

GUIDE TO FOOD LABELLING AND ADVERTISING

SECTION VI – NUTRIENT CONTENT CLAIMS

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VI – Nutrient Content Claims

6.1 General Principles

6.1.1 Definition

A nutrient content claim is any statement or expression which **describes, directly or indirectly, the level of a nutrient(s)** in a food or group of foods.

6.1.2 Basis for Criteria

6.1.2.1 Consistency in Terminology and Use

Descriptive terms for the levels of nutrients in foods such as "**good source of**", "**high in**", "**low in**" and "**free**" may assist consumers in identifying foods with particular nutritional properties. Consumers may become confused or be misled if the quantity represented by a descriptive term is inappropriate or varies from food group to food group. Therefore, consistency in terminology and use is necessary. In the following sections, terminology and quantitative criteria are outlined for the use of positive and negative claims. Criteria are also provided in tables for individual nutrients.

6.1.2.2 Serving Size and Reference Amount as Basis for Nutrient Content Claims

The serving of stated size is used as a basis for many nutrient content claims. In the case of the claim "fat free", both the reference amount and the serving of stated size of the food are used as the basis for the claim. In the future, it is anticipated that both reference amount and serving size would serve as the basis for all nutrient content claims.

6.1.3 Legal Basis

Compositional criteria are provided for nutrient content claims using terms such as "**free**", "**low**", "**lean**", "**extra lean**", "**light**", "**source**", "**good source**", "**high in**", "**more**" and "**reduced/less**". Some of these requirements are in the *Food and Drug Regulations*, while others are guidelines based on the general prohibition in subsection 5(1) of the *Food and Drugs Act* against false and misleading

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representations on labels and in advertisements for foods (see **Summary Tables** of claims under specific nutrients, Section 6.2.1 to 6.2.6).

6.1.4 Nutrition Information Required When a Claim is Made

A general requirement for all claims is a declaration of the particular nutrient claimed and in the case of sodium, potassium, cholesterol and fatty acid claims, declaration of additional nutrients (see **Sodium (Salt) and Potassium**, Section 6.2.5 and **Fat, Fatty Acids and Cholesterol**, Section 6.2.3). These declarations must be based on a serving of stated size of the food as sold (B.01.002A and B.01.300 to B.02.303, *FDR*). Specific labelling requirements exist for claims for special dietary use such as "**low sodium**", "**low calorie**" and "**sugar free**" (see **Summary Tables** of claims, Sections 6.2.5.3, 6.2.1.3 and 6.2.4.5).

6.1.5 Synonyms

In most instances, synonyms will be dealt with on a case-by-case basis.

6.1.6 Negative Claims

6.1.6.1 Low, Free

Negative or avoidance claims such as "**low**" or "**free**" are generally associated with energy and nutrients of which consumers want to consume less (e.g., energy, fat, saturated fat, cholesterol, sugar, sodium). Certain of these are considered to be claims for special dietary use and are controlled by Division 24 of the *Food and Drug Regulations*. For the unregulated claims, criteria are based on a consideration of the distribution and levels of these substances in foods and, where appropriate, current usage. In line with traditional practice, the levels selected for the term "**low**" afford the greatest protection to the vulnerable consumer such as one who is following a therapeutic diet. In the case of "**free**", the levels selected are considered to be nutritionally insignificant. Therefore, the use of the terms "**low**" or "**free**" or equivalent terms is to be limited to foods which contain no more than the prescribed quantities of the nutrient per serving of stated size. However, the claim "**fat-free**" is to be limited to foods which contain the prescribed quantity of fat per serving of stated size and reference amount (see the **Summary Tables** of claims for the specific nutrients, Sections 6.2.1, 6.2.3, 6.2.4 and 6.2.5).

For the specific labelling and advertising requirements applying to foods represented as "**sugar-free**", "**low-calorie**", and "**low-sodium**", see also the *Food and Drug Regulations*, sections B.24.005 and B.24.010; B.24.007 and B.24.012; and B.24.008 and B.24.013, respectively, and **Foods for Special Dietary Use**, Section 7.15.1.

6.1.6.2 % (Name of the Nutrient) Free

The claim "**% (name of the nutrient) free**" in respect to fat, saturated fat, cholesterol, sodium/salt and sugar should not be used on food labels and in advertisements. Such claims may create an erroneous impression regarding the character or merit of the subject foods, and are considered to constitute a potential violation of section 5 (1) of the *Food and Drugs Act*.

Rationale: By seeking to emphasize a supposedly-low amount of a named nutrient in a food, such a claim presents a misleading impression of the relative contribution of the named nutrient to the whole food.

Example: A claim of "**97% fat free**" suggests to consumers that the food is very low in fat, when in fact the actual amount of fat (grams) per serving may be quite significant or even high.

Rationale: Such claims are open to many interpretations, including the impression that the subject food contains x% less of the named nutrient than a similar food not so described, or that x% of the named nutrient was originally present in the food, and was removed to make it healthier.

Example: Apple sauce, bearing the claim "**99% fat free**" might create the impression that another apple sauce has more fat because it does not bear the same claim and that indeed the apple sauce described as "**99% fat free**" was manipulated to extract all the fat.

6.1.6.3 Non-Addition

Claims which indicate **non-addition** often imply that the nutrient claimed may not be present in the food. Such claims would not be valid if the said nutrient

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were added indirectly to the food through another ingredient, except as a naturally-occurring, low-level constituent of that ingredient.

Generally, a negative statement indicating the non-addition of a nutrient to a food is acceptable when one of the following two conditions is met:

- the nutrient **does not occur naturally** in the food, has not been added and is not present or detectable in any of the ingredients or components which have been added together to form the food; or,
- the nutrient **does occur naturally** in a food and/or at a very low level in an ingredient which has been added to the food.

Note: In both cases mentioned above, the total amount of nutrient present in the food must be declared in the manner prescribed by the Regulations.

See also **No Sugar Added, Unsweetened, Not Sweetened**, Section 6.2.4 and **No Salt Added, Unsalted**, Section 6.2.5.

6.1.7 Positive Claims

Proposals for positive claims are contained in the consultation documents on Nutrient Content Claims, January 1996, available from Health Canada and the Canadian Food Inspection Agency.

6.1.7.1 Contains, Good Source, Excellent Source, High, Very High

Positive claims such as "**good source**" and "**high**" are generally associated with nutrients of which consumers wish to consume more, such as protein, potassium, vitamins, and mineral nutrients, dietary fibre and essential fatty acids (see Sections 6.2.2 to 6.2.6). The *Food and Drug Regulations* stipulate minimum levels for claims pertaining to protein, vitamins and mineral nutrients.

The terms "**good source**" and "**excellent source**" are considered acceptable for protein, vitamins and mineral nutrients because they are the descriptors which have been used traditionally and are familiar to consumers. The terms "**high**" and "**very high**" are also deemed appropriate. Other terms will be evaluated on a case-by-case basis. In general, these other terms will be considered to