrient set of ash, protein, fat (total), water, dietary fibre, alcohol and available carbohydrate by weight) per ingredient was also checked that it was ~100 g before performing the calculation.

An example of calculation of the values of the selected components for a recipe can be found in Appendix 8.

3.5.4 Recipe Food Records

Some of the Food Records in the NZFCD are derived by recipe calculation. Of these, some are complex recipes derived from multiple ingredients and are listed in Chapter R (Recipes). Others are single ingredient recipes or simple recipes (e.g. N1021 – Sausage, beef, pan fried, with no added fat, composite) listed in the associated food chapters (Table 4). All recipe Food Records are listed in the

⁶ The nutrient retention factor file is available in the AUSNUT 2023 download.

INGREDIENT.FT (the exception is the new additions to the online search in 2026 – this information is available on request).

Of particular note, the 2026 release contains 510 new Food Records that have been generated at part of the work developing the NZ Intake24 food list and a large percentage of these are recipes (Mackay et al. 2025).

4 Downloadable files

FOODfiles 2024 contains six principal data files and six supporting files. Four of these are update files, which include foods that have been archived, replaced and new; and component values updated since the release of FOODfiles 2021 are also available.

The 11 principal and supporting files listed below are available in two formats: as DSV (tilde delimited UTF8 encoded) and as Microsoft® Excel® files. These files occupy approximately 25 MB and 36 MB, respectively. The Excel files are in .xlsx format.

Principal files

- DATA.AP (Standard and unabridged data files) – contains data in a table format.
- DATA.FT (Standard and unabridged data files) – contains data in a list format along with Data provenance (source code).
- CSM.FT – contains common standard measures along with density.
- INGREDIENT.FT – contains data on ingredients used to create a recipe Food Record and where relevant the NRF Classification and preparation method.

Supporting files

- NAME.FT – provides full food details including more edible portion, detailed description and sampling details.
- CODE.FT – provides a list of the components included in the standard and unabridged dataset, their identifier, Unit Code and Matrix Unit Code.
- NUTRIENT RETENTION FACTOR.FT – contains the value for NRF used where foods have been prepared (e.g. boiled).
- WEIGHT YIELD FACTOR.FT – gives the value for WYF for foods that have been cooked.
- CONVERSION FACTOR.FT – gives the general conversion factors from the published sources for nitrogen to protein (Jones 1941; Greenfield & Southgate 2003) and fat to fatty acid (Exler & Weihrauch 1977; Greenfield & Southgate 2003).
- Data Provenance Description.xlsx – lists data derivation and other details: Unit Code, Matrix Unit Code, Data Source Code, Value Type Code, Acquisition Type Code, Method Type Code and Method Indicator based on Machackova et al. (2019). The short descriptions are listed in Table 5.

Update files

- These four files provide the added, changed, or deleted foods, nutrient values and major changes made to the database since the last release of FOODfiles, in 2021.
- New Food Records replacing the old Food Records in latest version of FOODfiles.xlsx.
- Food Records archived from latest version of FOODfiles.xlsx.
- Data added to or updated in the Food Records in the latest version of FOODfiles.xlsx.
- List of components updated in current version of FOODfiles.xlsx.

4.1 Instructions for downloading

All files can be found at www.foodcomposition.co.nz and are provided as a Microsoft Windows® installer file (.msi). Use “This PC” or “Windows Explorer” to browse to the folder (where you saved the installation program when downloading it) and double click on the installer FOODfilesSetup.msi (foodfiles-2024-v1.msi normally in your “Downloads” directory) to begin the installation. (NOTE: you may not be able to see the .msi extension, depending on your computer settings). You will need local administrative rights on your computer to complete this. If you do not specify otherwise during the installation, the New Zealand FOODfiles will be installed in the folder New Zealand FOODfiles 2024 on your C: drive. If you wish to remove the New Zealand FOODfiles from your computer, you can do so through the Control Panel | Programs and Features | Uninstall or change a program.

4.2 ASCII text files

ASCII text files are delimited, and text fields are separated by tildes (~). The tilde characters can be replaced with other field separators. To open these files in Microsoft Excel, go to the “Open file” of the program and find the folder. Make sure you select “Files of Type”. Choose the appropriate file and open it. The “Text Import Wizard” will be activated. In the first screen choose “Delimited” and in the “File Origin” drop-down box, ensure that the entry “Unicode (UTF8)” is selected and press “Next”. In the second screen choose “Other” and type “~” in the text box and select “[none]” for “Text Qualifier”. Press “Finish” button.

Note that all text fields are separated by a tilde (“~”) character. When a field is null or blank, two tilde characters will be adjacent to each other. The first line of all text files contains “© Copyright The New Zealand Institute for Bioeconomy Science Limited and the Ministry of Health (New Zealand) 2024 All rights reserved”. The field structure starts from the second line in all the text files.

4.3 NAME.FT file

The NAME.FT file contains the FoodID, Food Name, Short Food Name, and descriptions of the foods in FOODfiles 2024. The Food Name includes the multi-faceted descriptors according to the INFOODS Food Description System (Truswell et al. 1991). The faceted descriptions are also reported in separate fields. Each Short Food Name is unique, represents more common words for general public use, and does not typically follow the multi-faceted descriptors from INFOODS. The details of the fields included in the NAME.FT file can be found in Table 13.

Table 13. Details of the fields used in the NAME.FT file.

Field	Name	Field type alphanumeric	Notes (Required (R) or Optional (O))
1	FoodID	Identifier	(R) The unique code; first character alphabetic, representing food group (Table 4); remaining characters sequential numbers.
2	Food Name	Text	(R) Includes the multi-faceted descriptors according to the INFOODS Food Description System (Truswell et al. 1991). Use this field as the 'name' of the food in printed tables and computer packages. Each Food Name is unique.
3	Short Food Name	Text	(R) The Short Food Name has fewer words than the 'Food Name'. The Short Food Name is used in The Concise New Zealand Food Composition Tables. Each Short Food Name is unique, represents more common words for general public use, and does not typically follow the multi-faceted descriptors from INFOODS.
4	Alternative Name	Text	(O) Other common names to be used for cross-referencing indices.
5	Food Description	Text	(O) Detailed information of the food, including ingredients, fortification, appearance, production, preparation and whether the Food Records generated by borrowing from other databases or recipe calculated.
6	Edible portion	Numeric	(R) Percentage of the edible part of the food and all data refer to the denominator 100% of edible portion unless specified with a different denominator.
7	Generic Name	Text	(R) Food descriptor facet, the most general of food descriptors.
8	Kind	Text	(O) More specific descriptor.
9	Part	Text	(O) Portion of the food represented by the data.
10	State	Text	(O) State, condition, treatment, cooking etc.
11	Grade	Text	(O) Usually defined by food standards.
12	Maturity	Text	(O) Age or stage of development.
13	Scientific Name	Text	(O) Latin name; binary nomenclature; the first part of the name identifies the genus, and second part identifies the species within the genus, followed by variety (cultivar or sub-species name); for animals and plants.
14	Sampling details	Text	(O) Detailed information on samples such as numbers of samples, product names including brands and flavours, place of purchase, date of purchase and analysis. If the Food Records are "borrowed" from other databases, the source of the Food Records information is included.
15	Component message	Text	(O) Includes the additional information on Food Composition Data derivation.

Each food is uniquely described using the following naming structure in the second line of the text file and in tabular form (Table 14):

Format:

FoodID~Food Name~Short Food Name~Alternative Names~Food Description~Edible portion (%)~Generic Name~Kind~Part~State~Grade~Maturity~Scientific Name~Sampling Details~Component Message

Example:

Q1042~Seed, hemp, hulled, dried, composite~Hemp seed, hulled, dried~Hemp hearts~Hulled hemp seed commercially made by removing crunchy outer shell of the whole hemp seed. Product of New Zealand and imported.~100~SEED~HEMP ~Seed~Dried, Hulled~~~Cannabis sativa~A composite sample of the brands: Hemp Farm (x 2), new hemisphere (x 1), Good

Pantry (x 1), Bin Inn (x 1), Organic buzz (x 1), Love Organics (x 1), Floating leaf (x 1), and Organic Mechanic (x 1) were sampled from retail outlets in April 2019.~Majority of food components data were derived by analysis. Alcohol, caffeine, cholesterol, retinol, folic acid, and vitamins (B12 and D) data were presumed zero.

Table 14. Example of the naming structure used in the NAME.FT file in tabular form.

Field	Name	Entry
1	FoodID	Q1042
2	Food Name	Seed, hemp, hulled, dried, composite
3	Short Food Name	Hemp seed, hulled, dried
4	Alternative Names	Hemp hearts
5	Food Description	Hulled hemp seed commercially made by removing crunchy outer shell of the whole hemp seed. Product of New Zealand and imported.
6	Edible portion (%)	100
7	Generic Name	SEED
8	Kind	HEMP
9	Part	Seed
10	State	Dried, Hulled
11	Grade	
12	Maturity	
13	Scientific Name	<i>Cannabis sativa</i>
14	Sampling Details	A composite sample of the brands: Hemp Farm (x 2), new hemisphere (x 1), Good Pantry (x 1), Bin Inn (x 1), Organic buzz (x 1), Love Organics (x 1), Floating leaf (x 1), and Organic Mechanic (x 1) were sampled from retail outlets in April 2019.
15	Component Message	Majority of food components data were derived by analysis. Alcohol, caffeine, cholesterol, retinol, folic acid, and vitamins (B12 and D) data were presumed zero.

4.4 CODE.FT file

The CODE.FT file contains the nutritional component name, with its Component Identifier being used in the data files to define the component. Each line is one record and holds information on one component. The unit is a measure of the amount of the component values followed by a code for Matrix unit,

Format:

Code~Description~Unit Code~Matrix Unit Code

Example:

RETOL~Retinol~µg~W

where:

- RETOL is the 'Component Identifier'
- Retinol is the component name of the 'Component Identifier'
- Unit of measure is µg

- W is the code for the Matrix Unit Code, 'per 100 grams edible portion'.

Appendix 1 contains a full list of 'Component Identifier' and food component names. The details of the fields that are included in the CODE.FT file can be found in Table 15.

Table 15. Details of the fields used in the CODE.FT file.

Field	Name	Field type	Notes
1	Component Identifier	Identifier	Klensin et al. (1989) and FAO/INFOODS 2012a)
2	Component	Text	The component name
3	Unit	Identifier	The measure of the amount of the component values, a dimensionless number
4	Matrix Unit Code	Identifier	The amount of matrix material that has a quantity reported, usually expressed using the preposition "per". Codes: W – per 100 g of edible portion; N – per g of nitrogen; F- per 100 g Total fatty acids.

4.5 DATA.FT file

The DATA.FT file contains the data for each component for all foods. Each component forms a record for each food. Each record in the file is composed of a FoodID followed by a field for each of the Component Identifier, the component, value, unit code, matrix unit code and data provenance descriptions. The format as defined on the second line of the file contains the header.

Format:

FoodID~Component Identifier~Value~Unit Code~Matrix Unit Code~Source Code~Value Type Code~Acquisition Type Code~Method Type Code~Method Indicator Code

Example:

K1034~WATER~78.5~g~W~~BE~D~A~MI1212

where:

- K1034 is the FoodID for Snapper, fillet, flesh, fresh, raw, related in the file NAME.FT
- WATER is the 'Component Identifier' for WATER, related in the file CODE.FT file
- 78.5 is the value of water in this food
- 'g' is the measurement unit code for 'gram'
- 'W' is the Matrix Unit Code "per 100 g edible portion".
- The rest of the field's description codes are related to data derivation (refer to Data provenance.xlsx):
 - 'BE' is the Value Type Code "Best Estimation"
 - D is the Acquisition Type Code data derived from "Independent laboratory"
 - A is the Method Type Code "Analytical"
 - MI1212 is the Method Indicator Code for "Vacuum drying".

The details of the fields that are included in the DATA.FT file can be found in Table 16.

Table 16. Details of the fields used in the DATA.FT file.

Field	Name	Field type	Notes
1	FoodID	Identifier	NAME.FT
2	Component Identifier	Identifier	CODE.FT
2	Value	Numeric	Significant figures and maximal decimal places for the food composition values are listed in Appendix 3.
3	Unit Code	Identifier	Details given in the files: Data provenance.xlsx and also see Table 5)
4	Matrix Unit Code	Identifier	
5	Source Code	Identifier	
6	Value Type Code	Identifier	
7	Acquisition Type Code	Identifier	
8	Method Type Code	Identifier	
9	Method Indicator Code	Identifier	

4.6 DATA.AP file

The DATA.AP file contains some of the information already present in DATA.FT but in an alternative format. It features only the values of the components in each food within rows and columns like a spreadsheet. The second line of the file contains the name of each of the components, and the third line contains the units of measure. The subsequent lines contain a field for each component. These fields are filled by values as outlined below:

Second line:

FoodID~Food Name~Alcohol~Alpha-carotene~Alpha-tocopherol~Ash~Available carbohydrate by difference~Available carbohydrate, FSANZ~Available carbohydrates by weight~Available carbohydrates in monosaccharide equivalent~Beta-carotene~Beta-carotene equivalents~Beta-tocopherol~Caffeine~Calcium~Carbohydrate by difference, FSANZ~Cholesterol~Copper~etc.

Third line:

FoodID~Food Name~g/100 g~µg/100 g~mg/100 g~g/100 g~g/100 g~g/100 g~g/100 g~µg/100 g~µg/100 g~mg/100 g~mg/100 g~mg/100 g~mg/100 g~mg/100 g~mg/100 g~etc.

Subsequent lines, an example (37th line):

A1119~Crumpet, white, as purchased,
commercial~0~0~0.07~2.4~36.8~31.6~31.6~34.7~0~0~0.02~0~71~36.8~0~0.104~etc,

The details of the fields that are included in the DATA.AP file can be found in Table 17. Table 18 provides an example of the information provided in the DATA.AP data file in tabular form for an individual Food Record.

Table 17. Details of the fields used in the DATA.FT file.

Field	Name	Field type	Notes
1	FoodID	Identifier	NAME.FT
2	Food Name	Identifier	NAME.FT
3	Unit	Text	CODE.FT
4	Value	Numeric	Significant figures and maximal decimal places for the food composition values are listed in Appendix 3.

Table 18. Excerpt of the details in the DATA.AP for Food Record A1119 provided in tabular form (note only the first 19 lines are shown here).

Field	Second line	Third line	37 th line (example)
1	FoodID	FoodID	A1119
3	Food Name	Food name	Crumpet, white, as purchased, commercial
4	Alcohol	g/100 g	0
5	Alpha-carotene	µg/100 g	0
6	Alpha-tocopherol	mg/100 g	0.07
7	Ash	g/100 g	2.4
8	Available carbohydrate by difference	g/100 g	36.8
9	Available carbohydrate, FSANZ	g/100 g	31.6
10	Available carbohydrates by weight	g/100 g	31.6
11	Available carbohydrates in monosaccharide equivalent	g/100 g	34.7
12	Beta-carotene	µg/100 g	0
13	Beta-carotene equivalents	µg/100 g	0
14	Beta-tocopherol	mg/100 g	0.02
15	Caffeine	mg/100 g	0
16	Calcium	mg/100 g	71
17	Carbohydrate by difference, FSANZ	g/100 g	36.8
18	Cholesterol	mg/100 g	0.00
19	Copper	mg/100 g	0.104

4.7 CSM.FT file

The CSM.FT file contains the data for the common standard measures (CSM) and density data for most foods. The details of the fields included in the CSM.FT file can be found in Table 19. The CSM is either expressed as NZ metric standards or as the amount commonly purchased or eaten. All these description measures are listed under the CSM column, noting that there may be more than one CSM for any particular food. All the measures (g) were made on an edible portion, so no adjustments are necessary to account for the inedible portion. For the alcoholic beverages in NZ, one standard drink containing 10 g of pure alcohol is used (Health Promotion Agency 2016).

Density is measured as specific gravity, mass density, bulk density and/or use mass and volume by water or rapeseed displacement method. The Mass density of a food is its mass per unit volume. The term Specific gravity is used for liquid foods (e.g. milk, fruit juices), whereas the term Mass density is typically used for semi-solids and solids with regular shapes (e.g. bread, biscuits). Bulk density is the term typically used in measurement for powders, grains, or other particulate solids that contain

occluded air. The bulk density total volume includes particle volume, inter-particle void volume and internal pore volume (e.g. almonds ground and slivered). Water displacement method is used for foods with irregular shapes (e.g. eggplant, meat cuts) to establish the volume that relates to an item of known mass/weight to allow density to be calculated. Similarly, a baked product can be measured using rapeseed instead of water.

The format, as defined on the second line of the CSM.FT file is:

FoodID~Food Name~CSM~Measure~Density (g/cm³)

For example:

A1169~Bread, from white wheat flour with multigrain, light, sliced, prepacked, as purchased, commercial, composite~1 slice sandwich (11.4 x 10.3 x 1.1 cm)~29.8~0.25

In the example above:

- A1069 is the FoodID
- Food Name is Bread, from white wheat flour with multigrain, light, sliced, prepacked, as purchased, commercial, composite
- 1 slice sandwich (11.4 x 10.3 x 1.1 cm) weighs 29.8 g and has a density of 0.25 g/cm³

Table 19. Details of the fields used in the CSM.FT file.

Field	Name	Field type	Notes
1	Food ID	Identifier	NAME.FT file
2	Food Name	Text	NAME.FT file
3	CSM	Text	The description of the Common Standard Measure (CSM) or amount commonly purchased or eaten
4	Measure (g)	Numeric	The weight of the CSM amount commonly purchased or eaten in grams
5	Density	Numeric	g/cm ³ ; Food Records may have multiple densities based on the physical state e.g. 1 cup (250 mL) almond: ground, slivered and whole

4.8 INGREDIENT.FT file

The INGREDIENT.FT file contains the FoodID of a recipe, FoodIDs of the ingredients and their Food Names, Weight Fractions used in that particular recipe, Nutrition Retention Factor ID and USDA Retention Factor description. The Nutrition Retention Factor ID is specific to the cooking method (USDA Retention Factor description). The details of the fields included in the INGREDIENT.FT file can be found in Table 20.

Table 20. Details of the fields used in the INGREDIENT.FT file.

Field	Name	Field type	Notes
1	Recipe FoodID	Identifier	NAME.FT file
2	Ingredient FoodID	Identifier	NAME.FT file
3	Ingredient Name	Text	NAME.FT file
4	Weight Fraction (%)	Numeric	The weight fraction of the food ingredient in the recipe
5	Nutrient Retention Factor Classification	Text	U.S. Department of Agriculture (2007)
6	Preparation Method	Text	

The naming structure for each record in this file is:

Recipe FoodID~Ingredient Food Name~Weight Fraction(%)~Nutrient Retention Factor Classification~Preparation Method

For example, the recipe “Cake, sponge, fat added, baked” (R10034) contains the following:

- R10034~F1046~Butter, salted, composite~25.0~~
- R10034~G1016~Egg, chicken, white & yolk (whole), raw, fresh, composite~24.4~EGGS~BAKED
- R10034~W20~Sugar, caster~25.0~~
- R10034~E1088~Flour, wheat, white, standard, plain, composite~25.0~FLOUR/MEAL~BAKED
- R10034~P62~Baking soda~0.6~~

The tabulated form of the above example Food Record R10034 can be found in Table 21.

Table 21. Example of the details in the INGREDIENT.FT file for Food Record R5442 provided in tabular form.

Recipe FoodID	Ingredient FoodID	Ingredient name	Weight fraction (g) ^a	Nutrient Retention Factor Classification ^b	Preparation Method ^b
R10034	F1046	Butter, salted, composite	25.0		
R10034	G1016	Egg, chicken, white & yolk (whole), raw, fresh, composite	24.4	EGGS	BAKED
R10034	W20	Sugar, caster	25.0		
R10034	E1088	Flour, wheat, white, standard, plain, composite	25.0	FLOUR/MEAL	BAKED
R10034	P62	Baking soda	0.6		

^a Weight fraction is the percentage of each ingredient used in the recipe; Source: ^b U.S. Department of Agriculture (2007).

4.9 NUTRIENT RETENTION FACTOR.FT file

The NUTRIENT RETENTION FACTOR.FT contains the NRF for selected nutrients and ID. The details of the fields included in the NUTRIENT RETENTION FACTOR.FT file can be found in Table 22.

The naming structure in this file is:

Nutrient Retention Factor Classification ~ Preparation Method ~Component Identifier~Nutrient Retention Factor

Example: CHICKEN~ROASTED~FOL~0.6

Where:

- CHICKEN is the ‘Nutrient Retention Factor Classification’ and ‘ROASTED’ is the Preparation Method from U.S. Department of Agriculture (2007) related to the INGREDIENT.FT
- FOL is the ‘Component Identifier’ for ‘Folate, total’, related in the file CODE.FT file’

- 0.6 is 'Nutrient Retention Factor'.

Table 22. Details of the fields used in the NUTRIENT FACTOR.FT file.

Field	Name	Field type	Notes
1	Nutrient Retention Factor Classification	Text	Related to the INGREDIENT.FT
2	Preparation Method	Text	U.S. Department of Agriculture (2007)
3	Component Identifier	Identifier	CODE.FT file
3	Nutrient Retention Factor	Numeric	Ratio of the nutrient retention between cooked and raw ingredients (g/g) U.S. Department of Agriculture (2007) and Food Standards Australia New Zealand (2026)

4.10 WEIGHT YIELD FACTOR.FT file

The WEIGHT YIELD FACTOR.FT contains the Weight YF for each recipe food. The details of the fields included in the WEIGHT YIELD FACTOR.FT file can be found in Table 23.

The naming structure in this file is:

Recipe Food ID~Recipe Food Name~Weight Yield Factor

Table 23. Details of the fields used in the WEIGHT YIELD FACTOR.FT file.

Field	Name	Field type	Notes
1	Recipe Food ID	Identifier	INGREDIENT.FT file (NAME.FT)
2	Recipe Food Name	Text	INGREDIENT.FT file (NAME.FT)
3	Weight Yield Factor	Numeric	Measure of the percentage of the weight of the cooked dish in relation to the weight of the raw ingredient/s (Equation 35)

4.11 CONVERSION FACTOR.FT file

The CONVERSION FACTOR.FT contains the general factor conversions for fat to fatty acids for some of the Food Records, and for nitrogen to protein for all the Food Records from the published sources. The details of the fields included in the CONVERSION FACTOR.FT file can be found in Table 24.

The naming structure in this file is:

FoodID~XFA~XN

Table 24. Details of the fields used in the CONVERSION FACTOR.FT file.

Field	Name	Field type	Notes
1	FoodID	Identifier	INGREDIENT.FT file (NAME.FT)
2	XFA	Identifier	INFOODS tagname for fat to fatty acids conversion factor (Exler & Weihrauch 1977; Greenfield & Southgate 2003)
3	XN	Identifier	INFOODS tagname for nitrogen to protein conversion factor (Jones 1941; Greenfield & Southgate 2003)

Abbreviation: INFOODS = International Network of Food Data Systems.

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Appendix 1. List of components with supporting details

A. Complete NZFCD Component Set

This table provides details of all the components included in the database, including the number of foods and the percentage of the total number of foods (2857) in FOODfiles 2024 that contain the indicated nutrient for which values are available.

Component identifier	Component name	INFOODS Tagname ^a	Unit	Generation	FOODfiles™ 2024			
					Standard	Unabridged	No. foods	Percentage
ACEAC_G	Acetic acid (g)	ACEAC_G	g/100 g	A		√	66	2.3
AL	Aluminium	AL	µg/100 g	A		√	478	17
ALA	Alanine	ALA	mg/100 g	A		√	472	17
ALA_G	Alanine (g)	ALA_G	g/100 g	A		√	460	16
ALAN	Alanine (/g N)	ALAN	mg/g N	C		√	459	16
ALC	Alcohol	ALC	g/100 g	A	√	√	2857	100
ARG	Arginine	ARG	mg/100 g	A		√	474	17
ARG_G	Arginine (g)	ARG_G	g/100 g	A		√	463	16
ARGN	Arginine (/g N)	ARGN	mg/g N	C		√	461	16
AS	Arsenic	AS	µg/100 g	A		√	652	23
ASH	Ash	ASH	g/100 g	A	√	√	2857	100
ASN	Asparagine	ASN	mg/100 g	A		√	178	6.2
ASN_G	Asparagine (g)	ASN_G	g/100 g	A		√	178	6.2
ASNN	Asparagine (/g N)	ASNN	mg/g N	C		√	178	6.2
ASP	Aspartic acid	ASP	mg/100 g	A		√	294	10
ASP_G	Aspartic acid (g)	ASP_G	g/100 g	A		√	282	9.9
ASPN	Aspartic acid (/g N)	ASPN	mg/g N	C		√	281	9.8

Component identifier	Component name	INFOODS Tagname ^a	Unit	Generation	FOODfiles™ 2024			
					Standard	Unabridged	No. foods	Percentage
B	Boron	B	µg/100 g	A		√	462	16
BIOT	Biotin	BIOT	µg/100 g	A		√	1060	37
CA	Calcium	CA	mg/100 g	A	√	√	2857	100
CAFFN	Caffeine	CAFFN	mg/100 g	A	√	√	2857	100
CARTA	Alpha-carotene	CARTA	µg/100 g	A	√	√	2395	84
CARTB	Beta-carotene	CARTB	µg/100 g	A	√	√	2572	90
CARTBEQ	Beta-carotene equivalents	CARTBEQ	mg/100 g	C	√	√	2857	100
CD	Cadmium	CD	µg/100 g	A	√	√	565	20
CHOAVL	Available carbohydrates by weight	CHOAVL	g/100 g	C	√	√	2857	100
CHOAVL_FSANZ	Available carbohydrate, FSANZ		g/100 g	C	√	√	2857	100
CHOAVLDF	Available carbohydrate by difference	CHOAVLDF	g/100 g	C	√	√	2857	100
CHOAVLDF_FSANZ	Carbohydrate by difference, FSANZ		g/100 g	C	√	√	2857	100
CHOAVLM	Available carbohydrates in monosaccharide equivalent	CHOAVLM	g/100 g	C	√	√	2857	100
CHOCAL	Cholecalciferol (Vitamin D3)	CHOCAL	µg/100 g	A		√	2857	100
CHOCALOH	25-hydroxyvitamin D3	CHOCALOH	µg/100 g	A		√	198	6.9
CHOCDF	Total carbohydrate by difference	CHOCDF	g/100 g	C	√	√	2857	100
CHOCSM	Total carbohydrates by summation	CHOCSM	g/100 g	C	√	√	2857	100
CHOLE	Cholesterol	CHOLE	mg/100 g	A	√	√	2857	100
CHOLN	Choline	CHOLN	mg/100 g	A		√	16	0.6
CITAC_G	Citric acid (g)	CITAC_G	g/100 g	A		√	51	1.8
CLD	Chloride	CLD	mg/100 g	A		√	911	32
CO	Cobalt	CO	µg/100 g	A		√	407	14
CR	Chromium	CR	µg/100 g	A		√	499	18

Component identifier	Component name	INFOODS Tagname ^a	Unit	Generation	FOODfiles™ 2024			
					Standard	Unabridged	No. foods	Percentage
CS	Caesium	CS	µg/100 g	A		√	298	10
CU	Copper	CU	mg/100 g	A	√	√	2857	100
CYS	Cystine	CYS	mg/100 g	A		√	456	16
CYS_G	Cystine (g)	CYS_G	g/100 g	A		√	445	16
CYSN	Cystine (/g N)	CYSN	mg/g N	C		√	444	16
DISAC	Disaccharides, total	DISAC	g/100 g	C		√	2857	100
DISACM	Disaccharides, total (monosaccharide equivalents)	DISACM	g/100 g	C		√	2857	100
DM	Dry matter	DM	g/100 g	C	√	√	2857	100
ENERC	Energy, total metabolisable (kJ)	ENERC	kJ/100 g	C	√	√	2857	100
ENERC_FSANZ1	Energy, total metabolisable (kJ, including dietary fibre)		kJ/100 g	C	√	√	2857	100
ENERC_FSANZ1_KCAL	Energy, total metabolisable (kcal, including dietary fibre)		kcal/100 g	C	√	√	2857	100
ENERC_FSANZ2	Energy, total metabolisable, carbohydrate by difference, FSANZ (kJ)		kJ/100 g	C	√	√	2857	100
ENERC_FSANZ2_KCAL	Energy, total metabolisable, carbohydrate by difference, FSANZ (kcal)		kcal/100 g	C	√	√	2857	100
ENERC_KCAL	Energy, total metabolisable, available carbohydrate, FSANZ (kJ)	ENERC_KCAL	kcal/100 g	C	√	√	2857	100
ENERC1	Energy, total metabolisable, available carbohydrate, FSANZ (kcal)		kcal/100 g	C	√	√	2857	100
ENERC1_KCAL	Energy, total metabolisable (kcal)		kcal/100 g	C	√	√	2857	100
ERGCAL	Ergocalciferol (Vitamin D2)	ERGCAL	µg/100 g	A		√	2857	100
ERGCALOH	25-hydroxyvitamin D2	ERGCALOH	µg/100 g	A		√	1	0
F10D0	Fatty acid 10:0	F10D0	g/100 g	A		√	1714	60
F10D0F	Fatty acid 10:0 (/100 g TFA)	F10D0F	g/100 g TFA	C		√	1714	60

Component identifier	Component name	INFOODS Tagname ^a	Unit	Generation	Standard	FOODfiles™ 2024		
						Unabridged	No. foods	Percentage
F10D1	Fatty acid 10:1	F10D1	g/100 g	A		√	350	12
F10D1F	Fatty acid 10:1 (/100 g TFA)	F10D1F	g/100 g TFA	C		√	350	12
F11D0	Fatty acid 11:0	F11D0	g/100 g	A		√	909	32
F11D0F	Fatty acid 11:0 (/100 g TFA)	F11D0F	g/100 g TFA	C		√	909	32
F12D0	Fatty acid 12:0	F12D0	g/100 g	A		√	1786	63
F12D0F	Fatty acid 12:0 (/100 g TFA)	F12D0F	g/100 g TFA	C		√	1770	62
F12D1	Fatty acid 12:1	F12D1	g/100 g	A		√	134	4.7
F12D1F	Fatty acid 12:1 (/100 g TFA)	F12D1F	g/100 g TFA	C		√	134	4.7
F13D0	Fatty acid 13:0	F13D0	g/100 g	A		√	1456	51
F13D0F	Fatty acid 13:0 (/100 g TFA)	F13D0F	g/100 g TFA	C		√	1456	51
F14D0	Fatty acid 14:0	F14D0	g/100 g	A		√	2104	74
F14D0F	Fatty acid 14:0 (/100 g TFA)	F14D0F	g/100 g TFA	C		√	2088	73
F14D1	Fatty acid 14:1	F14D1	g/100 g	C		√	1655	58
F14D1C	Fatty acid <i>cis</i> 14:1	F14D1C	g/100 g	C		√	901	32
F14D1CF	Fatty acid <i>cis</i> 14:1 (/100 g TFA)	F14D1CF	g/100 g TFA	C		√	901	32
F14D1CN5	Fatty acid <i>cis</i> 14:1 omega-5	F14D1CN5	g/100 g	A		√	882	31
F14D1CN5F	Fatty acid <i>cis</i> 14:1 omega-5 (/100 g TFA)	F14D1CN5F	g/100 g TFA	C		√	882	31
F14D1F	Fatty acid 14:1 (/100 g TFA)	F14D1F	g/100 g TFA	C		√	1642	58
F14D1N5	Fatty acid 14:1 omega-5	F14D1N5	g/100 g	C		√	1256	44
F14D1N5F	Fatty acid 14:1 omega-5 (/100 g TFA)	F14D1N5F	g/100 g TFA	C		√	1256	44
F15D0	Fatty acid 15:0	F15D0	g/100 g	A		√	784	27
F15D0F	Fatty acid 15:0 (/100 g TFA)	F15D0F	g/100 g TFA	C		√	775	27
F15D1	Fatty acid 15:1	F15D1	g/100 g	C		√	1581	55
F15D1C	Fatty acid <i>cis</i> 15:1	F15D1C	g/100 g	C		√	886	31

Component identifier	Component name	INFOODS Tagname ^a	Unit	Generation	Standard	FOODfiles™ 2024		
						Unabridged	No. foods	Percentage
F15D1CF	Fatty acid <i>cis</i> 15:1 (/100 g TFA)	F15D1CF	g/100 g TFA	C		√	886	31
F15D1CN5	Fatty acid <i>cis</i> 15:1 omega-5	F15D1CN5	g/100 g	A		√	881	31
F15D1CN5F	Fatty acid <i>cis</i> 15:1 omega-5 (/100 g TFA)	F15D1CN5F	g/100 g TFA	C		√	881	31
F15D1F	Fatty acid 15:1 (/100 g TFA)	F15D1F	g/100 g TFA	C		√	1581	55
F15D1N5	Fatty acid 15:1 omega-5	F15D1N5	g/100 g	C		√	889	31
F15D1N5F	Fatty acid 15:1 omega-5 (/100 g TFA)	F15D1N5F	g/100 g TFA	C		√	889	31
F16D0	Fatty acid 16:0	F16D0	g/100 g	A		√	2169	76
F16D0F	Fatty acid 16:0 (/100 g TFA)	F16D0F	g/100 g TFA	C		√	2153	75
F16D1	Fatty acid 16:1	F16D1	g/100 g	C		√	2085	73
F16D1C	Fatty acid <i>cis</i> 16:1	F16D1C	g/100 g	C		√	1552	54
F16D1CF	Fatty acid <i>cis</i> 16:1 (/100 g TFA)	F16D1CF	g/100 g TFA	C		√	1536	54
F16D1CN7	Fatty acid <i>cis</i> 16:1 omega-7	F16D1CN7	g/100 g	A		√	921	32
F16D1CN7F	Fatty acid <i>cis</i> 16:1 omega-7 (/100 g TFA)	F16D1CN7F	g/100 g TFA	C		√	921	32
F16D1F	Fatty acid 16:1 (/100 g TFA)	F16D1F	g/100 g TFA	C		√	2068	72
F16D1N7	Fatty acid 16:1 omega-7	F16D1N7	g/100 g	C		√	968	34
F16D1N7F	Fatty acid 16:1 omega-7 (/100 g TFA)	F16D1N7F	g/100 g TFA	C		√	968	34
F16D1T	Fatty acid <i>trans</i> 16:1	F16D1T	g/100 g	A		√	582	20
F16D1TF	Fatty acid <i>trans</i> 16:1 (/100 g TFA)	F16D1TF	g/100 g TFA	C		√	566	20
F17D0	Fatty acid 17:0	F17D0	g/100 g	A		√	1911	67
F17D0F	Fatty acid 17:0 (/100 g TFA)	F17D0F	g/100 g TFA	C		√	1895	66
F17D1	Fatty acid 17:1	F17D1	g/100 g	C		√	1865	65
F17D1C	Fatty acid <i>cis</i> 17:1	F17D1C	g/100 g	C		√	894	31
F17D1CF	Fatty acid <i>cis</i> 17:1 (/100 g TFA)	F17D1CF	g/100 g TFA	C		√	894	31
F17D1CN7	Fatty acid <i>cis</i> 17:1 omega-7	F17D1CN7	g/100 g	A		√	883	31

Component identifier	Component name	INFOODS Tagname ^a	Unit	Generation	Standard	FOODfiles™ 2024		
						Unabridged	No. foods	Percentage
F17D1CN7F	Fatty acid <i>cis</i> 17:1 omega-7 (/100 g TFA)	F17D1CN7F	g/100 g TFA	C		√	883	31
F17D1F	Fatty acid 17:1 (/100 g TFA)	F17D1F	g/100 g TFA	C		√	1855	65
F17D1N7	Fatty acid 17:1 omega-7	F17D1N7	g/100 g	C		√	887	31
F17D1N7F	Fatty acid 17:1 omega-7 (/100 g TFA)	F17D1N7F	g/100 g TFA	C		√	887	31
F18D0	Fatty acid 18:0	F18D0	g/100 g	A		√	2168	76
F18D0F	Fatty acid 18:0 (/100 g TFA)	F18D0F	g/100 g TFA	C		√	2152	75
F18D1	Fatty acid 18:1	F18D1	g/100 g	C		√	2209	77
F18D1C	Fatty acid <i>cis</i> 18:1	F18D1C	g/100 g	C		√	1585	56
F18D1CF	Fatty acid <i>cis</i> 18:1 (/100 g TFA)	F18D1CF	g/100 g TFA	C		√	1569	55
F18D1CN7	Fatty acid <i>cis</i> 18:1 omega-7	F18D1CN7	g/100 g	A		√	1397	49
F18D1CN7F	Fatty acid <i>cis</i> 18:1 omega-7 (/100 g TFA)	F18D1CN7F	g/100 g TFA	C		√	1397	49
F18D1CN9	Fatty acid <i>cis</i> 18:1 omega-9	F18D1CN9	g/100 g	A		√	1510	53
F18D1CN9F	Fatty acid <i>cis</i> 18:1 omega-9 (/100 g TFA)	F18D1CN9F	g/100 g TFA	C		√	1510	53
F18D1F	Fatty acid 18:1 (/100 g TFA)	F18D1F	g/100 g TFA	C		√	2192	77
F18D1N7	Fatty acid 18:1 omega-7	F18D1N7	g/100 g	C		√	1505	53
F18D1N7F	Fatty acid 18:1 omega-7 (/100 g TFA)	F18D1N7F	g/100 g TFA	C		√	1505	53
F18D1N9	Fatty acid 18:1 omega-9	F18D1N9	g/100 g	C		√	1554	54
F18D1N9F	Fatty acid 18:1 omega-9 (/100 g TFA)	F18D1N9F	g/100 g TFA	C		√	1554	54
F18D1T	Fatty acid <i>trans</i> 18:1	F18D1T	g/100 g	C		√	1481	52
F18D1TF	Fatty acid <i>trans</i> 18:1 (/100 g TFA)	F18D1TF	g/100 g TFA	C		√	1465	51
F18D1TN7	Fatty acid <i>trans</i> 18:1 omega-7	F18D1TN7	g/100 g	A		√	1126	39
F18D1TN7F	Fatty acid <i>trans</i> 18:1 omega-7 (/100 g TFA)	F18D1TN7F	g/100 g TFA	C		√	1126	39
F18D1TN9	Fatty acid <i>trans</i> 18:1 omega-9	F18D1TN9	g/100 g	A		√	1386	49
F18D1TN9F	Fatty acid <i>trans</i> 18:1 omega-9 (/100 g TFA)	F18D1TN9F	g/100 g TFA	C		√	1386	49

Component identifier	Component name	INFOODS Tagname ^a	Unit	Generation	FOODfiles™ 2024			
					Standard	Unabridged	No. foods	Percentage
F18D2	Fatty acid 18:2	F18D2	g/100 g	A		√	2167	76
F18D2C	Fatty acid <i>cis</i> 18:2	F18D2C	g/100 g	C		√	1740	61
F18D2CF	Fatty acid <i>cis</i> 18:2 (/100 g TFA)	F18D2CF	g/100 g TFA	C		√	1724	60
F18D2CN6	Fatty acid <i>cis, cis</i> 18:2 omega-6	F18D2CN6	g/100 g	A	√	√	1797	63
F18D2CN6F	Fatty acid <i>cis, cis</i> 18:2 omega-6 (/100 g TFA)	F18D2CN6F	g/100 g TFA	C		√	1781	62
F18D2CN9TN11	Fatty acid <i>cis, trans</i> 18:2 omega-9, 11		g/100 g	A	√	√	1381	48
F18D2CN9TN11F	Fatty acid <i>cis, trans</i> 18:2 omega-9, 11 (/100 g TFA)		g/100 g TFA	C		√	1381	48
F18D2F	Fatty acid 18:2 (/100 g TFA)	F18D2F	g/100 g TFA	C		√	2150	75
F18D2N6	Fatty acid 18:2 omega-6	F18D2N6	g/100 g	C		√	1893	66
F18D2N6F	Fatty acid 18:2 omega-6 (/100 g TFA)	F18D2N6F	g/100 g TFA	C		√	1876	66
F18D2T	Fatty acid <i>trans</i> 18:2	F18D2T	g/100 g	C		√	1522	53
F18D2TF	Fatty acid <i>trans</i> 18:2 (/100 g TFA)	F18D2TF	g/100 g TFA	C		√	1505	53
F18D2TN6	Fatty acid <i>trans</i> 18:2 omega-6	F18D2TN6	g/100 g	A		√	1314	46
F18D2TN6F	Fatty acid <i>trans</i> 18:2 omega-6 (/100 g TFA)	F18D2TN6F	g/100 g TFA	C		√	1298	46
F18D3	Fatty acid 18:3	F18D3	g/100 g	C		√	2011	70
F18D3C	Fatty acid <i>cis</i> 18:3	F18D3C	g/100 g	C		√	1251	44
F18D3CF	Fatty acid <i>cis</i> 18:3 (/100 g TFA)	F18D3CF	g/100 g TFA	C		√	1251	44
F18D3CN3	Fatty acid <i>cis, cis, cis</i> 18:3 omega-3	F18D3CN3	g/100 g	A		√	1267	44
F18D3CN3F	Fatty acid <i>cis, cis, cis</i> 18:3 omega-3 (/100 g TFA)	F18D3CN3F	g/100 g TFA	C		√	1267	44
F18D3CN6	Fatty acid <i>cis</i> 18:3 omega-6	F18D3CN6	g/100 g	A		√	880	31
F18D3CN6F	Fatty acid <i>cis</i> 18:3 omega-6 (/100 g TFA)	F18D3CN6F	g/100 g TFA	C		√	880	31
F18D3F	Fatty acid 18:3 (/100 g TFA)	F18D3F	g/100 g	C		√	1997	70

Component identifier	Component name	INFOODS Tagname ^a	Unit	Generation	FOODfiles™ 2024			
					Standard	Unabridged	No. foods	Percentage
F18D3N3	Fatty acid 18:3 omega-3	F18D3N3	g/100 g	C	√	√	1745	61
F18D3N3F	Fatty acid 18:3 omega-3 (/100 g TFA)	F18D3N3F	g/100 g TFA	C		√	1745	61
F18D3N6	Fatty acid 18:3 omega-6	F18D3N6	g/100 g	C		√	1475	52
F18D3N6F	Fatty acid 18:3 omega-6 (/100 g TFA)	F18D3N6F	g/100 g TFA	C		√	1459	51
F18D3TN3	Fatty acid <i>trans</i> 18:3 omega-3	F18D3TN3	g/100 g	A		√	7	0.2
F18D3TN3F	Fatty acid <i>trans</i> 18:3 omega-3 (/100 g TFA)	F18D3TN3F	g/100 g TFA	C		√	7	0.2
F18D4	Fatty acid 18:4	F18D4	g/100 g	C		√	287	10
F18D4F	Fatty acid 18:4 (/100 g TFA)	F18D4F	g/100 g TFA	C		√	287	10
F18D4N3	Fatty acid 18:4 omega-3	F18D4N3	g/100 g	A		√	230	8
F18D4N3F	Fatty acid 18:4 omega-3 (/100 g TFA)	F18D4N3F	g/100 g TFA	C		√	230	8
F19D0	Fatty acid 19:0	F19D0	g/100 g	A		√	31	1.1
F19D0F	Fatty acid 19:0 (/100 g TFA)	F19D0F	g/100 g TFA	C		√	31	1.1
F20D0	Fatty acid 20:0	F20D0	g/100 g	A		√	1809	63
F20D0F	Fatty acid 20:0 (/100 g TFA)	F20D0F	g/100 g TFA	C		√	1809	63
F20D1	Fatty acid 20:1	F20D1	g/100 g	C		√	1879	66
F20D1C	Fatty acid <i>cis</i> 20:1	F20D1C	g/100 g	C		√	892	31
F20D1CF	Fatty acid <i>cis</i> 20:1 (/100 g TFA)	F20D1CF	g/100 g TFA	C		√	892	31
F20D1CN9	Fatty acid <i>cis</i> 20:1 omega-9	F20D1CN9	g/100 g	A		√	882	31
F20D1CN9F	Fatty acid <i>cis</i> 20:1 omega-9 (/100 g TFA)	F20D1CN9F	g/100 g TFA	C		√	882	31
F20D1F	Fatty acid 20:1 (/100 g TFA)	F20D1F	g/100 g TFA	C		√	1878	66
F20D1N11	Fatty acid 20:1 omega-11	F20D1N11	g/100 g TFA	A		√	236	8.3
F20D1N11F	Fatty acid 20:1 omega-11 (/100 g TFA)	F20D1N11F	g/100 g TFA	C		√	236	8.3
F20D1N9	Fatty acid 20:1 omega-9	F20D1N9	g/100 g	C		√	1467	51
F20D1N9F	Fatty acid 20:1 omega-9 (/100 g TFA)	F20D1N9F	g/100 g TFA	C		√	1467	51

Component identifier	Component name	INFOODS Tagname ^a	Unit	Generation	Standard	FOODfiles™ 2024		
						Unabridged	No. foods	Percentage
F20D2	Fatty acid 20:2	F20D2	g/100 g	C		√	1525	53
F20D2CN6	Fatty acid <i>cis</i> , <i>cis</i> 20:2 omega-6	F20D2CN6	g/100 g	A		√	877	31
F20D2CN6F	Fatty acid <i>cis</i> , <i>cis</i> 20:2 omega-6 (/100 g TFA)	F20D2CN6F	g/100 g TFA	C		√	877	31
F20D2F	Fatty acid 20:2 (/100 g TFA)	F20D2F	g/100 g TFA	C		√	1525	53
F20D2N6	Fatty acid 20:2 omega-6	F20D2N6	g/100 g	C		√	1358	48
F20D2N6F	Fatty acid 20:2 omega-6 (/100 g TFA)	F20D2N6F	g/100 g TFA	C		√	1358	48
F20D3	Fatty acid 20:3	F20D3	g/100 g	C		√	1633	57
F20D3C	Fatty acid <i>cis</i> 20:3	F20D3C	g/100 g	C		√	886	31
F20D3CF	Fatty acid <i>cis</i> 20:3 (/100 g TFA)	F20D3CF	g/100 g TFA	C		√	886	31
F20D3CN3	Fatty acid <i>cis</i> 20:3 omega-3	F20D3CN3	g/100 g	A		√	873	31
F20D3CN3F	Fatty acid <i>cis</i> 20:3 omega-3 (/100 g TFA)	F20D3CN3F	g/100 g TFA	C		√	873	31
F20D3CN6	Fatty acid <i>cis</i> 20:3 omega-6	F20D3CN6	g/100 g	A		√	873	31
F20D3CN6F	Fatty acid <i>cis</i> 20:3 omega-6 (/100 g TFA)	F20D3CN6F	g/100 g TFA	C		√	873	31
F20D3F	Fatty acid 20:3 (/100 g TFA)	F20D3F	g/100 g	C		√	1633	57
F20D3N3	Fatty acid 20:3 omega-3	F20D3N3	g/100 g	C		√	1356	48
F20D3N3F	Fatty acid 20:3 omega-3 (/100 g TFA)	F20D3N3F	g/100 g TFA	C		√	1356	48
F20D3N6	Fatty acid 20:3 omega-6	F20D3N6	g/100 g	C		√	1452	51
F20D3N6F	Fatty acid 20:3 omega-6 (/100 g TFA)	F20D3N6F	g/100 g TFA	C		√	1452	51
F20D4	Fatty acid 20:4	F20D4	g/100 g	C		√	1712	60
F20D4CN6	Fatty acid <i>cis</i> 20:4 omega-6	F20D4CN6	g/100 g	A		√	858	30
F20D4CN6F	Fatty acid <i>cis</i> 20:4 omega-6 (/100 g TFA)	F20D4CN6F	g/100 g TFA	C		√	858	30
F20D4F	Fatty acid 20:4 (/100 g TFA)	F20D4F	g/100 g TFA	C		√	1712	60
F20D4N3	Fatty acid 20:4 omega-3	F20D4N3	g/100 g	C		√	254	8.9
F20D4N3F	Fatty acid 20:4 omega-3 (/100 g TFA)	F20D4N3F	g/100 g TFA	C		√	254	8.9

Component identifier	Component name	INFOODS Tagname ^a	Unit	Generation	Standard	FOODfiles™ 2024		
						Unabridged	No. foods	Percentage
F20D4N6	Fatty acid 20:4 omega-6	F20D4N6	g/100 g	C		√	1447	51
F20D4N6F	Fatty acid 20:4 omega-6 (/100 g TFA)	F20D4N6F	g/100 g TFA	C		√	1447	51
F20D5	Fatty acid 20:5	F20D5	g/100 g	C		√	1686	59
F20D5C	Fatty acid <i>cis</i> 20:5	F20D5C	g/100 g	C		√	888	31
F20D5CF	Fatty acid <i>cis</i> 20:5 (/100 g TFA)	F20D5CF	g/100 g TFA	C		√	888	31
F20D5CN3	Fatty acid <i>cis</i> 20:5 omega-3	F20D5CN3	g/100 g	A		√	885	31
F20D5CN3F	Fatty acid <i>cis</i> 20:5 omega-3 (/100 g TFA)	F20D5CN3F	g/100 g TFA	C		√	885	31
F20D5F	Fatty acid 20:5 (/100 g TFA)	F20D5F	g/100 g TFA	C		√	1686	59
F20D5N3	Fatty acid 20:5 omega-3	F20D5N3	g/100 g	C	√	√	1561	55
F20D5N3F	Fatty acid 20:5 omega-3 (/100 g TFA)	F20D5N3F	g/100 g TFA	C		√	1561	55
F21D0	Fatty acid 21:0	F21D0	g/100 g	C		√	1122	39
F21D0F	Fatty acid 21:0 (/100 g TFA)	F21D0F	g/100 g TFA	C		√	1122	39
F21D5	Fatty acid 21:5	F21D5	g/100 g	C		√	236	8.3
F21D5F	Fatty acid 21:5 (/100 g TFA)	F21D5F	g/100 g TFA	C		√	236	8.3
F21D5N3	Fatty acid 21:5 omega-3	F21D5N3	g/100 g	A		√	167	5.8
F21D5N3F	Fatty acid 21:5 omega-3 (/100 g TFA)	F21D5N3F	g/100 g TFA	C		√	167	5.8
F22D0	Fatty acid 22:0	F22D0	g/100 g	A		√	1599	56
F22D0F	Fatty acid 22:0 (/100 g TFA)	F22D0F	g/100 g TFA	C		√	1599	56
F22D1	Fatty acid 22:1	F22D1	g/100 g	C		√	1610	56
F22D1C	Fatty acid <i>cis</i> 22:1	F22D1C	g/100 g	C		√	877	31
F22D1CF	Fatty acid <i>cis</i> 22:1 (/100 g TFA)	F22D1CF	g/100 g TFA	C		√	877	31
F22D1CN9	Fatty acid <i>cis</i> 22:1 omega-9	F22D1CN9	g/100 g	A		√	872	31
F22D1CN9F	Fatty acid <i>cis</i> 22:1 omega-9 (/100 g TFA)	F22D1CN9F	g/100 g TFA	C		√	872	31
F22D1F	Fatty acid 22:1 (/100 g TFA)	F22D1F	g/100 g TFA	C		√	1610	56

Component identifier	Component name	INFOODS Tagname ^a	Unit	Generation	Standard	FOODfiles™ 2024		
						Unabridged	No. foods	Percentage
F22D1N11	Fatty acid 22:1 omega-11	F22D1N11	g/100 g	C		√	312	11
F22D1N11F	Fatty acid 22:1 omega-11 (/100 g TFA)	F22D1N11F	g/100 g TFA	C		√	312	11
F22D1N9	Fatty acid 22:1 omega-9	F22D1N9	g/100 g	C		√	1247	44
F22D1N9F	Fatty acid 22:1 omega-9 (/100 g TFA)	F22D1N9F	g/100 g TFA	C		√	1246	44
F22D2	Fatty acid 22:2	F22D2	g/100 g	C		√	1206	42
F22D2C	Fatty acid <i>cis</i> 22:2	F22D2C	g/100 g	C		√	822	29
F22D2CF	Fatty acid <i>cis</i> 22:2 (/100 g TFA)	F22D2CF	g/100 g TFA	C		√	822	29
F22D2CN6	Fatty acid <i>cis</i> 22:2 omega-6	F22D2CN6	g/100 g	A		√	830	29
F22D2CN6F	Fatty acid <i>cis</i> 22:2 omega-6 (/100 g TFA)	F22D2CN6F	g/100 g TFA	C		√	830	29
F22D2F	Fatty acid 22:2 (/100 g TFA)	F22D2F	g/100 g TFA	C		√	1206	42
F22D2N6	Fatty acid 22:2 omega-6	F22D2N6	g/100 g	C		√	1169	41
F22D2N6F	Fatty acid 22:2 omega-6 (/100 g TFA)	F22D2N6F	g/100 g TFA	C		√	1169	41
F22D4	Fatty acid 22:4	F22D4	g/100 g	C		√	377	13
F22D4F	Fatty acid 22:4 (/100 g TFA)	F22D4F	g/100 g TFA	C		√	377	13
F22D4N6	Fatty acid 22:4 omega-6	F22D4N6	g/100 g	C		√	206	7.2
F22D4N6F	Fatty acid 22:4 omega-6 (/100 g TFA)	F22D4N6F	g/100 g TFA	C		√	206	7.2
F22D5	Fatty acid 22:5	F22D5	g/100 g	C		√	1636	57
F22D5C	Fatty acid <i>cis</i> 22:5	F22D5C	g/100 g	C		√	886	31
F22D5CF	Fatty acid <i>cis</i> 22:5 (/100 g TFA)	F22D5CF	g/100 g TFA	C		√	886	31
F22D5CN3	Fatty acid <i>cis</i> 22:5 omega-3	F22D5CN3	g/100 g	A		√	887	31
F22D5CN3F	Fatty acid <i>cis</i> 22:5 omega-3 (/100 g TFA)	F22D5CN3F	g/100 g TFA	C		√	887	31
F22D5F	Fatty acid 22:5 (/100 g TFA)	F22D5F	g/100 g TFA	C		√	1636	57
F22D5N3	Fatty acid 22:5 omega-3	F22D5N3	g/100 g	C	√	√	1538	54
F22D5N3F	Fatty acid 22:5 omega-3 (/100 g TFA)	F22D5N3F	g/100 g TFA	C		√	1538	54

Component identifier	Component name	INFOODS Tagname ^a	Unit	Generation	Standard	FOODfiles™ 2024		
						Unabridged	No. foods	Percentage
F22D5N6	Fatty acid 22:5 omega-6	F22D5N6	g/100 g	C		√	260	9.1
F22D5N6F	Fatty acid 22:5 omega-6 (/100 g TFA)	F22D5N6F	g/100 g TFA	C		√	260	9.1
F22D6	Fatty acid 22:6	F22D6	g/100 g	C		√	1737	61
F22D6C	Fatty acid <i>cis</i> 22:6	F22D6C	g/100 g	C		√	889	31
F22D6CF	Fatty acid <i>cis</i> 22:6 (/100 g TFA)	F22D6CF	g/100 g TFA	C		√	889	31
F22D6CN3	Fatty acid <i>cis</i> 22:6 omega-3	F22D6CN3	g/100 g	A		√	881	31
F22D6CN3F	Fatty acid <i>cis</i> 22:6 omega-3 (/100 g TFA)	F22D6CN3F	g/100 g TFA	C		√	881	31
F22D6F	Fatty acid 22:6 (/100 g TFA)	F22D6F	g/100 g TFA	C		√	1737	61
F22D6N3	Fatty acid 22:6 omega-3	F22D6N3	g/100 g	C	√	√	1551	54
F22D6N3F	Fatty acid 22:6 omega-3 (/100 g TFA)	F22D6N3F	g/100 g TFA	C		√	1551	54
F23D0	Fatty acid 23:0	F23D0	g/100 g	A		√	1106	39
F23D0F	Fatty acid 23:0 (/100 g TFA)	F23D0F	g/100 g TFA	C		√	1106	39
F24D0	Fatty acid 24:0	F24D0	g/100 g	A		√	1558	55
F24D0F	Fatty acid 24:0 (/100 g TFA)	F24D0F	g/100 g TFA	C		√	1558	55
F24D1	Fatty acid 24:1	F24D1	g/100 g	C		√	1444	51
F24D1C	Fatty acid <i>cis</i> 24:1	F24D1C	g/100 g	C		√	893	31
F24D1CF	Fatty acid <i>cis</i> 24:1 (/100 g TFA)	F24D1CF	g/100 g TFA	C		√	893	31
F24D1CN9	Fatty acid <i>cis</i> 24:1 omega-9	F24D1CN9	g/100 g	A		√	883	31
F24D1CN9F	Fatty acid <i>cis</i> 24:1 omega-9 (/100 g TFA)	F24D1CN9F	g/100 g TFA	C		√	883	31
F24D1F	Fatty acid 24:1 (/100 g TFA)	F24D1F	g/100 g TFA	C		√	1444	51
F24D1N9	Fatty acid 24:1 omega-9	F24D1N9	g/100 g	C		√	889	31
F24D1N9F	Fatty acid 24:1 omega-9 (/100 g TFA)	F24D1N9F	g/100 g TFA	C		√	889	31
F4D0	Fatty acid 4:0	F4D0	g/100 g	A		√	479	17
F4D0F	Fatty acid 4:0 (/100 g TFA)	F4D0F	g/100 g TFA	C		√	479	17

Component identifier	Component name	INFOODS Tagname ^a	Unit	Generation	FOODfiles™ 2024			
					Standard	Unabridged	No. foods	Percentage
F6D0	Fatty acid 6:0	F6D0	g/100 g	A		√	1384	49
F6D0F	Fatty acid 6:0 (/100 g TFA)	F6D0F	g/100 g TFA	C		√	1384	49
F8D0	Fatty acid 8:0	F8D0	g/100 g	A		√	1593	56
F8D0F	Fatty acid 8:0 (/100 g TFA)	F8D0F	g/100 g TFA	C		√	1593	56
FACID	Fatty acids, total	FACID	g/100 g	C		√	2840	99
FALCPUN3	Fatty acids, total long chain polyunsaturated omega-3		g/100 g	C	√	√	1552	54
FALCPUN3F	Fatty acids, total long chain polyunsaturated omega-3 (/100 g TFA)		g/100 g TFA	C		√	1552	54
FAMS	Fatty acids, total monounsaturated	FAMS	g/100 g	C	√	√	2857	100
FAMSF	Fatty acids, total monounsaturated (/100 g TFA)	FAMSF	g/100 g TFA	C		√	2840	99
FAMST	Fatty acids, total monounsaturated trans	FAMST	g/100 g	C		√	1548	54
FAMSTF	Fatty acids, total monounsaturated trans (/100 g TFA)	FAMSTF	g/100 g TFA	C		√	1531	54
FAPU	Fatty acids, total polyunsaturated	FAPU	g/100 g	C	√	√	2857	100
FAPUF	Fatty acids, total polyunsaturated (/100 g TFA)	FAPUF	g/100 g TFA	C		√	2840	99
FAPUN3	Fatty acids, total polyunsaturated omega-3	FAPUN3	g/100 g	C	√	√	1721	60
FAPUN3F	Fatty acids, total polyunsaturated omega-3 (/100 g TFA)	FAPUN3F	g/100 g TFA	C		√	1721	60
FAPUN6	Fatty acids, total polyunsaturated omega-6	FAPUN6	g/100 g	C	√	√	1831	64
FAPUN6F	Fatty acids, total polyunsaturated omega-6 (/100 g TFA)	FAPUN6F	g/100 g TFA	C		√	1815	64
FAPUT	Fatty acids, total polyunsaturated trans	FAPUT	g/100 g	C		√	1563	55
FAPUTF	Fatty acids, total polyunsaturated trans (/100 g TFA)	FAPUTF	g/100 g TFA	C		√	1546	54

Component identifier	Component name	INFOODS Tagname ^a	Unit	Generation	FOODfiles™ 2024			
					Standard	Unabridged	No. foods	Percentage
FASAT	Fatty acids, total saturated	FASAT	g/100 g	C	√	√	2857	100
FASATF	Fatty acids, total saturated (/100 g TFA)	FASATF	g/100 g TFA	C		√	2840	99
FAT	Fat, total	FAT	g/100 g	A	√	√	2857	100
FATRN	Fatty acids, total trans	FATRN	g/100 g	C	√	√	1660	58
FATRNF	Fatty acids, total trans (/100 g TFA)	FATRNF	g/100 g TFA	C		√	1643	58
FD	Fluoride	FD	µg/100 g	A		√	32	1.1
FE	Iron	FE	mg/100 g	A	√	√	2857	100
FIBHMW	Fibre, high molecular weight (LC)		g/100 g	A		√	7	0.2
FIBINS	Fibre, water-insoluble	FIBINS	g/100 g	A	√	√	1989	70
FIBLMW	Fibre, low molecular weight (LC)		g/100 g	A		√	7	0.2
FIBSOL	Fibre, water-soluble	FIBSOL	g/100 g	A	√	√	1996	70
FIBTG	Fibre, total dietary	FIBTG	g/100 g	A	√	√	2855	100
FIBTLC	Fibre, total dietary (LC method)		g/100 g	A	√	√	30	1
FOL	Folate, total	FOL	µg/100 g	A	√	√	2857	100
FOLAC	Folic acid, synthetic folic acid	FOLAC	µg/100 g	A	√	√	2857	100
FOLDFE	Dietary folate equivalents	FOLDFE	µg/100 g	C	√	√	2857	100
FOLFD	Folate food, naturally occurring food folates	FOLFD	µg/100 g	C	√	√	2857	100
FRUS	Fructose	FRUS	g/100 g	A	√	√	2857	100
GALS	Galactose	GALS	g/100 g	A	√	√	482	17
GLU	Glutamic acid	GLU	mg/100 g	A	√	√	472	17
GLU_G	Glutamic acid (g)	GLU_G	g/100 g	C		√	460	16
GLUN	Glutamic acid (/g N)	GLUN	mg/g N	C		√	459	16
GLUS	Glucose	GLUS	g/100 g	A	√	√	2857	100
GLY	Glycine	GLY	mg/100 g	A		√	472	17

Component identifier	Component name	INFOODS Tagname ^a	Unit	Generation	FOODfiles™ 2024			
					Standard	Unabridged	No. foods	Percentage
GLY_G	Glycogen	GLY_G	g/100 g	C		√	460	16
GLYC	Glycogen (monosaccharide equivalents)	GLYC	g/100 g	A		√	29	1
GLYCM	Glycine (g)	GLYCM	g/100 g	C		√	29	1
GLYN	Glycine (/g N)	GLYN	mg/g N	C		√	459	16
HG	Mercury	HG	µg/100 g	A		√	400	14
HIS	Histidine	HIS	mg/100 g	A		√	470	16
HIS_G	Histidine (g)	HIS_G	g/100 g	C		√	458	16
HISN	Histidine (/g N)	HISN	mg/g N	C		√	457	16
HYP	Hydroxyproline	HYP	mg/100 g	A		√	39	1.4
HYP_G	Hydroxyproline (g)	HYP_G	g/100 g	C		√	38	1.3
HYPN	Hydroxyproline (/g N)	HYPN	mg/g N	C		√	38	1.3
ID	Iodide	ID	µg/100 g	A	√	√	2857	100
ILE	Isoleucine	ILE	mg/100 g	A		√	474	17
ILE_G	Isoleucine (g)	ILE_G	g/100 g	C		√	462	16
ILEN	Isoleucine (/g N)	ILEN	mg/g N	C		√	461	16
K	Potassium	K	mg/100 g	A	√	√	2857	100
LACAC_G	Lactic acid (g)	LACAC_G	g/100 g	A		√	46	1.6
LACS	Lactose	LACS	g/100 g	A	√	√	2857	100
LACSM	Lactose (monosaccharide equivalents)	LACSM	g/100 g	C		√	2857	100
LEU	Leucine	LEU	mg/100 g	A		√	474	17
LEU_G	Leucine (g)	LEU_G	g/100 g	C		√	463	16
LEUN	Leucine (/g N)	LEUN	mg/g N	C		√	461	16
LI	Lithium	LI	µg/100 g	A		√	335	12
LUTN	Lutein	LUTN	µg/100 g	A		√	43	1.5

Component identifier	Component name	INFOODS Tagname ^a	Unit	Generation	FOODfiles™ 2024			
					Standard	Unabridged	No. foods	Percentage
LYCPN	Lycopene	LYCPN	µg/100 g	A		√	95	3.3
LYS	Lysine	LYS	mg/100 g	A		√	478	17
LYS_G	Lysine (g)	LYS_G	g/100 g	C		√	466	16
LYSN	Lysine (/g N)	LYSN	mg/g N	C		√	465	16
MALAC_G	Malic acid (g)	MALAC_G	g/100 g	A		√	48	1.7
MALS	Maltose	MALS	g/100 g	A	√	√	2857	100
MALSM	Maltose (monosaccharide equivalents)	MALSM	g/100 g	C		√	2857	100
MALTEX	Maltodextrin		g/100 g	A		√	26	0.9
MET	Methionine	MET	mg/100 g	A		√	473	17
MET_G	Methionine (g)	MET_G	g/100 g	C		√	461	16
METN	Methionine (/g N)	METN	mg/g N	C		√	460	16
MG	Magnesium	MG	mg/100 g	A	√	√	2857	100
MN	Manganese	MN	µg/100 g	A	√	√	2857	100
MNSAC	Monosaccharides, total	MNSAC	g/100 g	C		√	2857	100
MO	Molybdenum	MO	µg/100 g	A		√	432	15
NA	Sodium	NA	mg/100 g	A	√	√	2857	100
NI	Nickel	NI	µg/100 g	A		√	419	15
NIA	Niacin, preformed	NIA	mg/100 g	A	√	√	2857	100
NIAEQ	Niacin equivalents, total	NIAEQ	mg/100 g	C	√	√	2857	100
NIATRP	Niacin equivalents from tryptophan	NIATRP	mg/100 g	C	√	√	2857	100
NT	Nitrogen, total	NT	g/100 g	N	√	√	2857	100
OA_G	Organic acids, total (g)	OA_G	g/100 g	C		√	100	3.5
OXALAC_G	Oxalic acid (g)	OXALAC_G	g/100 g	A		√	1	0
P	Phosphorus	P	mg/100 g	A	√	√	2857	100

Component identifier	Component name	INFOODS Tagname ^a	Unit	Generation	FOODfiles™ 2024			
					Standard	Unabridged	No. foods	Percentage
PANTAC	Pantothenic acid	PANTAC	mg/100 g	A		√	1364	48
PB	Lead	PB	µg/100 g	A		√	496	17
PHE	Phenylalanine	PHE	g/100 g	A		√	476	17
PHE_G	Phenylalanine (g)	PHE_G	g/100 g	C		√	465	16
PHEN	Phenylalanine (/g N)	PHEN	mg/g N	C		√	465	16
PHYSTR	Phytosterols, total	PHYSTR	g/100 g	A		√	28	1
PRO	Proline	PRO	mg/100 g	A		√	476	17
PRO_G	Proline (g)	PRO_G	g/100 g	C		√	465	16
PRON	Proline (/g N)	PRON	mg/g N	C		√	465	16
PROT	Protein, total; calculated from total nitrogen	PROT	g/100 g	C	√	√	2857	100
PROXTOT	Proximates, total		g/100 g	C		√	2857	100
PSACNS	Polysaccharides, non-starch	PSACNS	g/100 g	A		√	1706	60
PSACNSI	Polysaccharides, non-starch, water-insoluble	PSACNSI	g/100 g	A		√	1609	56
PSACNSS	Polysaccharides, non-starch, water-soluble	PSACNSS	g/100 g	C		√	1582	55
QUINAC_G	Quinic acid (g)	QUINAC_G	g/100 g	A		√	4	0.1
RB	Rubidium	RB	µg/100 g	A		√	334	12
RETOL	Retinol	RETOL	µg/100 g	A	√	√	2857	100
RIBF	Riboflavin	RIBF	mg/100 g	A	√	√	2857	100
S	Sulphur	S	µg/100 g	A		√	1203	42
SE	Selenium	SE	µg/100 g	A	√	√	2857	100
SER	Serine	SER	mg/100 g	A		√	472	17
SER_G	Serine (g)	SER_G	g/100 g	C		√	460	16
SERN	Serine (/g N)	SERN	mg/g N	C		√	460	16
SISOL	Silicon (acid soluble)	SISOL	µg/100 g	A		√	253	8.9

Component identifier	Component name	INFOODS Tagname ^a	Unit	Generation	FOODfiles™ 2024			
					Standard	Unabridged	No. foods	Percentage
SN	Tin	SN	µg/100 g	A		√	459	16
SORTL_G	Sorbitol (g)	SORTL_G	g/100 g	A		√	33	1.2
STARCH	Starch, total	STARCH	g/100 g	A	√	√	2857	100
STARCHM	Starch, total (monosaccharide equivalents)	STARCHM	g/100 g	A		√	2857	100
STARES	Starch, resistant	STARES	g/100 g	A		√	336	12
SUCAC_G	Succinic acid (g)	SUCAC_G	g/100 g	A		√	17	0.6
SUCS	Sucrose	SUCS	g/100 g	A	√	√	2857	100
SUCSM	Sucrose (monosaccharide equivalents)	SUCSM	g/100 g	C		√	2857	100
SUGAD	Sugar, added	SUGAD	g/100 g	C	√	√	2857	100
SUGAR	Sugars, total	SUGAR	g/100 g	C	√	√	2857	100
SUGARM	Sugars, total (monosaccharide equivalents)	SUGARM	g/100 g	C	√	√	2857	100
SUGFR	Sugar, free		g/100 g	C	√	√	2857	100
TAU	Taurine	TAU	mg/100 g	A		√	162	5.7
TAU_G	Taurine (g)	TAU_G	g/100 g	C		√	160	5.6
TAUN	Taurine (/g N)	TAUN	mg/g N	C		√	160	5.6
THIA	Thiamin	THIA	mg/100 g	A	√	√	2857	100
THR	Threonine	THR	mg/100 g	A		√	472	17
THR_G	Threonine (g)	THR_G	g/100 g	C		√	462	16
THRN	Threonine (/g N)	THRN	mg/g N	C		√	461	16
TOCPHA	Alpha-tocopherol	TOCPHA	mg/100 g	A	√	√	2149	75
TOCPHB	Beta-tocopherol	TOCPHB	mg/100 g	A	√	√	1149	40
TOCPHBG	Beta-tocopherol + Gamma-tocopherol		mg/100 g	A	√	√	4	0.1
TOCPHD	Delta-tocopherol	TOCPHD	mg/100 g	A	√	√	1446	51
TOCPHG	Gamma-tocopherol	TOCPHG	mg/100 g	A	√	√	1471	52

Component identifier	Component name	INFOODS Tagname ^a	Unit	Generation	FOODfiles™ 2024			
					Standard	Unabridged	No. foods	Percentage
TRP	Tryptophan	TRP	mg/100 g	A	√	√	1753	61
TRP_G	Tryptophan (g)	TRP_G	g/100 g	C		√	515	18
TRPN	Tryptophan (/g N)	TRPN	mg/g N	C		√	514	18
TYR	Tyrosine	TYR	mg/100 g	A		√	477	17
TYR_G	Tyrosine (g)	TYR_G	g/100 g	C		√	466	16
TYRN	Tyrosine (/g N)	TYRN	mg/g N	C		√	465	16
V	Vanadium	V	µg/100 g	A		√	332	12
VAL	Valine	VAL	mg/100 g	A		√	474	17
VAL_G	Valine (g)	VAL_G	g/100 g	C		√	462	16
VALN	Valine (/g N)	VALN	mg/g N	C		√	461	16
VITA	Vitamin A, retinol equivalents	VITA	µg/100 g	C	√	√	2857	100
VITA_RAE	Vitamin A, retinol activity equivalents	VITA_RAE	µg/100 g	C	√	√	2857	100
VITB12	Vitamin B12	VITB12	µg/100 g	A	√	√	2857	100
VITB6A	Vitamin B6	VITB6A	mg/100 g	A	√	√	2857	100
VITC	Vitamin C	VITC	mg/100 g	A	√	√	2857	100
VITD	Vitamin D; calculated by summation	VITD	µg/100 g	C	√	√	2857	100
VITE	Vitamin E, alpha-tocopherol equivalents	VITE	mg/100 g	C	√	√	2857	100
VITK	Vitamin K	VITK	µg/100 g	A		√	114	4
WATER	Water	WATER	g/100 g	A	√	√	2857	100
ZEAX	Zeaxanthin	ZEAX	µg/100 g	A		√	32	1.1
ZN	Zinc	ZN	mg/100 g	A	√	√	2857	100

^a Source: Klensin et al. (1989) and FAO/INFOODS (2012).

^b A = analytical; C = calculated.

Abbreviations: FSANZ = Food Standards Australia New Zealand; LC = Liquid Chromatography; N = Nitrogen; TFA = Total Fatty Acid.

B. Core Component set for Class I and Class II Food Records.

Component name	Component identifier	Generation method ^a	Component Set	
			Class I ^b	Class II ^c
Alcohol	ALC	A	√	√
Alpha-carotene	CARTA	A	√	
Alpha-tocopherol	TOCPHA	A	√	√
Ash	ASH	A	√	? ^d
Available carbohydrate by difference	CHOAVLDF	C	√	
Available carbohydrate, FSANZ	CHOAVL_FSANZ	C	√	
Available carbohydrates by weight	CHOAVL	C	√	√
Available carbohydrates in monosaccharide equivalent	CHOAVLM	C	√	
Beta-carotene	CARTB	A	√	√
Beta-carotene equivalents	CARTBEQ	C	√	
Beta-tocopherol	TOCPHB	A	√	
Beta-tocopherol + Gamma-tocopherol	TOCPHBG	A	√	
Caffeine	CAFFN	A	√	√
Calcium	CA	A	√	√
Carbohydrate by difference, FSANZ	CHOAVLDF_FSANZ	C	√	
Cholecalciferol (Vitamin D ₃)	CHOCAL	A	√	√
Cholesterol	CHOLE	A	√	√
Copper	CU	A	√	√
Delta-tocopherol	TOCPHD	A	√	
Dietary folate equivalents	FOLDFE	C	√	√
Dry matter	DM	C	√	
Energy, total metabolisable (kcal)	ENERC1_KCAL	C	√	
Energy, total metabolisable (kcal, including dietary fibre)	ENERC_FSANZ1_KCAL	C	√	√
Energy, total metabolisable (kJ)	ENERC	C	√	
Energy, total metabolisable (kJ, including dietary fibre)	ENERC_FSANZ1	C	√	√
Energy, total metabolisable, available carbohydrate, FSANZ (kcal)	ENERC1	C	√	
Energy, total metabolisable, available carbohydrate, FSANZ (kJ)	ENERC_KCAL	C	√	
Energy, total metabolisable, carbohydrate by difference, FSANZ (kcal)	ENERC_FSANZ2_KCAL	C	√	
Energy, total metabolisable, carbohydrate by difference, FSANZ (kJ)	ENERC_FSANZ2	C	√	
Ergocalciferol (Vitamin D ₂)	ERGCAL	A	√	√
Fat, total ^e	FAT	A	√	√
Fatty acid 18:3 omega-3	F18D3N3	C	√	√
Fatty acid 20:5 omega-3	F20D5N3	C	√	√
Fatty acid 22:5 omega-3	F22D5N3	C	√	√
Fatty acid 22:6 omega-3	F22D6N3	C	√	√

Component name	Component identifier	Generation method ^a	Component Set	
			Class I ^b	Class II ^c
Fatty acid <i>cis, trans</i> 18:2 omega-9, 11	F18D2CN9TN11	A	√	
Fatty acid <i>cis, cis</i> 18:2 omega-6	F18D2CN6	A	√	√
Fatty acids, total long chain polyunsaturated omega-3	FALCPUN3	C	√	√
Fatty acids, total monounsaturated	FAMS	C	√	√
Fatty acids, total polyunsaturated	FAPU	C	√	√
Fatty acids, total polyunsaturated omega-3	FAPUN3	C	√	
Fatty acids, total polyunsaturated omega-6	FAPUN6	C	√	
Fatty acids, total saturated	FASAT	C	√	√
Fatty acids, total trans	FATRAN	C	√	√
Fibre, total dietary	FIBTG	A	√	√
Fibre, total dietary (LC method)	FIBTLC	A	√	
Fibre, water-insoluble	FIBINS	A	√	
Fibre, water-soluble	FIBSOL	A	√	
Folate food, naturally occurring food folates	FOLFD	C	√	√
Folate, total	FOL	A	√	√
Folic acid, synthetic folic acid	FOLAC	A	√	√
Fructose	FRUS	A	√	√
Galactose	GALS	A	√	
Gamma-tocopherol	TOCPHG	A	√	
Glucose	GLUS	A	√	√
Glutamic acid	GLU	A	√	
Iodide	ID	A	√	√
Iron	FE	A	√	√
Lactose	LACS	A	√	√
Magnesium	MG	A	√	√
Maltose	MALS	A	√	√
Manganese	MN	A	√	√
Niacin equivalents from tryptophan	NIATRP	C	√	
Niacin equivalents, total	NIAEQ	C	√	√
Niacin, preformed	NIA	A	√	√
Nitrogen, total	NT	N	√	? ^f
Phosphorus	P	A	√	√
Potassium	K	A	√	√
Protein, total; calculated from total nitrogen	PROT	C	√	√
Retinol	RETOL	A	√	√
Riboflavin	RIBF	A	√	√
Selenium	SE	A	√	√
Sodium	NA	A	√	√
Starch, total	STARCH	A	√	√
Sucrose	SUCS	A	√	√

Component name	Component identifier	Generation method ^a	Component Set	
			Class I ^b	Class II ^c
Sugar, added	SUGAD	C	√	√
Sugar, free	SUGFR	C	√	√
Sugars, total	SUGAR	C	√	√
Sugars, total (monosaccharide equivalents)	SUGARM	C	√	
Thiamin	THIA	A	√	√
Total carbohydrate by difference	CHOCDF	C	√	
Total carbohydrates by summation	CHOCSM	C	√	√
Tryptophan	TRP	A	√	
Vitamin A, retinol activity equivalents	VITA_RAE	C	√	
Vitamin A, retinol equivalents	VITA	C	√	√
Vitamin B ₁₂	VITB12	A	√	√
Vitamin B ₆	VITB6A	A	√	√
Vitamin C	VITC	A	√	√
Vitamin D; calculated by summation	VITD	C	√	√
Vitamin E, alpha-tocopherol equivalents	VITE	C	√	√
Water	WATER	A	√	√
Zinc	ZN	A	√	√

^a Analysed (A) or calculated from analytical data (C).

^b This is the same as the current FOODfiles Core Component set.

^c This is from the component set used for the development of the Intake24 survey tool.

^d Marked on current survey list but may not necessarily be needed depending on situation.

^e Note individual fatty acids are also analysed as they are needed to generate Core Components (e.g. total saturated fatty acids) but most are not reported as Core Components in current products (e.g. Standard FOODfiles) and the profile of individual components varies between foods.

^f Needed to calculate protein so will depend on source of data if needed or not.

Appendix 2. New or updated Food Records appearing in the 2026 release

A. List of Class I Food Records included in the 2026 online release that are derived from New Zealand analytical data (Class I). Includes the status, i.e. if new or replacement (the FoodID of the old Food Record being replaced is recorded).

FoodID	Food Name	Status
A10002	Pikelet or pancake, commercial, composite	New
A10003	Bread, with fruit, sliced, as purchased, composite	New
A10004	Bread, with fruit, sliced, toasted, composite	New
C10047	Water, assorted flavours, sugar-sweetened, bottled, composite, vitamins B3, B5, B6, B12, C, D, E and folate, composite, Glacéau Vitaminwater®	New
C10053	Water, flavoured, fortified Fe, vitamins B3, B5, B6, B12, C, D, E and folate, Glacéau Vitaminwater®, Power Dragonfruit flavour	New
C10054	Water, flavoured, fortified Se, vitamins B3, B5, B6, B12, C, D, E and folate, Glacéau Vitaminwater®, Antioxidant Mixed Berry flavour	New
C10055	Water, flavoured, fortified Mg, vitamins B3, B5, B6, B12, C, D, E and folate, Glacéau Vitaminwater®, Revive Peach Pineapple flavour	New
C10056	Water, flavoured, fortified I, vitamins B3, B5, B6, B12, C, D, E and folate, Glacéau Vitaminwater®, Defence Lemonade flavour	New
C10048	Water, assorted flavours, sweetened with sugar and intense sweetener, bottled, composite	New
C10049	Water, carbonated or sparkling, assorted fruit flavours, unsweetened, composite	New
C10050	Water, carbonated or sparkling, assorted fruit flavours, sweetened with intense sweetener, composite	New
C10051	Water, carbonated or sparkling, original, unsweetened, composite	New
C10052	Water, carbonated or sparkling, citrus flavoured, sweetened, Pams	New
D10007	Breakfast cereal, cornflakes, original, fortified, composite	New
D10008	Breakfast cereal, cornflakes, gluten free, fortified, composite	New
D10009	Breakfast cereal, puffed rice, original, fortified, composite	New
D10010	Breakfast cereal, puffed rice, gluten free, composite	New
D10011	Breakfast cereal, puffed rice, chocolate coated, fortified, composite	New
D10012	Breakfast cereal, puffed rice, chocolate coated, gluten free, fortified, composite	New
D10013	Breakfast cereal, mixed whole grain, chocolate coated, fortified, composite	New
D10014	Breakfast cereal, mixed grain, chocolate coated, fortified, composite	New
E10022	Flour, from corn starch or maize cornflour, composite	E9
E10023	Flour, wheaten cornflour, from wheat starch 100%, composite	New
F10059	Cheese, mozzarella, from cow's milk, in brine, soft, fresh, high moisture, composite	New
F10060	Cheese, mozzarella, from cow's milk, semi-soft, low moisture, block, grated or sliced, composite	F17
F10061	Cheese, Brie, traditional or single cream, from cow's milk, soft, composite	New
F10062	Cheese, Brie, double cream, from cow's milk, soft, composite	F99
F10063	Cheese, Camembert, classic or single cream, from cow's milk, soft, composite	F5
F10064	Cheese, Camembert, double cream, from cow's milk, soft, composite	New
F10065	Cheese, haloumi, from cow's milk, firm, pan-fried without oil	New
F10066	Cheese, haloumi, from cow's milk, soft, pan-fried with olive oil	New
F10067	Probiotic drink, regular, Yakult®	New

FoodID	Food Name	Status
F10068	Probiotic drink, regular, assorted flavours, fortified, composite	New
F10069	Probiotic drink, regular, assorted flavours or original, fortified, composite	New
F10070	Probiotic drink, lite, Yakult®	New
F10071	Yoghurt, plain, Kefir, from cow's milk, unsweetened, composite	New
F10072	Yoghurt, assorted fruit & vanilla flavoured, Kefir, from cow's milk, sweetened, composite	New
F10073	Milk, cow, trim, fluid, fresh, high protein, Protein+, Anchor®, fortified	New
H10023	Pizza, cheese, purchased frozen, baked, composite	New
H10024	Pizza, Hawaiian, purchased frozen, baked, composite	H177, H178, H179
H10025	Pizza, meat, purchased frozen, baked, composite	New
H10026	Pizza, meat and vegetable, purchased frozen, baked, composite	New
H10027	Pizza, vegetarian, purchased frozen, baked, composite	New
H10028	Pizza, chicken, purchased frozen, baked, composite	New
J10003	Oil, avocado, composite	J60
K10007	Salmon, canned in oil, drained, composite	New
K10008	Salmon, canned in oil, various flavours, drained, composite	New
N10001	Deli meat, ham (above 75%), sliced or shaved, wet cured, ready-to-eat, composite	N66
N10002	Deli meat, pastrami, from assorted beef cuts, cured, ready-to-eat, composite	N31
N10003	Deli meat, ham (50% meat), sliced or shaved, wet-cured, ready-to-eat, composite	N65
P10019	Cheese, mozzarella, dairy-free, from modified starch and coconut oil, block, grated or sliced, composite	New
P10020	Spread, yeast extract, Marmite™, Sanitarium™, fortified vitamins B1, B2, B3, B12 & folate, & Fe	P1004
Q10010	Cacao, powder, composite	New
Q10011	Cacao, nibs, composite	New
R10637	Dip, guacamole, classic, homemade	New
S10006	Hummus, original, from chickpea (50%), fat (30%), composite	New
S10007	Hummus, original, from chickpea (70%), reduced fat (15%), composite	S73
S10008	Yeast, nutritional, inactive form, dried, flaked, granulated or powdered, composite, unfortified	New
S10009	Yeast, nutritional, inactive form, dried, flaked, granulated or powdered, composite, fortified vitamins B1, B2, B3, B6, B12 and folic acid	New
S10010	Yeast, nutritional, inactive form, dried, flaked, granulated or powdered, composite	New
S10011	Dressing or spread, mayonnaise, regular fat, commercial, composite	New
S10012	Dressing or spread, mayonnaise, reduced fat, commercial, composite	S45, S65
S10013	Dressing or spread, mayonnaise, low fat, commercial, composite	New
V10003	Soup, tomato, instant dry mix, composite	V17
V10004	Soup, tomato, original, condensed, canned, composite	V13
V10005	Soup, tomato, reduced salt, condensed, canned, composite	New
V10006	Soup, tomato with assorted vegetables and flavours, refrigerated, ready-to-heat, composite	New
V10007	Soup, tomato, condensed, original and reduced salt, canned, composite	New
V10008	Soup, tomato, instant dry mix, prepared with water	V67
V10009	Soup, tomato, condensed, canned, prepared with water	V14
V10010	Soup, tomato, reduced salt, condensed, canned, prepared with water	New

FoodID	Food Name	Status
V10011	Soup, tomato with assorted vegetables and flavours, refrigerated, heated	New
V10012	Soup, tomato, condensed, original and reduced salt, canned, composite, prepared with water	New
W10005	Sugar, from coconut sap, composite	New
W10006	Sugar, palm, composite	New
W10007	Syrup, maple flavoured, regular sugar, composite	New
W10008	Syrup, maple flavoured, reduced sugar, Pams	New
W10009	Syrup, maple flavoured, sweetened with intense sweetener, composite	New
W10010	Syrup, maple, pure, composite	S39
X10062	Courgette, green, unpeeled, stir fried with oil, composite	New
X10063	Capsicum, red, raw, composite	New
X10064	Capsicum, red, stir fried with olive oil, composite	New
X10065	Capsicum, green, stir fried with olive oil, composite	New
X10066	Capsicum, yellow, stir fried with olive oil, composite	New
X10067	Kumara, fries, commercial, frozen, composite	New
X10068	Kumara, fries, commercial, baked, composite	New
X10069	Kumara, wedges, commercial, frozen, composite	New
X10070	Kumara, wedges, commercial, baked, composite	New
Z10001	Infant rice cereal, powder, fortified, composite	New
Z10002	Infant rice cereal, powder, fortified, prepared with water, composite	New
Z10003	Infant mixed grain cereal mix, powder, fortified, Farex®	New
Z10004	Infant mixed grain cereal mix, powder, fortified, prepared with water, Farex®	New

B. List of Class II Food Records included in the 2026 online release that are derived from the Intake24 food list. These are all new entries and don't replace any existing Food Records.

FoodID	NZNSID ^a	Food Name	Derivation method
C10041	NZNS179	Sorbet or gelato, non-dairy, fruit flavoured	Borrowed
C10042	NZNS190	Ice confection, stick or tub, fruit juice or fruit flavoured	Borrowed
C10043	NZNS389	Nutritional beverage, liquid breakfast, choc ice flavour, no added sugar, ready to drink, Up&Go™, Sanitarium™, fortified Ca and vitamins A, B1, B2, B3, B6, B12, B6 & C	Borrowed
C10044	NZNS390	Nutritional beverage, liquid breakfast, vanilla ice flavour, no added sugar, ready to drink, Up&Go™, Sanitarium™, fortified Ca and vitamins A, B1, B2, B3, B6, B12, B6, C & folate	Borrowed
C10045	NZNS385	Nutritional beverage, liquid breakfast, dairy-free, choc ice flavour, ready to drink, Up&Go™, Sanitarium™, fortified Ca and vitamins A, B1, B2, B3, B6, B12, B6 & C	Borrowed
C10046	NZNS386	Nutritional beverage, liquid breakfast, dairy-free, vanilla ice flavour, ready to drink, Up&Go™, Sanitarium™, fortified Ca and vitamins A, B1, B2, B3, B6, B12, B6, C & folate	Borrowed
E10018		Flour, from roasted, black gram dhal, hulled	Borrowed
E10019	NZNS1079	Noodle, konjac, made from corm of konjac flour with water and calcium hydroxide	Borrowed
E10020	NZNS1044	Rice, flavoured, instant, microwavable	Borrowed
E10021	NZNS1073	Cooked lentil/pulse pasta, e.g. penne, spirals, spaghetti	Borrowed
F10056	NZNS114	Cheese, Mascarpone	Borrowed
F10057	NZNS177	Gelato, milk-based, chocolate or coffee flavoured, regular fat	Borrowed
K10005		Pate, tuna	Recipe
Q10008	NZNS1985	Nut, almond butter, plain, no salt added	Borrowed
Q10009	NZNS1984	Nut, almond butter, plain, salt added	Borrowed
R10041		Spread composite (margarine, butter and dairy blend)	Composite
R10042		Deep-frying fat composite	Composite
R10043		Fat composite for bake, roast, shallow-fry	Composite
R10044		Baking fat composite	Composite
R10045		Salt composite	Composite
R10046		Milk composite	Composite
R10047	NZNS12	Almond milk with added calcium e.g. Macro, Pure Harvest, Pams, Vitasoy	Composite
R10048	NZNS14	Almond milk, unfortified, not further defined	Composite
R10049	NZNS13	Almond milk with added vitamins and minerals e.g. Sanitarium So Good	Composite
R10050	NZNS23	Coconut milk, not further defined	Composite
R10051	NZNS29	Oat milk, not further defined	Composite
R10052	NZNS30	Rice milk with added calcium e.g. Vitasoy, Macro	Composite
R10053	NZNS36	Regular fat soy milk, not further defined	Composite
R10054	NZNS40	Flavoured milk, cows (chocolate / strawberry / banana) e.g. Primo, Anchor Calci-Yum, Meadow Fresh Calci Strong	Composite
R10055	NZNS165	Plain ice cream e.g. vanilla, chocolate, neapolitan	Composite
R10056	NZNS167	Ice cream, with syrup and/or bits e.g. cookies & cream, hokey pokey, caramel ripple	Composite
R10057	NZNS173	Sundae, fast food outlet (soft serve ice cream and topping)	Composite
R10058	NZNS198	Beer	Composite

FoodID	NZNSID ^a	Food Name	Derivation method
R10059	NZNS175	Soft serve ice cream, with cone, fast food style e.g. McDonalds soft serve	Recipe
R10060	NZNS213	Premixed drink, spirit and cola soft drink e.g. Jim Beam Bourbon & Cola, Jack Daniels Whiskey & Cola	Composite
R10061	NZNS214	Premixed drink, spirit and non-cola soft drink e.g. Canadian Club Dry	Composite
R10062	NZNS230	Non-cream liqueur e.g. Pimms, Limoncello, Cointreau, Midori	Composite
R10063	NZNS231	Spirits e.g. whisky/scotch, gin, brandy, rum, vodka, bacardi, malibu, ouzo, tequila	Composite
R10064	NZNS238	White wine e.g. pinot gris, sauvignon blanc, chardonnay, riesling	Composite
R10065	NZNS239	Red wine e.g. shiraz, pinot noir, merlot, cabernet sauvignon	Composite
R10066	NZNS253	Sherry	Composite
R10067	NZNS255	Coffee, flat white/cappuccino/latte, single shot, with trim milk	Composite
R10068	NZNS256	Coffee, flat white/cappuccino/latte, single shot, with cow's milk	Composite
R10069	NZNS261	Coffee, flat white/cappuccino/latte, double shot, with trim milk	Composite
R10070	NZNS262	Coffee, flat white/cappuccino/latte, double shot, with cow's milk	Composite
R10071	NZNS267	Coffee, mocha, with cow's milk	Recipe
R10072	NZNS271	Coffee, long black, double shot	Composite
R10073	NZNS327	Fruit juice drink, all flavours e.g. orange and mango fruit drink	Composite
R10074	NZNS336	Fruit juice e.g. apple juice, pineapple juice, orange and mango juice	Composite
R10075	NZNS407	Soft drink, fruit flavoured e.g. sprite, lemonade, fanta, sunkist, passionfruit, solo	Composite
R10076	NZNS411	Kombucha	Composite
R10080	NZNS537	Mixed berries, frozen	Composite
R10081	NZNS583	Asparagus, boiled/microwaved or steamed	Composite
R10082	NZNS594	Carrot, baked/fried/grilled or BBQ'd with oil/fat	Composite
R10083	NZNS595	Carrot, boiled/steamed/microwaved	Composite
R10084	NZNS608	Bean, green or runner, boiled/microwaved or steamed	Composite
R10085	NZNS621	Edamame beans, cooked	Composite
R10086	NZNS634	Silverbeet, cooked	Composite
R10087	NZNS646	Broccoli boiled/steamed/microwaved	Composite
R10088	NZNS647	Frozen broccoli, cooked	Composite
R10089	NZNS650	Broccoflower, cooked	Composite
R10090	NZNS655	Cauliflower, frozen, cooked	Composite
R10091	NZNS671	Red cabbage, cooked	Composite
R10092	NZNS672	White/green cabbage, cooked	Composite
R10093	NZNS673	Savoy cabbage, cooked	Composite
R10094	NZNS676	Brussel sprout, boiled/microwaved or steamed	Composite
R10095	NZNS678	Pickled cabbage/sauerkraut	Composite

FoodID	NZNSID ^a	Food Name	Derivation method
R10098	NZNS693	Eggplant, baked/fried/grilled or BBQ'd, with oil/fat	Composite
R10099	NZNS694	Eggplant, boiled/steamed or microwaved	Composite
R10106	NZNS810	Potato chips/fries, homemade, baked/airfried	Composite
R10107	NZNS812	Potato chips/fries, purchased frozen, baked/airfried	Composite
R10108	NZNS814	Potato chips/fries, from fast food outlet e.g. McDonalds, KFC	Composite
R10109	NZNS815	Potato chips/fries, from takeaway/restaurant	Composite
R10110	NZNS816	Potato wedges, purchased frozen, baked at home	Composite
R10112	NZNS871	Pizza base, commercial	Composite
R10114	NZNS875	Garlic and herb bread	Composite
R10115	NZNS1008	Toasted muesli with dried fruit e.g. Hubbards fruitful breakfast, Sanitarium toasted golden oats and fruit	Composite
R10116	NZNS933	Wrap, tortilla or flat bread	Composite
R10117	NZNS1014	Porridge/oats, made with milk	Composite
R10118	NZNS1025	Porridge/oats, quick sachets, assorted flavours, made with milk	Composite
R10119	NZNS1026	Porridge/oats, quick sachets, assorted flavours, made with water	Composite
R10120	NZNS1056	Rolled oats, uncooked	Composite
R10121	NZNS1074	Pasta filled with meat e.g. beef tortellini/ravioli	Composite
R10124	NZNS1605	Tuna, canned in water/brine, undrained	Composite
R10125	NZNS1606	Tuna, canned in water/brine, drained	Composite
R10138	NZNS1664	Fish fingers, frozen, cooked at home	Composite
R10139	NZNS1666	Fish patty or cake, cooked	Composite
R10141	NZNS1684	Mussels, marinated	Composite
R10142	NZNS1685	Mussels, smoked	Composite
R10143	NZNS1705	Corned beef, canned	Composite
R10144	NZNS1711	Bacon, middle rasher, trimmed, cooked	Composite
R10145	NZNS1712	Bacon, middle rasher, untrimmed, cooked	Composite
R10146	NZNS1717	Ham, off the bone	Composite
R10160	NZNS1791	Lamb, fillet or steak, cooked	Composite
R10167	NZNS1813	Heart (beef, chicken, lamb)	Composite
R10168	NZNS1814	Kidney (beef, lamb)	Composite
R10169	NZNS1816	Tongue (beef, lambs, ox, pork)	Composite
R10174	NZNS1861	Venison, meat, cooked	Composite
R10175	NZNS1866	Beef sausage, cooked	Composite
R10176	NZNS1867	Lamb sausage, cooked	Composite
R10177	NZNS1868	Pork sausage, cooked	Composite
R10178	NZNS1869	Chicken sausage, cooked	Composite
R10179	NZNS1870	Sausage, cooked	Composite
R10182	NZNS1938	Split peas	Composite
R10183	NZNS1939	Almonds, unsalted	Composite
R10184	NZNS1940	Almonds, salted	Composite
R10185	NZNS1952	Macadamia nuts, unsalted	Composite

FoodID	NZNSID ^a	Food Name	Derivation method
R10186	NZNS1955	Peanuts, unsalted	Composite
R10187	NZNS1956	Peanuts, salted	Composite
R10188	NZNS1998	Cookie, other flavours (not chocolate)	Composite
R10189	NZNS2037	Chocolate chip cookie	Composite
R10190	NZNS2050	Plain cracker, low fat e.g. Salada 97% fat free, Reduced Fat Cream Crackers	Composite
R10191	NZNS2038	Wheatmeal biscuit, half coated with chocolate e.g. Chocolate Digestives, Chocolate Wheatens	Composite
R10192	NZNS2112	Chocolate, milk & white e.g. Marble, Top deck	Composite
R10193	NZNS2114	Dark chocolate	Composite
R10194	NZNS2115	Dark chocolate, 60%+ cocoa e.g. Lindt, Whittaker's Dark Ghana, Old Gold	Composite
R10195	NZNS2118	Easter egg/rabbit, dark chocolate	Composite
R10196	NZNS2177	Lolly, mint e.g. Mentos, Fisherman's friend, Minties	Composite
R10197	NZNS2217	Nut bar, peanut & chocolate	Composite
R10198	NZNS2234	Chocolate cake, iced	Composite
R10199	NZNS2241	Fruit cake, uniced	Composite
R10200	NZNS2283	Iced doughnut	Composite
R10201	NZNS2291	Fruit muffin with chocolate chips	Composite
R10202	NZNS2434	Italian or French dressing	Composite
R10203	NZNS2436	Creamy dressing e.g. Thousand Island, Ranch, Caesar, Coleslaw, Potato, Salad cream	Composite
R10206	NZNS2462	Hummus	Composite
R10207	NZNS2470	Sour cream based dips e.g. sour cream and chives	Composite
R10208	NZNS2475	Pate (other than chicken liver)	Composite
R10209	NZNS2482	Honey	Composite
R10210	NZNS2503	Jam, made from berries e.g. raspberry, strawberry or blackberry	Composite
R10211	NZNS2504	Jam, made from stone fruit e.g. apricot or plum	Composite
R10212	NZNS2513	Lemon curd or butter	Composite
R10213	NZNS2522	Topping, all non-chocolate flavours	Composite
R10214	NZNS2540	Butter, not further defined	Composite
R10215	NZNS2558	Margarine, not further defined	Composite
R10216	NZNS2559	Oil, not further defined	Composite
R10217	NZNS2584	Pepper (black or white)	Composite
R10218	NZNS2589	Mixed fresh herbs	Composite
R10219	NZNS2599	Dried herbs, all types e.g. basil, oregano, parsley, rosemary, sage, thyme	Composite
R10220	NZNS2604	Dried spices e.g. cardamom, cinnamon, cumin, cloves, ginger, nutmeg, turmeric, fennel	Composite
R10221	NZNS2620	Rice flour	Composite
R10222	NZNS2623	Spelt flour	Composite
R10223	NZNS1269	Mince/steak pie	Composite
R10224	NZNS1270	Mince/steak pie, with cheese	Composite
R10225	NZNS1283	Spring roll, deep fried	Composite

FoodID	NZNSID ^a	Food Name	Derivation method
R10231	NZNS314	Blackcurrant cordial (diluted)	Composite
R10232	NZNS315	Fruit flavoured cordial e.g. lemon, orange, lime, raspberry, fruit crush (diluted)	Composite
R10233	NZNS317	Lite/reduced sugar cordial, all flavours (diluted)	Composite
R10234		Rice, cooked for making sushi, sugar and salt added, with seaweed	Composite ingredient for recipe
R10235	NZNS1296	Sushi, tuna & vegetables, with seaweed	Recipe
R10236	NZNS1295	Sushi, salmon & avocado, with seaweed	Recipe
R10237	NZNS1297	Sushi, vegetables & avocado, with seaweed	Recipe
R10238	NZNS1298	Sushi, California roll, crab meat, vegetables & avocado, with seaweed	Recipe
R10239	NZNS1299	Sushi, chicken, vegetable & avocado, with seaweed	Recipe
R10240	NZNS1301	Sushi, prawn, vegetable & avocado, with seaweed	Recipe
R10241	NZNS2358	Stock, dry cube/powder	Recipe (Simple)
R10242	NZNS2359	Stock, dry cube/powder, salt reduced	Recipe (Simple)
R10243	NZNS2360	Stock, any flavour, made up with water	Recipe (Simple)
R10244	NZNS2361	Stock, any flavour, made up with water, salt reduced	Recipe (Simple)
R10245	NZNS2362	Stock, liquid	Recipe (Simple)
R10246	NZNS2363	Stock, liquid, salt reduced	Recipe (Simple)
R10247	NZNS2364	Stock, homemade	Recipe (Simple)
R10248	NZNS1194	Taco, hard-shell, beef & bean, with cheese, avocado, salad & salsa	Recipe
R10249	NZNS1195	Taco, hard-shell, chicken with cheese, salad, avocado & salsa	Recipe
R10250	NZNS1196	Taco, hard-shell, bean with cheese, salad, avocado & salsa	Recipe
R10251	NZNS1197	Taco, soft shell, fish with salad, avocado & salsa	Recipe
R10252	NZNS1199	Taco, soft shell, beef & bean, with cheese, salad, avocado & salsa	Recipe
R10253	NZNS1198	Taco, softshell, chicken with cheese, salad, avocado & salsa	Recipe
R10254	NZNS1200	Taco, soft shell, bean with cheese, salad, avocado & salsa	Recipe
R10255	NZNS1192	Nachos, corn chips, meat & beans with cheese, salad, avocado & salsa	Recipe
R10256	NZNS1193	Nachos, corn chips, beans with cheese, salad, avocado & salsa	Recipe
R10257	NZNS1201	Mexican wrap, bean, with cheese, salad, avocado & salsa	Recipe
R10258	NZNS1202	Mexican wrap, beef & bean, with cheese, salad, avocado & salsa	Recipe
R10259	NZNS1203	Mexican wrap, chicken & bean, with cheese, salad, avocado & salsa	Recipe
R10260	NZNS1205	Mexican wrap, fish, with cheese, salad, avocado & salsa	Recipe
R10261	NZNS1447	Soup- French onion	Recipe
R10262	NZNS1458	Soup, chicken, vegetable & noodle, prepared with stock, homemade	Recipe
R10263		Stock, liquid, not further defined	Composite
R10264	NZNS1450	Soup, Minestrone, vegetables & legume, prepared with stock, homemade	Recipe

FoodID	NZNSID ^a	Food Name	Derivation method
R10268	NZNS1448	Soup, Gazpacho	Recipe
R10270		Vegetables as ingredient in tomato base curry	Composite ingredient for recipe
R10271		Yoghurt, plain, unsweetened, not further defined	Composite
R10272		Capsicum or pepper, red, orange or yellow, pan-fried with oil, no salt added	Composite
R10276	NZNS1393	Fish curry, homemade, tomato based sauce e.g. rogan josh, madras	Recipe
R10278	NZNS1409	Vegetable curry, homemade, tomato based sauce e.g. rogan josh, madras	Recipe
R10279	NZNS1397	Fish & rice curry, tomato based sauce, homemade, e.g. biriyani	Composite
R10280	NZNS695	Tomato, fresh, cooked, no added fat	ANS recipe, loss/gain
R10281		Potato, flesh & skin, boiled, drained, no salt added, floury potatoes for baking, frying and mashing	Composite
R10282	NZNS1402	Potato and pea curry (aloo muttar)	Recipe
R10283		Vegetables as ingredient in coconut cream base curry	Composite ingredient for recipe
R10286	NZNS1392	Fish curry, homemade, coconut based sauce e.g. green curry, red curry, yellow curry	Recipe
R10289		Vegetables as ingredient in dairy cream base curry	Composite ingredient for recipe
R10291	NZNS1371	Lamb curry, homemade, dairy based sauce e.g. tikka masala, korma	Recipe
R10292	NZNS1408	Vegetable curry, homemade, dairy based sauce e.g. tikka masala, korma	Recipe
R10293		Vegetables as ingredient in non-dairy base curry	Composite ingredient for recipe
R10295	NZNS1401	Chickpea/legume curry, homemade	Recipe
R10296	NZNS1403	Paneer & vegetables curry, non-dairy based, homemade	Recipe
R10297	NZNS1411	Tofu & vegetables curry, non-dairy based mixed sauces, homemade	Recipe
R10299	NZNS355	Juice, tomato, not further defined	Composite
R10301	NZNS164	Dairy food, all flavours e.g. Calci-Yum, Yoplait Vigueur	Composite
R10302	NZNS126	Flavoured yoghurt (vanilla, berry, honey), regular fat	Composite
R10303	NZNS1083	Noodle, wheat based, shelf-fresh, cooked, Asian style	Recipe
R10304	NZNS1407	Vegetable curry, homemade, coconut based sauce e.g. green curry, red curry, yellow curry, panang curry	Recipe
R10305	NZNS1332	Steamed bun, savoury, plain, cooked	Composite
R10306		Pastry, dumpling wrapper, not further defined	Recipe
R10307	NZNS1312	Steamed bun (Bao bun), savoury, with pork	Recipe
R10309	NZNS1313	Steamed bun (Bao bun), savoury, with crumbed fish, cooked	Recipe
R10310	NZNS1314	Steamed bun (Bao bun), savoury, with vegetables, cooked	Recipe
R10311	NZNS2468	Smoked fish dip	Recipe
R10312	NZNS1495	Ceviche, raw fish salad	Recipe
R10313	NZNS1507	Courgette or zucchini slice, without bacon, baked	Recipe
R10314	NZNS1508	Courgette or zucchini slice, with bacon/ham, baked	Recipe
R10315		Soup mix (lentils/split peas/barlely)	Composite ingredient for recipe
R10316	NZNS2629	Greek salad, homemade	Recipe
R10317	NZNS1482	Chicken Caesar Salad	Recipe

FoodID	NZNSID ^a	Food Name	Derivation method
R10318	NZNS1483	Coleslaw, with dressing, homemade	Recipe
R10319	NZNS2633	Garden salad	Recipe
R10320	NZNS1234	Pasta with pesto & cheese, homemade	Recipe
R10321	NZNS1235	Pasta with pesto, bacon or processed meat & cheese, homemade	Recipe
R10322	NZNS1236	Pasta with pesto, chicken and cheese, homemade	Recipe
R10323	NZNS1237	Pasta with pesto, vegetables & cheese, homemade	Recipe
R10324	NZNS2429	Bolognese sauce (with beef mince) with store brought tomato sauce	Recipe
R10325	NZNS2431	Bolognese sauce (with vegetables, no meat), tomato based	Recipe
R10327	NZNS333	Flavoured drink, Vitafresh, prepared from dry powder with water, ready to drink	Composite
R10328	NZNS331	Flavoured drink, Raro, prepared from dry powder with water, ready to drink	Composite
R10329	NZNS645	Broccoli, fresh or frozen, baked, roasted, fried, stir-fried, grilled or BBQ'd, no added fat	ANS recipe, loss/gain
R10330	NZNS652	Cauliflower, fresh or frozen, baked, roasted, fried, stir-fried, grilled or BBQ'd, no added fat	ANS recipe, loss/gain
R10331	NZNS675	Brussel, baked, roasted, fried, stir-fried, grilled or BBQ'd, no added fat	ANS recipe, loss/gain
R10332	NZNS688	Capsicum, baked, roasted, fried, stir-fried, grilled or BBQ'd, no added fat	ANS recipe, loss/gain
R10333	NZNS720	Courgette, baked, roasted, fried, stir-fried, grilled or BBQ'd, no added fat	ANS recipe, loss/gain
R10334	NZNS1672	Squid or calamari, cooked, no added fat	ANS recipe, loss/gain
R10335	NZNS722	Courgette, boiled, microwaved or steamed, drained	ANS recipe, loss/gain
R10336	NZNS1677	Scallop, cooked, no added fat	ANS recipe, loss/gain
R10339	NZNS1460	Soup, ham or bacon with vegetables, prepared with stock, homemade	Recipe
R10340	NZNS1399	Mixed dish, lentil or pulse curry, tomato based sauce, homemade	Recipe
R10341	NZNS1041	Rice, white, instant, microwavable, commercial	Borrowed
R10342	NZNS1042	Instant microwavable brown rice	Recipe (simple)
R10343	NZNS1328	Vegetable dim sim (Chinese dumplings), steamed	Recipe
R10344	NZNS1333	Steamed bun, pork	Recipe
R10345	NZNS1300	Sushi, inari	Recipe
R10349	NZNS1468	Hot and sour soup	Recipe
R10350	NZNS1473	Wonton soup	Recipe
R10352	NZNS1311	Steamed bun (Bao bun), savoury, with crumbed chicken, cooked	Recipe
R10353	NZNS1315	Bao bun, tofu	Recipe
R10354	NZNS2528	Icing, chocolate ganache	Recipe
R10355	NZNS1747	Beef, mince, standard, 10–20% fat, cooked with oil	ANS recipe, loss/gain
R10356	NZNS1748	Beef, mince, prime, 5–10% fat, cooked with oil	ANS recipe, loss/gain
R10358	NZNS2457	Babaganoush/baba ganoush/eggplant dip	Recipe
R10359	NZNS306	Bubble tea, pearl milk tea, boba	Recipe
R10360		Rice paper wrapper, soaked in water	Recipe

FoodID	NZNSID ^a	Food Name	Derivation method
R10361	NZNS1329	Rice paper roll, chicken and vegetable (Vietnamese spring roll)	Recipe
R10362	NZNS1330	Rice paper roll, prawn and vegetable (Vietnamese spring roll)	Recipe
R10363	NZNS1331	Rice paper roll, vegetable (Vietnamese spring roll)	Recipe
R10364	NZNS43	Milo breakfast drink (Milo 2 go)	ANS recipe
R10365	NZNS131	Drinking yoghurt	ANS recipe
R10366	NZNS149	Whipped cream, homemade	ANS recipe
R10367	NZNS152	Mock cream	ANS recipe
R10368	NZNS158	Trifle	ANS recipe
R10369	NZNS160	Chocolate mousse	ANS recipe
R10370	NZNS163	Instant dessert (made with milk) e.g. Gregg's	ANS recipe
R10371	NZNS178	Sorbet or gelato, dairy, all flavours (except chocolate/coffee and fruit)	ANS recipe
R10372	NZNS222	Cocktail, fruit juice based	ANS recipe
R10373	NZNS311	Bottled water, flavoured, with added sugar e.g. Pump	ANS recipe
R10374	NZNS329	Fruit juice drink, diluted with water e.g. Just Juice splash 50% water	ANS recipe
R10375	NZNS377	Milkshake, made with cows milk	ANS recipe
R10376	NZNS380	Thickshake, all flavours	ANS recipe
R10377	NZNS382	Frappe, all flavours	ANS recipe
R10378		Salad, assorted fruits, fresh, raw	Composite
R10379	NZNS395	Smoothie, fruit juice based, added fruit	ANS recipe
R10380	NZNS397	Smoothie, dairy based, all flavours, added fruit	ANS recipe
R10381		Soft drink, carbonated, cola flavour, not further defined	Composite
R10382		Soft drink, carbonated, lemon flavour, not further defined	Composite
R10383	NZNS414	Soft drink, frozen, not further defined	ANS recipe
R10384	NZNS653	Cauliflower, baked, fried, grilled or BBQ'd, with fat	ANS recipe
R10385	NZNS689	Capsicum or pepper, red, orange or yellow, baked, fried, grilled or BBQ'd, with fat	ANS recipe
R10386	NZNS721	Courgette, baked, roasted, fried, stir-fried, grilled or BBQ'd, with fat	ANS recipe
R10387	NZNS747	Onion ring, battered, deep fried	ANS recipe
R10388	NZNS794	Potato, unpeeled, baked, fried, grilled or BBQ'd, with oil/fat	ANS recipe
R10389	NZNS940	Bread roll, unfilled, topped with cheese	ANS recipe
R10390	NZNS942	Bread roll, unfilled, topped with cheese & bacon	ANS recipe
R10391	NZNS790	Potato, peeled, baked/fried/grilled or BBQ'd, with oil/fat	ANS recipe
R10394	NZNS830	Kumara, mashed with milk & fat	ANS recipe
R10395	NZNS958	Bun, Brioche, homemade	ANS recipe
R10396	NZNS963	French toast	ANS recipe
R10397	NZNS964	Coconut bun (Panipopo)	ANS recipe
R10398	NZNS1571	Plain omelette	ANS recipe
R10399	NZNS1572	Cheese omelette	ANS recipe
R10400	NZNS1573	Bacon/ham omelette	ANS recipe
R10401	NZNS1577	Vegetable omelette	ANS recipe

FoodID	NZNSID ^a	Food Name	Derivation method
R10402	NZNS1578	Egg foo young	ANS recipe
R10403	NZNS1585	Frittata, ham, bacon & mixed vegetable, homemade	ANS recipe
R10404	NZNS1587	Frittata, mixed vegetable, homemade	ANS recipe
R10405	NZNS1678	Squid or calamari, coated with batter or breadcrumbs, fried, takeaway outlet	ANS recipe
R10406	NZNS1691	Crab, seafood or fish stick (surimi), coated with batter, deep-fried	ANS recipe
R10407	NZNS1704	Chicken, canned, in mayonnaise	ANS recipe
R10408	NZNS1780	Chicken, breast, flesh, kebab, skewer or yakitori, marinated, grilled	ANS recipe
R10409	NZNS1795	Lamb, meat, kebab, skewer or yakitori, marinated, grilled	ANS recipe
R10412	NZNS1891	Beef, schnitzel, breadcrumb coating	ANS recipe
R10413	NZNS1902	Tofu, marinated	ANS recipe
R10414	NZNS1918	Baked beans and sausages	ANS recipe
R10415	NZNS1971	Mixed nuts with chocolate pieces (trail mix)	ANS recipe
R10416	NZNS2003	Biscotti	ANS recipe
R10417	NZNS2155	Chocolate, liqueur-filled	ANS recipe
R10418	NZNS2168	Licorice, black, chocolate-coated	ANS recipe
R10419	NZNS2187	Turkish delight	ANS recipe
R10420	NZNS2190	Chocolate crackle	ANS recipe
R10421	NZNS2193	Coconut ice, home made	ANS recipe
R10422	NZNS2194	Fudge, chocolate or caramel (Russian)	ANS recipe
R10423	NZNS2199	Sweet/dessert made with semolina/sesame/tahini e.g. Halwa/halva	ANS recipe
R10424	NZNS2233	Chocolate cake, uniced	ANS recipe
R10425	NZNS2235	Chocolate cake, filled with cream	ANS recipe
R10426	NZNS2246	Pineapple, upside down cake, homemade	ANS recipe
R10427	NZNS2247	Mooncake, made from bean paste, egg yolk and pastry, Cantonese-style, homemade	ANS recipe
R10428	NZNS2263	Cake, sponge cake, filled with cream and jam, iced	ANS recipe
R10429	NZNS2266	Slice, brownie, with chocolate	ANS recipe
R10430	NZNS2267	Slice, caramel, homemade	ANS recipe
R10431		Cheese, composite, not further defined	Composite
R10433	NZNS1880	Chicken, schnitzel, flesh, breadcrumb coating, baked, roasted, fried, grilled, or BBQ'd, fat not further defined	ANS recipe
R10434	NZNS1882	Chicken, breast, flesh, breadcrumb coating, cooked, fat not further defined	ANS recipe
R10435	NZNS1968	Mixed nuts & dry fruits, with almond, peanut, hazelnut, Brazil nut & cashew nut	ANS recipe
R10436	NZNS2046	Cone, waffle style, for ice cream	ANS recipe
R10437	NZNS2230	Cake, cheesecake, biscuit base, plain, sour cream topping	ANS recipe
R10438		Bun or scroll with custard sauce	Recipe
R10439	NZNS950	Bun or scroll with custard sauce, iced	ANS recipe
R10440		Bun or scroll with apple	Recipe
R10441	NZNS952	Bun or scroll with fruit e.g. apple and icing	ANS recipe
R10442	NZNS801	Scalloped potatoes / potato gratin / potato bake	ANS recipe

FoodID	NZNSID ^a	Food Name	Derivation method
R10443	NZNS2274	Oat or muesli slice	ANS recipe
R10444		Slice, custard with egg, uniced	Recipe
R10445	NZNS2276	Custard square/vanilla slice, iced	ANS recipe
R10446	NZNS2284	Custard filled doughnut	ANS recipe
R10447	NZNS2288	Apple crumble	ANS recipe
R10448	NZNS2296	Savoury muffin, with bacon, cheese and vegetables	ANS recipe
R10449		Icing, butter	Recipe
R10450		Icing, almond with egg white & sugar	Recipe
R10451	NZNS2242	Fruit cake, iced	ANS recipe
R10452	NZNS2262	Sponge cake, iced	ANS recipe
R10453		Sweet, Indian-style, cow's milk-based barfi mixture, cooked	Recipe
R10454	NZNS2299	Sweet, Indian-style, cow's milk-based barfi, homemade	ANS recipe
R10455	NZNS2300	Sweet, Indian-style (ladoo) made from chickpea (besan) or wheat flour with sugar and butter, homemade	ANS recipe
R10456		Pavlova, plain	Recipe
R10457	NZNS2303	Pavlova, plain, topped with whipped cream	ANS recipe
R10458	NZNS2305	Fruit fritter e.g. pineapple fritter	ANS recipe
R10459	NZNS2307	Pudding, rice with cocoa (Koko rice, Kokoalaisa)	ANS recipe
R10460	NZNS2309	Filled sweet rice cake e.g. Mochi, Tangyuan	ANS recipe
R10461	NZNS2314	Crepe or pancake, with butter & syrup, fast foods chain	ANS recipe
R10462	NZNS2315	Crepe or pancake, with savoury filling	ANS recipe
R10463	NZNS2325	Sago/tapico pudding	ANS recipe
R10464	NZNS2327	Bread and butter pudding	ANS recipe
R10465	NZNS2328	Christmas/plum pudding	ANS recipe
R10466	NZNS2330	Sticky date pudding	ANS recipe
R10467	NZNS2339	Fruit mince (christmas) pie	ANS recipe
R10468	NZNS2349	Baklava	ANS recipe
R10469		Eclair, without filling or icing	Recipe
R10470		Eclair, with cream filling and icing	Recipe
R10471	NZNS2353	Eclair, with or without cream filling and icing	ANS recipe
R10472	NZNS2357	Pecan pie or pecan tart	ANS recipe
R10473	NZNS2368	Gravy, homemade	ANS recipe
R10474	NZNS2393	Bechamel or white sauce	ANS recipe
R10475	NZNS2395	Cheese sauce	ANS recipe
R10476	NZNS2397	Hollandaise sauce	ANS recipe
R10477	NZNS2406	Apple sauce	ANS recipe
R10478	NZNS2409	Plum sauce	ANS recipe
R10479		Curry paste	Recipe
R10480	NZNS2413	Curry sauce	ANS recipe
R10481	NZNS2422	Wine reduction	ANS recipe
R10482	NZNS2428	Creamy tomato based sauce, commercial	ANS recipe
R10483	NZNS2437	Honey mustard dressing	ANS recipe
R10484	NZNS2441	Yoghurt based dressing	ANS recipe

FoodID	NZNSID ^a	Food Name	Derivation method
R10485	NZNS2455	Relish or chutney	ANS recipe
R10486	NZNS2527	Buttercream icing	ANS recipe
R10487	NZNS2529	Cream cheese icing	ANS recipe
R10488	NZNS2530	Chocolate icing	ANS recipe
R10489	NZNS2533	Jelly, with added fruit	ANS recipe
R10490	NZNS2215	Snack, bliss ball, dates and nuts	Recipe
R10491	NZNS1472	Hot pot, meat, seafood, tofu and vegetable, prepared with water	Recipe
R10492	NZNS1454	Soup, legume & vegetable, homemade	Recipe
R10493	NZNS1493	Whitebait fritter	Recipe
R10494	NZNS1496	Creamed paua	Recipe
R10495	NZNS1505	Corn fritters	Recipe
R10496	NZNS1506	Vegetable fritters, fried	Recipe
R10497	NZNS1494	Raw fish salad, Island style	Recipe
R10498	NZNS1509	Taro, leaves, cooked with coconut	Recipe
R10501	NZNS1249	Risotto, mixed vegetables, with cheese	ANS recipe
R10502	NZNS1250	Risotto, plain, with cheese	ANS recipe
R10503	NZNS1251	Risotto, fish/seafood, with cheese	ANS recipe
R10504	NZNS1247	Risotto, bacon/ham and mixed vegetables, with cheese	ANS recipe
R10506		Doughboy, raw	Recipe
R10508	NZNS1339	Chop suey, beef & vegetable, cooked, Samoan-style dish (Sapa sui)	Recipe
R10509		Sauce, coconut base	Recipe
R10510		Pumpkin & banana, bake	Recipe
R10511	NZNS1511	Pumpkin & banana, baked, added coconut cream sauce, Cook Islands -style dish (Poke)	Recipe
R10512	NZNS1915	Burger patty, chickpea, lentil, corn & vegetables, baked or fried, no added fat	Recipe
R10513	NZNS2318	Pancake, deep-fried, Samon style (Panikeke)	ANS recipe
R10514		Mixed nuts, unsalted, used as ingredient	Recipe
R10515	NZNS2310	Dumpling, sweet, soaked in coconut cream syrup (Topai/Kopai)	ANS Recipe
R10516	NZNS1479	Tabbouleh	ANS Recipe
R10517	NZNS1480	Waldorf salad	ANS Recipe
R10518		Croutons	ANS Recipe
R10519	NZNS1481	Caesar salad	ANS Recipe
R10520	NZNS1478	Pasta with cheese and sea foods, no added dressing	ANS Recipe
R10521	NZNS1624	Gurnard, fillet, flesh, fresh, baked, fried, grilled or BBQ'd, no added oil	Recipe
R10522	NZNS1627	Hoki, fillet, flesh, fresh, baked, fried, grilled or BBQ'd, no added oil	Recipe
R10523	NZNS1628	Hoki, fillet, flesh, poached, simmered or steamed	Recipe
R10524	NZNS1630	Kahawai, fillet, flesh, fresh, baked, fried, grilled or BBQ'd, no added oil	Recipe
R10525	NZNS1636	Tarakihi, fillet, flesh, fresh, baked, fried, grilled or BBQ'd, no added oil	Recipe

FoodID	NZNSID ^a	Food Name	Derivation method
R10528	NZNS258	Coffee, flat white, cappuccino or latte, single shot & oat milk, not further defined	Recipe
R10529	NZNS259	Coffee, flat white, cappuccino or latte, single shot & almond milk, not further defined	Recipe
R10530	NZNS260	Coffee, flat white, cappuccino or latte, single shot & coconut milk, not further defined	Recipe
R10531	NZNS264	Coffee, flat white, cappuccino or latte, double shot & oat milk, not further defined	Recipe
R10532	NZNS265	Coffee, flat white, cappuccino or latte, double shot & almond milk, not further defined	Recipe
R10533	NZNS266	Coffee, flat white, cappuccino or latte, double shot & coconut milk, not further defined	Recipe
R10534	NZNS279	Coffee, mochaccino, decaffeinated, double shot & non-dairy milk	Recipe
R10535	NZNS121	Lassi, yoghurt-based mango milkshake or smoothie, homemade	Recipe
R10536	NZNS1017	Porridge, oats, rolled, prepared with non-dairy milk, unsweetened, no salt added	Recipe
R10537	NZNS1018	Porridge, oats, rolled, prepared with non-dairy milk and water, unsweetened, no salt added	Recipe
R10538	NZNS1022	Porridge, oats, quick sachets, plain, prepared with standard milk (3.3% fat)	Recipe
R10539	NZNS1027	Porridge, oats, quick sachets, assorted fruits flavoured, sugar-sweetened, prepared with non-dairy milk	Recipe
R10540	NZNS1230	Spaghetti, canned in tomato sauce with sausages	Recipe
R10541	NZNS1253	Rice dish, with chicken, yoghurt and vegetables, e.g. biriyani	Recipe
R10542	NZNS1252	Rice dish, with beef, yoghurt and vegetables, e.g. biriyani	Recipe
R10543	NZNS1425	Devilled sausages/curried sausages	Recipe
R10544	NZNS1463	Seafood Chowder	Recipe
R10545	NZNS1582	Scotch Eggs	Recipe
R10546	NZNS1492	Paua Fritters	Recipe
R10547	NZNS1489	Moussaka, beef and eggplant, baked	Recipe
R10548	NZNS1349	Chicken chop suey (Sapasui)	Recipe
R10549	NZNS1426	Savoury mince/curried mince	Recipe
R10550	NZNS174	Ice cream, soft serve, with chocolate topping, fast food style, e.g. McDonald's McFlurry	Recipe
R10551	NZNS965	Coconut bread (To'okutu/Fa'apapa)	Recipe
R10552		Pappadum, uncooked	Recipe
R10553	NZNS2107	Pappadum, cooked no oil	ANS recipe
R10554	NZNS2108	Pappadum, cooked with oil	ANS recipe
R10555		Batter for Dosa or Idli	Recipe
R10556		Crepe or pancake, rice based e.g. dosa or Idli	Recipe
R10557		Idli - Rice cake, savoury, made from fermented batter of ground black gram dhal & rice, salt added, steamed	Recipe
R10558	NZNS2313	Crepe or pancake, rice based (e.g. dosa or Idli), pan-fry with oil or steamed	ANS recipe
R10559	NZNS1204	Wrap, meat alternative, with cheese, salad, avocado & salsa	Recipe

FoodID	NZNSID ^a	Food Name	Derivation method
R10561	NZNS2506	Jam, reduced sugar e.g. Anathoth 25% less sugar, Craigs lite	Borrowed food - recipe
R10562	NZNS2507	Jam, no added sugar (100% fruit) e.g. Barkers no refined sugar, St Dalfour	Borrowed food - recipe
R10565	NZNS1986	Almond butter/spread	Borrowed food - recipe
R10566	NZNS1317	Fish/seafood dumpling/wonton/gyoza, steamed	Borrowed food - recipe
R10567	NZNS1318	Fish/seafood dumpling/wonton/gyoza, fried	Borrowed food - recipe
R10568	NZNS1323	Vegetarian dumpling/wonton/gyoza, steamed	Borrowed food - recipe
R10569	NZNS1324	Vegetarian dumpling/wonton/gyoza, fried	Borrowed food - recipe
R10570	NZNS1906	Plant-based sausages	Borrowed food - recipe
R10573	NZNS1500	Chilli con carne, vegetarian	Recipe
R10574	NZNS1576	Spanish omelette, with potato and onions, fried with oil	Recipe
R10575	NZNS1497	Eggplant (aubergine) parmigiana / Eggplant bake	Recipe
R10576	NZNS800	Potato, rosti with butter, no salt added	Recipe
R10577	NZNS1266	Hot dog, bread roll with frankfurter & cheese	Recipe
R10580	NZNS1344	Stir-fry, pork & chicken mince with vegetable	Recipe
R10581	NZNS670	Chinese flowering cabbage/choy sum, cooked, fat added	Recipe
R10582	NZNS680	Coleslaw, no dressing	Recipe
R10583	NZNS701	Corn, baked/fried/grilled or BBQ'd, no added fat	Recipe (simple)
R10584	NZNS702	Corn, baked/fried/grilled or BBQ'd, with oil/fat	Recipe (simple)
R10585	NZNS769	Taro leaves, cooked	Recipe (simple)
R10586	NZNS2001	Amaretti biscuit	Recipe
R10587	NZNS2347	Pineapple pie with custard filling	Recipe
R10588	NZNS2228	Fruit loaf	Recipe
R10589		Red velvet cake, uniced	Recipe
R10590	NZNS2253	Red velvet cake, iced	Recipe
R10591	NZNS2277	Raw, vegan slice (oats and nuts with coconut cream and oil)	Recipe
R10592	NZNS2278	Lolly cake / slice	Recipe
R10593		Ginger crunch slice, uniced	Recipe
R10594	NZNS2279	Ginger crunch slice, iced	Recipe
R10595	NZNS2306	Brandy snap, filled with whipped cream	Recipe
R10596	NZNS2308	Banana sago pudding (Sua fa'i)	Recipe
R10597	NZNS2324	Chia pudding made with coconut milk and maple syrup	Recipe
R10598	NZNS2326	Sago/tapioca pudding, made with coconut milk	Recipe
R10599	NZNS2332	Steamed pudding	Recipe
R10600	NZNS2333	Summer pudding	Recipe
R10601	NZNS2088	Seaweed snacks	Recipe
R10602	NZNS2101	Sweet and salty popcorn	Recipe
R10603	NZNS1610	Tuna, canned, in mayonnaise	Recipe
R10604	NZNS1703	Chicken, canned, all flavours	Recipe
R10606	NZNS304	Matcha latte, added milk and sugar	Recipe
R10607	NZNS374	Iced chocolate, made with cows milk	Recipe

FoodID	NZNSID ^a	Food Name	Derivation method
R10608	NZNS375	Iced chocolate, made with dairy milk alternative	Recipe
R10609	NZNS394	Green smoothie (non-dairy based)	Recipe
R10610	NZNS1158	Hamburger, with pork e.g. pulled pork burger	Recipe
R10611	NZNS1191	Burrito bowl (brown rice, with beef or chicken mince, and vegetables, added cheese and sour cream)	Recipe
R10612	NZNS612	Korean style rice bowl, e.g. Bibimbap (white rice, topped with beef, egg and mixed vegetables, sugar and salt added, (rice bowl)	Recipe
R10613	NZNS1340	Corned beef stir fry (Pisupo) with rice and vegetables	Recipe
R10615	NZNS1757	Beef wellington	Recipe
R10618	NZNS2056	Cracker, with nuts and seeds only (without grains/flour)	Recipe
R10619	NZNS1487	Chicken cordon bleu (Chicken with ham and cheese, breadcrumb coating, baked with fat)	Recipe
R10620	NZNS1750	Pulled beef	Recipe
R10622	NZNS1865	Venison sausage	Recipe
R10624	NZNS2438	Soy based dressing	Recipe
R10625	NZNS2469	Smoked seafood dip	Recipe
R10626		Breading or batter as ingredient in food	Composite ingredient for recipe
R10628		Fruit mince, homemade	Recipe
R10629		Egg, chicken, whole, fried, oil not further defined	Recipe
R10630	NZNS1160	Breakfast burger, with bacon, beef sausage patty, egg, cheese, hash brown, fast food chain e.g. McDonalds breakfast burger	Recipe
R10631	NZNS1963	Nuts, mixed, assorted, raw or roasted, unsalted	Recipe
R10632	NZNS543	Mixed berries, in syrup, sugar-sweetened, canned, drained solids	Composite
R10633	NZNS1043	Rice, brown & quinoa, purchased as "instant" microwaved, no salt added	Borrowed
S10003		Sauce, oyster, commercial	Borrowed
S10004	NZNS2459	Cream cheese based dip, flavoured, commercial	Borrowed
U10020	NZNS2221	Bar, high protein, not further defined	Borrowed
W10001		Jelly crystals, intense sweetened, all flavours	Borrowed food - recipe
W10002	NZNS2535	Jelly, intense sweetened, all flavours, prepared with water	Borrowed food - recipe
W10003	NZNS2490	Intense sweetener, natural, containing stevia, powdered or tablet	Borrowed
W10004	NZNS2491/2492	Intense sweetener, assorted, not further defined	Composite
X10052		Black gram dhal, seed vegetable, mature seed, hulled, dried, raw	Borrowed
X10057	NZNS1907	Textured vegetable protein (TVP), soya granules, chunk or mince	Borrowed
X10058		Sausage, vegetarian style, unfortified, raw	Borrowed
X10059		Sausage, vegetarian style, added Fe, Zn and vitamin B12, raw	Borrowed
X10060	NZNS809	Kumara, root vegetable, chips or fries, frozen, baked, not further defined	Borrowed

^a Number assigned for National Nutrition Survey (Intake 24 data set). Not all Food Records have one assigned.
Abbreviation: ANS = Australian Nutrition Survey.

Appendix 3. Rules applied for significant numbers, decimal places and rounding

This Table describes the application of a fixed significant place for each component value, followed by a rounding rule to maximise the decimal place.

Component	Unit	Number of places		Rounding rules	
		Significant digits	Maximum decimal	Range	Scale (limit)
Energy	kJ/kcal	3	0	0–100	1
Macronutrients					
Fat, water, dry matter, dietary fibre, and alcohol	g	3	1	0–10	0.1
Ash, carbohydrates, protein, nitrogen total, sugars, starch, organic acids, and sorbitol	g	3	2	0–1	0.01
Inorganic compounds (minerals)					
Calcium, potassium, magnesium, sodium, and phosphorus	mg	3	0	0–100	1
Iron and zinc	mg	3	2	0–1	0.01
Selenium and iodine	µg	2	2	0–1	0.01
Copper	mg	3	3	0–1	0.001
Manganese	µg	2	0	0–10	1
Aluminium, arsenic, boron, cadmium, cobalt, chromium, caesium, lithium, lead, molybdenum, nickel, rubidium, sulphur, lead, silicon (acid soluble), tin, mercury, molybdenum, vanadium	µg	2	2	0–1	0.01
Vitamins					
Vitamin A, carotene (alpha- and beta-), beta-carotene equivalents, retinol, lutein, lycopene, and zeaxanthin	µg	3	0	0–100	1
Thiamin, riboflavin, niacin (niacin from tryptophan, niacin equivalent), vitamin B6 and pantothenic acid	mg	2	3	0–1	0.001
Vitamins B ₁₂ , D (D ₃ and D ₂), K and biotin	µg	2	2	0–1	0.01
Folates	µg	2	0	0–10	1
Vitamin C and choline	mg	3	2	0–1	0.01
Vitamin E (tocopherol)	mg	2	2	0–1	0.01
Others					
Caffeine	mg	3	0	0–100	1
Cholesterol	mg	3	2	0–1	0.01
Fatty acids total (saturated, mono-, poly- etc.)	g	3	2	0–1	0.01
Fatty acid individual	g	3	3	0–1	0.001
Amino acids	mg	3	0	0–100	1

Sources: Greenfield & Southgate (2003) and FAO/INFOODS (2012a).

Appendix 4. Analytical methods

This table provides the analytical methods, including method references used to generate the values for components in the database. Note this is only a snapshot as some methods have changed over time and not all methods may be recorded here. More data are available in the 'Data Provenance Description.xlsx' file that can be downloaded from the website.

Components	Method technique (primary)	Method identification and references ^a	Lower limit of detection ^b
Alcohol	Gas chromatography	Palo & Ilkova (1970)	
Amino acids	Enzymatic HPLC method	AOAC 2017.03 Total Tryptophan in Infant Formula and Adult/Pediatric Nutritional Formula: HPLC Following Enzymatic Hydrolysis	Unknown
	HPLC	AOAC 988.15: Tryptophan in foods and food and feed ingredients	
		AOAC 985.28: Sulphur amino acids in food, feed ingredient, and processed foods AOAC 994.12: Amino acids in feeds Landry et al. (1992)	
Ash	Gravimetric – dry ashing	AOAC 900.02: Ash of sugars and syrups AOAC 920.153: Ash of meat AOAC 923.03: Ash of flour AOAC 938.08: Ash of seafood AOAC 940.26: Ash of fruits and fruit products AOAC 942.05: Ash in animal feed 'In-house' method	0.1 g/100 g
B-group vitamins (B ₁ , B ₂ , B ₃ and B ₆)	Enzymatic LC–MS/MS	AOAC 2015.14: Simultaneous Determination of Total Vitamins B ₁ , B ₂ , B ₃ and B ₆ in Infant Formula and Related Nutritionals: Enzymatic Digestion and LC-MS/MS	B ₁ – 20 µg/100 g B ₂ – 30 µg/100 g B ₃ – 200 µg/100 g B ₆ – 0.01 mg/100 g
Biotin	Optical biosensor-based immunoassay	Indyk et al. (2000)	Unknown
	HPLC-PDA	AOAC 2016.02: Total Biotin in Infant Formula and Adult/Pediatric Nutritional Formulas: Liquid Chromatography Coupled with Immunoaffinity Column Cleanup Extraction	
Caffeine	HPLC	Woollard (1982)	0.010 g/100 g
Carotenoids			
Alpha- and Beta-carotene	HPLC	European Committee for Standardisation (2000a)	1–5 µg/100 g
	Ultra HPLC	AOAC 2016.13: Lutein, β–Carotene, and Lycopene in Infant Formula and Adult Nutritionals: Reversed – Phase Ultra – High –Performance Liquid Chromatography (UHPLC)	3.0 µg/100 g
Lutein and Zeaxanthin	HPLC	McGhie & Ainge (2002) Barba et al. (2006)	5 µg/100 g
Choline	UHPLC-MS/MS	AOAC 2015.10: Free and Total Choline and Carnitine in Infant Formula and Adult/Pediatric Nutritional Formula: Liquid	

Components	Method technique (primary)	Method identification and references ^a	Lower limit of detection ^b
		Chromatography/Tandem Mass Spectrometry	
Cholesterol	Gas chromatography	AOAC 933.08: Residue (unsaponifiable) of oils and fats AOAC 970.50: Fat (vegetable) in butterfat AOAC 970.51: Fats (animal) in vegetable fats and oils (determination of cholesterol)	0.5 mg/100 g
Fat, total	Acid hydrolysis – Organic solvent extraction/Soxhlet extraction	AOAC 954.02: Fat (crude) or ether extract in pet food AOAC 948.22: Fat (crude) in nuts and nut products	0.1 g/100 g
	Alkaline hydrolysis – Organic solvent extraction	International Dairy Federation (2004)	
	Alkaline and acid hydrolysis – Organic solvent extraction	'In-house' method	
Fatty acid profile	Methylated with acid catalyst – Gas chromatography	Bannon et al. (1985) Sukhija & Palmquist (1988)	0.1 g/100 g
Conjugated fatty acids		'In-house' method based on Aldai et al. (2007)	0.1 g/100 g
Fibre, dietary (total, soluble and insoluble)	Enzymatic-gravimetric	AOAC 991.43: Total, soluble and insoluble dietary fibre in foods AOAC 985.29: Total dietary fibre in foods	0.1 g/100 g
Fibre, total dietary	Enzymatic-gravimetric-liquid chromatography	AOAC 2017.16: Total dietary fibre in foods and food ingredients: rapid integrated enzymatic-gravimetric-high-pressure liquid chromatography method	0.1 g/100 g
Folate, total Folic acid	Microbiological	DeVries et al. (2005)	5 µg/100 g
Maltodextrin		Starch determination kit (Boehringer Mannheim)	0.1 g/100 g
Minerals			
Ca, K, Mg, Na, P, S	Biological materials digestion, ICP-OES	AOAC 984.27: Calcium, copper, iron, magnesium, manganese, phosphorous and zinc in infant formula.	0.001–0.005 g/100 g
Fe		Mendham et al. (2000a) Martin et al. (1994)	1–5 mg/kg
Al, As, B, Co, Cr, Cs, Cu, Hg, Li, Mn, Mo, Pb, Ni, Rb, Si, Sn, V, Zn, Cd	Biological materials digestion, ICP-MS	Martin et al. (1994) Mendham et al. (2000b)	Unknown
I, Se, As	TMAH digestion, ICP-MS	Fecher et al. (1998)	0.001–0.004 mg/kg
Cl	Potentiometric	AOAC 971.27: Sodium chloride in canned vegetables	10 mg/kg dry or fresh product, 1 mg/kg liquids
Niacin, preformed (B ₃)	HPLC	Woollard (1984)	0.01 mg/100 g
Nitrogen, total	Titrimetry (Kjeldahl method)	AOAC 988.05: Protein (crude) in animal feed and pet food AOAC 981.10: Crude protein in meat	0.1 g/100 g

Components	Method technique (primary)	Method identification and references ^a	Lower limit of detection ^b
Pantothenic acid (Vitamin B ₅)		AOAC 991.20: Nitrogen (total) in milk	
	Combustion (Dumas method)	AOAC 968.06: Protein (crude) in animal feed	0.02 g/100 g
	Gas liquid chromatography	Davidek et al. (1985)	1 mg/100 g
	LC-MS/MS	AOAC 2012.16: Pantothenic Acid (Vitamin B ₅) in Infant Formula and Adult/Pediatric Nutritional Formula: Ultra-High-Pressure LC-MS/MS Method	
Polysaccharides, non-starch	Enzymatic-gravimetric	Englyst et al. (1988)	0.1 g/100 g
Retinol	Colorimetric	AOAC 974.29: Vitamin A in mixed feeds, premixes, and human and pet foods	10 IU/100 g
	HPLC	European Committee for Standardisation (2000b) AsureQuality Method (HPLC)	
Riboflavin (B ₂)	HPLC	Dunbar & Stevenson (1979)	0.01 mg/100 g
Sorbitol	HPLC	National Health and Family Planning Commission of the PRC; China Food and Drug Administration (2016)	0.4 g/100 g
Sugar profile	Gas liquid chromatography	'In-house' method	0.1 g/100 g
	High performance anion exchange chromatography with pulsed amperometric detection method (HPAEC-PAD)	ISO 22184 / IDF244 method	0.1 g/100 g
Starch	Enzymatic-colorimetric	AOAC 996.11: Starch (total) in cereal products; (Lee et al. 1992)	0.1 g/100 g
Starch, resistant	Enzymatic-colorimetric	AOAC 2002.2: Resistant starch in starch and plant materials	0.1 g/ 100 g
Thiamin (B ₁)	HPLC	European Committee for Standardisation (2003)	0.01 mg/100 g
Tocopherols (Alpha-, Beta-, Delta- and Gamma-)	HPLC	Brubacher et al. (1986) AOAC Official Method 971.30: α-tocopherol and α-tocopherol acetate in foods and feeds AsureQuality Method (HPLC)	0.11 IU/100 g
Water/Total solid	Vacuum oven/forced air-gravimetric	AOAC 950.46: Moisture in meat AOAC 930.15: Loss on drying (moisture) for feeds (at 135°C for 2 hours)/dry matter on oven drying for feeds (at 135°C for 2 hours) AOAC 925.10: Solids (total) and loss on drying (moisture) in flour AOAC 925.45: Loss on drying (moisture) in sugars International Dairy Federation (2010) International Dairy Federation (2004)	0.1 g/100 g
		AOAC 984.20: Loss on drying (moisture) and volatile matter in oils and fats, Karl Fisher method	0.1 g/100 g
Vitamin B ₆	HPLC	Bitsch & Moller (1989); Gregory (1993) and Olds et al. (1993)	0.01 mg/100 g
Vitamin B ₁₂	Radio isotope dilution	Green et al. (1974)	0.1 µg/100 g

Components	Method technique (primary)	Method identification and references ^a	Lower limit of detection ^b
Vitamin C	Microbiological	AOAC Method 952.20: Cobalamin (Vitamin B ₁₂ Activity) in vitamin preparations	0.01 µg/100 g
	HPLC	Campos-Gimenez et al. (2008)	Unknown
	LC-fluorometric detection	Dodson et al. (1992) Giménez et al. (2017)	
	LC-UV	AOAC 2012.22: Vitamin C in Infant Formula and Adult/Pediatric Nutritional Formula: Liquid Chromatography with Ultraviolet Detection (LC-UV)	1 mg/ 100 g
Vitamin D			
25-hydroxyvitamin D ₃	Acetonitrile extraction followed by Radioimmune assay	Diasorin kit (Stillwater, Minnesota) from Immuno Pty Ltd	Unknown
	LC-MS/MS	Strobel et al. (2013)	0.5 µg/100 g
Cholecalciferol (vitamin D ₂) & Ergocalciferol (vitamin D ₃)	HPLC	AOAC 2002.05: Cholecalciferol (Vitamin D ₃) in selected foods	0.1 µg/100 g
		European Committee for Standardisation (2000c)	
Vitamin K ₁	HPLC	Damon et al. (2005) Schimpf et al. (2018) AOAC 999.15: Vitamin K in milk and infant formulas	1 µg/100 g
		AOAC 2015.09: Trans and Total (<i>cis</i> + <i>trans</i>) Vitamin K ₁ in Infant, Pediatric, and Adult Nutritionals: HPLC with Fluorescence Detection	

^aAOAC methods source: Official Methods of Analysis of AOAC International (2023)

^b Lower limit of detection varies, based on the food matrix.

Note: The food components were analysed by IANZ (International Accreditation New Zealand) accredited laboratories in New Zealand and NATA (The National Association of Testing Authorities, Australia) accredited laboratory in Australia. Some of the analytical methods were not accredited for some of the food matrices. 'In-house' methods are developed or modified standard test method by the accredited laboratories.

Abbreviations: AOAC = Association of Official Analytical Chemists; ICP-OES = Inductivity Coupled Plasma Optical Emission Spectroscopy; ICP-MS = Inductivity Coupled Plasma Optical Mass Spectrometry; HPLC = High Performance Liquid Chromatography; LC = Liquid Chromatography; PDA = Photo Diode Array; UHPLC = Ultra High Performance Liquid Chromatography.

Appendix 5. Examples for energy calculation

Energy calculated based on FAO/INFOODS (2012b)

Component name: energy, total metabolisable (kJ)	
Components Identifier	ENERC
INFOODS tagname	ENERC
Formula	Energy (kJ/100 g Edible Portion, EP) = (protein, total calculated from nitrogen total x 17) + (fat, total x 37) + (available carbohydrate by weight x 17) + (alcohol x 29)
Example	L1078, Kiwifruit, green-fleshed, flesh & seed, raw, Zespri™ SweetGreen Kiwifruit contains per 100 g EP: 1.27 g protein, total; calculated from nitrogen total (PROT) + 0.2 g fat, total (FAT) + 12.3 g available carbohydrate by weight (CHOAVL) + 0 g alcohol (ALC) Calculation: [(1.27 g PROT x 17) + (0.2 g FAT x 37) + (12.3 g CHOAVL x 17) + (0.00 g ALC x 29)] = ENERC = 239 kJ/100 g EP

Component name: energy, total metabolisable (kcal)	
Components Identifier	ENERC_KCAL
INFOODS tagname	ENERC_KCAL
Formula	Energy (kcal/100 g EP) = (protein, total; calculated from nitrogen total x 4) + (fat, total x 9) + (available carbohydrate by weight) x 4) + (alcohol x 7)
Example	L1078, Kiwifruit, green-fleshed, flesh & seed, raw, Zespri™ SweetGreen Kiwifruit contains per 100 g EP: 1.27 g protein, total; calculated from nitrogen total (PROT) + 0.2 g fat, total (FAT) + 12.3 g available carbohydrate by weight (CHOAVL) + 0 g alcohol (ALC). Calculation: [(1.27 g PROT x 4) + (0.2 g FAT x 9) + (12.3 g CHOAVL x 4) + (0.00 g ALC x 7)] = ENERC_KCAL = 56 kcal/100 g EP

Energy calculated according to FAO/INFOODS (2012b) including dietary fibre

Component name: energy, total metabolisable (including dietary fibre, kJ)	
Components Identifier	ENERC1
INFOODS tagname	None
Formula	Energy (kJ/100 g EP) = (protein, total; calculated from nitrogen total x 17) + (fat, total x 37) + available carbohydrate by weight (CHOAVL) x 17) + (alcohol x 29) + (fibre, total dietary x 8)
Example	L1078, Kiwifruit, green-fleshed, flesh & seed, raw, Zespri™ SweetGreen Kiwifruit contains per 100 g EP: 1.27 g protein, total; calculated from nitrogen total (PROT) + 0.2 g fat, total (FAT) + 12.3 g available carbohydrate by weight (CHOAVL) + 0 g alcohol (ALC) + 2.4 g fibre, total dietary (FIBTG) Calculation: [(1.27 g PROT x 17) + (0.2 g FAT x 37) + (12.3 g CHOAVL x 17) + (0 g ALC x 29) + (2.4 g FIBTG x 8)] = ENERC1 = 258 kJ/100 g EP

Component name: energy, total metabolisable (including dietary fibre, kcal)	
Components Identifier	ENERC1_KCAL
INFOODS tagname	None
Formula	Energy (kJ/100 g EP) = (protein, total; calculated from nitrogen total x 4) + (fat, total x 9) + available carbohydrate by weight (CHOAVL) x 4) + (alcohol x 7) + (fibre, total dietary x 2)
Example	L1078, Kiwifruit, green-fleshed, flesh & seed, raw, Zespri™ SweetGreen Kiwifruit contains per 100 g EP: 1.27 g protein, total; calculated from nitrogen total (PROT) + 0.2 g fat, total (FAT) + 12.3 g available carbohydrate by weight (CHOAVL) + 0 g alcohol (ALC) + 2.4 g fibre, total dietary (FIBTG) Calculation: [(1.27 g PROT x 4) + (0.2 g FAT x 9) + (12.3 g CHOAVL x 4) + (0 g ALC x 7) + (2.4 g FIBTG x 2)] = ENERC1_KCAL = 61 kcal/100 g EP

Energy calculated according to Food Standards Australia New Zealand (2021), using carbohydrate by difference

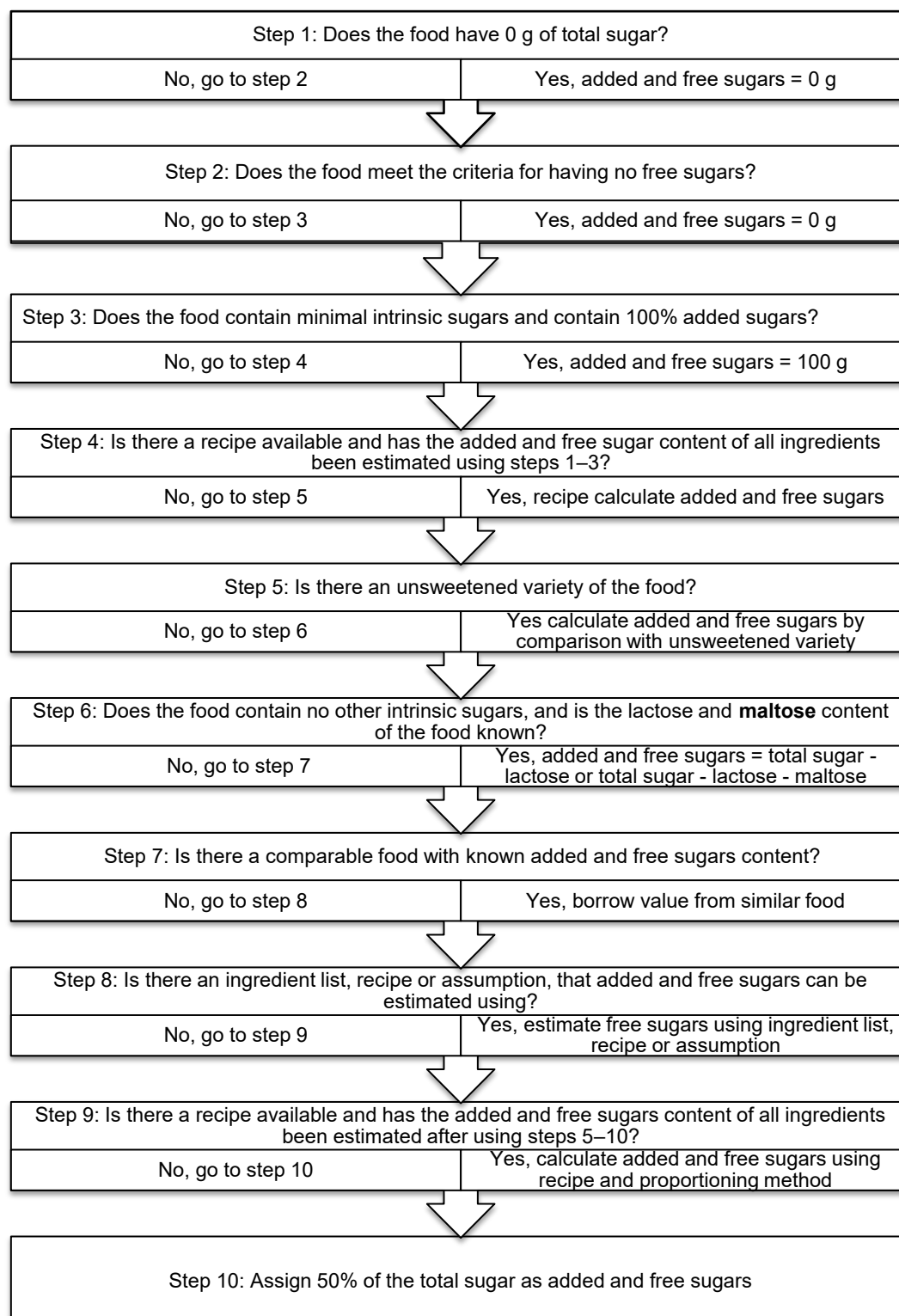
Component name: energy, total metabolisable, carbohydrate by difference, FSANZ (kJ)	
Components Identifier	ENERC_FSANZ1
INFOODS tagname	N/A
Formula	Energy (kJ/100 g EP) = (protein, total; calculated from nitrogen total x 17) + (fat, total x 37) + (carbohydrate by difference x 17) + (alcohol x 29) + (fibre, total dietary x 8) + (organic acids, total x 13)
Example	L1078, Kiwifruit, green-fleshed, flesh & seed, raw, Zespri™ SweetGreen Kiwifruit contains per 100 g EP: 1.27 g protein, total; calculated from nitrogen total (PROT) + 0.2 g fat, total (FAT) + 12.8 g carbohydrate by difference (CHOAVLDF_FSANZ) + 0.0 g alcohol (ALC) + 2.4 g fibre, total dietary (FIBTG) + 2.4 g organic acid, total (gram) (OA_G) Calculation: [(1.27 g PROT x 17) + (0.2 g FAT x 37) + (12.8 g CHOAVLDF_FSANZ x 17) + (0.00 g ALC x 29) + (2.4 g FIBTG x 8) + (2.4 g OA_G x 13)] = ENERC_FSANZ1 = 299 kJ/100 g EP
Component name: energy, total metabolisable, carbohydrate by difference, FSANZ (kcal)	
Components Identifier	ENERC_FSANZ1_KCAL
INFOODS tagname	N/A
Formula	Energy (kcal/100 g EP) = Energy, total metabolisable, carbohydrate by difference FSANZ (kJ/100 g EP)/4.18
Example	L1078, Kiwifruit, green-fleshed, flesh & seed, raw, Zespri™ SweetGreen Kiwifruit contains 299 kJ per 100 g EP of energy, total metabolisable, carbohydrate by difference, FSANZ (kJ) (ENERC_FSANZ1) Calculation: [(299 kJ/100 g EP ENERC_FSANZ1)/ 4.18] = ENERC_FSANZ1_KCAL = 72 kcal/100 g EP

Energy calculated according to Food Standards Australia New Zealand (2021), using available carbohydrate

Component name: energy, total metabolisable, available carbohydrate, FSANZ (kJ)	
Components Identifier	ENERC_FSANZ2
INFOODS tagname	None
Formula	Energy (kJ/100 g EP) = (protein, total; calculated from nitrogen total x 17) + (fat, total x 37) + (available carbohydrate x 17) + (alcohol x 29) + (fibre, total dietary x 8) + (organic acids, total x 13)
Example	L1078, Kiwifruit, green-fleshed, flesh & seed, raw, Zespri™ SweetGreen Kiwifruit contains per 100 g EP: 1.27 g protein, total; calculated from nitrogen total (PROT) + 0.2 g fat, total (FAT) + 12.3 g available carbohydrate (CHOAVL_FSANZ) + 0 g alcohol (ALC) + 2.4 g fibre, total dietary (FIBTG) + 2.4 g organic acids, total (OA_G) Calculation: [(1.27 g PROT x 17) + (0.2 g FAT x 37) + (12.3 g CHOAVL_FSANZ x 17) + (0.00 g ALC x 29) + (2.4 g FIBTG x 8) + (2.4 g OA_G x 13)] = ENERC_FSANZ2 = 289 kJ/100 g EP

Component name: energy, total metabolisable, available carbohydrate, FSANZ (kcal)	
Components Identifier	ENERC_FSANZ2_KCAL
INFOODS tagname	None
Formula	Energy (kcal/100 g EP) = Energy, total metabolisable, available carbohydrate, FSANZ (kJ) (kJ/100 g EP)/4.18
Example	L1078, Kiwifruit, green-fleshed, flesh & seed, raw, Zespri™ SweetGreen Kiwifruit contains: 289 kJ/100 g EP of energy, total metabolisable, available carbohydrate, FSANZ (kJ) (ENERC_FSANZ2) Calculation: [(289 kJ/100 g EP ENERC_FSANZ2)/ 4.18] = ENERC_FSANZ2_KCAL = 69 kcal/100 g EP

Appendix 6. Method for estimating added and free sugars



Detailed 10-step method for estimating added and free sugars.

Steps	Added sugar	Free sugar
Objective steps		
1	All foods with the total sugar content of 0 g were assigned 0 g sugar	
	Assigned 0 g added sugar to foods in the following groups	Assigned 0 g free sugar to foods in the following groups
	(a) 100% fruit juice and vegetable juice with no added sugar (include fruit puree)	(a) See below step 3 (l)
	(b) All spices and herbs	(b) All spices and herbs
	(c) All fats and oils	(c) All fats and oils
	(d) Plain cereals including pastas, rice and flours	(d) Plain cereals including pastas, rice and flours
	(e) Eggs and egg products (excluding egg-based desserts)	(e) Eggs and egg products (excluding egg-based desserts)
	(f) Fresh fruits, vegetables (including salads with no dressing), fresh meat, fresh seafood and tofu. Includes cooked vegetables, meat and seafoods with no added sugar.	(f) Fresh fruits, vegetables (including salads with no dressing), fresh meat, fresh seafood and tofu. Includes cooked vegetables, meat and seafoods with no added sugar.
	(g) Fruit canned in 100% fruit juice or liquid sweetened with artificial sweeteners	(g) See below step 3 (l)
	(h) Beverage base (without added sugar) and prepared with water (including flavoured drink)	(h) Beverage base (without added sugar)
2	(i) Legumes (fresh, dried and/or processed, except sweetened varieties)	(i) Legumes (fresh, dried and/or processed, except sweetened varieties)
	(j) Mixed dishes with no added sugar (decided on the basis of ingredient information; recipe)	(j) Mixed dishes with no added sugar (decided on the basis of ingredient information; recipe)
	(k) Non-sugar-sweetened alcoholic beverage	(k) Non-sweetened alcohol (excluding liqueurs and mixers)
	(l) Non-sugar-sweetened tea and coffee	(l) Non-sugar-sweetened tea and coffee
	(m) Non-sugar-sweetened milk (including plant-based milk) and buttermilk; breastmilk	(m) Non-sugar-sweetened milk (excluding plant-based milk) and buttermilk; breastmilk
	(n) Non-sweetened dairy products (including those sweetened with artificial sweeteners only)	(n) Non-sweetened dairy products (including those sweetened with artificial sweeteners only)
	(o) All nuts and seeds (does not include sweetened varieties or nut bars)	(o) All nuts and seeds (does not include sweetened varieties or nut bars)
	(p) Oats, including porridge with no added sugar	(p) Oats, including porridge with no added sugar
	(q) Plain pastries without filling (such as chocolate, dried fruits and/or nuts)	(q) Plain pastries without filling (such as chocolate, dried fruits, and/or nuts)
	(r) Plain breads (except gluten-free), English muffin, bagels, pizza bases and naan	(r) Plain breads (except gluten-free), English muffin, bagels, pizza bases and naan

Steps	Added sugar	Free sugar
	(s) Unsweetened dried fruits	(s) Unsweetened dried fruits
	Assigned 100% of total sugar as added sugar to foods in the following groups	Assigned 100% of total sugar as free sugar to foods in the following groups
	(a) All confectionery except those containing dairy products such as fudge and chocolate. Vegetable chips (including potato, cassava, soy etc.)	(a) All confectionery (excluding chocolate) and vegetable chips (including potato, cassava, soy etc.)
	(b) Breakfast cereals and cereal bars without fruits, chocolate, dairy or milk	(b) All breakfast cereals and cereal bars which do not contain fruit pieces, chocolate, or dairy or milk
	(c) Coffee and beverage bases with no milk solids, dry, or made up with water	(c) Coffee and beverage bases
	(d) Crumbed/battered meat and seafood	(d) Crumbed/battered meat and seafood
	(e) Processed meat including pies, pastries, sausages etc.	(e) Processed meat including pies, pastries, sausages etc.
3	(f) Soft drinks, sport drinks, flavoured water and non-fruit-based products that do not contain fruit, chocolate or dairy products	(f) Sugar-sweetened soft drinks, sports drinks, flavoured waters, and energy drinks.
	(g) Savoury biscuits, sweet biscuits, cakes, and buns, donuts and batter-based products that do not contain fruit, chocolate or dairy products	(g) All baked goods such as biscuits, cakes, buns, donuts and crackers that did not contain fruits, chocolate or dairy products. Gluten free breads.
	(h) Soy beverages and soy yoghurt without added fruits	(h) Soy beverages and soy yoghurt without added fruits
	(i) Stock powder	(i) Stock powder
	(j) Sugars and syrups	(j) All sugars and syrups
	(k) Sauces and dressings, excluding pasta sauces and those that are vegetable-based such as pickles	(k) Sauces and dressings, excluding pasta sauces and those that are vegetable-based such as pickles
		(l) All fruit juices, purees, concentrates, fruit canned in fruit juice and jams (both sweetened and unsweetened varieties), including tomato pastes, sauces, and purees
		(m) Alcoholic mixed drinks, non-cream-based liqueurs
	Calculation based on standard recipe used in the food composition database, where added sugar or free sugar contents of all ingredients were available from steps 1–3.	
4	(a) Calculation based on standard recipe used in the food composition database (by recipe calculation by FIMS)	
	(b) Added sugar content determined for undrained canned fruits in syrup: Added sugar (g/100 g) = Total sugar (g/100 g) – (total sugar content of raw fruit (g/100 g) * % of raw fruit in the canned fruits.	Free sugar content determined for undrained canned fruits in fruit juice or syrup: Free sugar (g/100 g) = Total sugar (g/100 g) – (total sugar content of raw fruit (g/100 g) * % of raw fruit in the canned fruits.
5	Calculation based on comparison with values from the unsweetened variety	
	Added or free sugar per 100 g is given by the formula:	

Steps	Added sugar	Free sugar
	<i>Added or free sugar (g/100 g) = (100 × (S_{US} – S_T))/(S_{US} – 100)</i>	
	where S_{US} is the total sugar content per 100 g of the unsweetened variety of the food and S_T is the total sugar for the food item for which free sugars are to be estimated. Example: Added and free sugars calculation for sweetened (L1124) variety from the unsweetened (L1128) counterpart: L1124 – Peach, in light syrup, sugar-sweetened, canned, drained, composite (sugar total 14.2 g/100 g) L1128 – Peach, in water, artificially sweetened, canned, drained, composite (sugar total 6.6 g/100 g) Added or free sugar for L1124 = ((6.6–14.2)/ (6.6–100)) × 100 = 8.14 g/100 g	
	Decision based on analytical data of mono- and disaccharide content	
6	Lactose subtracted from total sugars for all foods Maltose subtracted from total sugars as intrinsic sugar	
	Use “borrowed” values from similar products from steps 1–6 or from overseas databases	
7	Example H215 – Spring roll, vegetarian, deep-fried, commercial, added and free sugar estimated based on the recipe in the NZFCD (old archive Food Records, H130 – Spring roll, deep), 90% of the total sugar	
	Subjective estimation of added and free sugars based on the best available information regarding ingredients and/or common recipes and/or assumption	
8	Added and free sugars estimated by searching the ingredient list of packed foods and recipes for sources. Example: D1055 – Breakfast cereal, muesli, ready to eat, Toasted Muesli Super Fruity, Sanitarium™, fortified vitamin E Ingredient list states dried fruits = 16% [raisins, cranberries]. Assumed even distribution (8.0% each). Total sugar from 8.0% raisins, 8.0% cranberries were considered as intrinsic sugars and deducted from the total sugars of D1055.	
	Calculate based on standard recipe which includes ingredients with values assigned at steps 5–8, using the proportioning method. Step 4 is repeated here where more ingredients have their added sugar contents estimated after steps 5–8.	
9	Ingredients ratio in the standard recipe checked (step 8, % dried fruit), exclude lactose value (step 6) Example – A1152 – Cake, assorted fruits, rich or dark, un-iced, ready to eat, commercial	
	Assign 50% of total sugars as added or free sugars	
10	Used when it was not possible to determine free sugars using steps 1–9. Example is takeaway foods, H1058 – Salad, coleslaw with dressing, fresh, from deli, composite, assumed 50% of the total is added and free sugars	

Sources: Louie et al. (2015), Louie et al. (2016) and Kibblewhite et al. (2017).

Appendix 7. Individual fatty acids contributing to the total fatty acids

Individual fatty acids	Component identifier ^a									
	Undifferentiated fatty acid	FASAT	FAMS	FAPU	FAPUN3	FALCPUN3	FAPUN6	FAMST	FAPUT	FATRN
F4D0		✓								
F6D0		✓								
F8D0		✓								
F10D0		✓								
F11D0		✓								
F12D0		✓								
F13D0		✓								
F14D0		✓								
F15D0		✓								
F16D0		✓								
F17D0		✓								
F18D0		✓								
F20D0		✓								
F21D0		✓								
F22D0		✓								
F23D0		✓								
F24D0		✓								
F10D1			✓							
F12D1			✓							
F14D1CN5	F14D1		✓							
F15D1CN5	F15D1		✓							
F16D1CN7	F16D1		✓							
F16D1T								✓		✓
F17D1CN7	F17D1		✓							
F18D1CN7	F18D1									
F18D1TN7								✓		✓
F18D1CN9			✓							
F18D1TN9								✓		✓
F20D1CN9	F20D1		✓							
F20D1N11										
F22D1CN9	F22D1		✓							

Individual fatty acids	Component identifier ^a									
	Undifferentiated fatty acid	FASAT	FAMS	FAPU	FAPUN3	FALCPUN3	FAPUN6	FAMST	FAPUT	FATRN
F22D1N11										
F24D1CN7	F24D1		✓							
F18D2CN6							✓			
F18D2TN6	F18D2			✓					✓	✓
F18D2TCN9T11									✓	✓
F18D3CN3	F18D3			✓	✓					
F18D3CN6							✓			
F18D4N3	F18D4			✓	✓					
F20D2CN6	F20D2			✓			✓			
F20D3CN3	F20D3			✓	✓	✓				
F20D3CN6							✓			
F20D4N3	F20D4			✓	✓	✓				
F20D4CN6							✓			
F20D5CN3	F20D5			✓	✓	✓				
F21D5N3	F21D5			✓	✓	✓				
F22D2CN6	F22D2			✓			✓			
F22D4CN6	F22D4			✓			✓			
F22D5CN3	F22D5			✓	✓	✓				
F22D5N6							✓			
F22D6CN3	F22D6			✓	✓	✓				

^a Description of the component identifier can be found in Appendix 1.

Appendix 8. Recipe calculation – Mixed method

Example (R10011 - Pudding, rice, cocoa & coconut, cooked) showing nutrient calculation for a recipe food record to demonstrate the principles of the recipe calculation system 'Mixed method'.

Ingredient	Amount in recipe	Weight ratio (X)	Water	Ash	Fat	Starch	Glucose	Sucrose	Sugar Total	Nitrogen total	Protein total	Fibre	Sodium	Iron	Folate, total
C1036 – Baking cocoa, powder, Cocoa, Bournville®, Cadbury® (per 100 g)	37.75	0.02		8.6	15.8	10.7	0	1.7		3.956		39.1	102	9.8	65
E1077 – Rice, white, polished, raw (per 100 g) – (A)	206	0.11		0.4	0.9	74.6	0.1	0.2		1.218		0.7	0	0	0
NRF ^b – (B)				1	1	1	1	1		1		1	1	0.95	0.7
E1077 – Rice, white, polished, raw, (per 100 g), nutrient values adjusted with NRF = (A x B)				0.4	0.9	74.6	0.1	0.2		1.218		0.7	0	0	0
P10006 – Salt, from sea, non-iodised, composite (per 100 g)	5.4	0.00		98.7	0	0	0	0		0		0	40000	0	0

Q1015 – Coconut, milk, standard, composite (per 100 g)	452.4	0.24	0.4	21.05	0	0	1.1	0.2	0.3	18.7	0.62	0		
C40 – Water, tap (per 100 g)	1000	0.52	0.01	0	0	0	0	0	0	1	0	0		
W23 – Sugar, raw (per 100 g)	218	0.11	0.05	0	0	0	99.17	0	0	1	0.3	0		
Food components in the raw recipe (per 100 g) – (weight sum of nutrient in each ingredient *X)			0.598	5.37	8.22	0.011	11.6	0.256	0.915	114	0.373	1.28		
Total weight of the ingredients (Y)	1920													
Weight Yield factor (per g) (z)								0.97						
Food components in the cooked dish (per 100 g, R10011) (X*Z) ^a		70.8 ^b	0.61	5.53	8.47	0.01	11.9	11.9 ^c	0.26	1.65 ^d	0.9	128	0.38	1

^a To avoid introducing additional bias, all the values were rounded after the calculation (summation, multiplication etc.), Appendix 3. ^b Water value 70.8 g/100 g is calculated by the difference from 100 minus other proximate components: ash, fat, protein, fibre, starch, and sugar total Calculated using formulas: sugar value ^c11.9 g/ 100 g is the sum of individual sugars (fructose, lactose, and maltose values zero for all the ingredients) and

^d'protein, total' value is 1.65 g/100 g from nitrogen total (0.26 g/ 100 g) multiplied by nitrogen to protein conversion factor 6.25.

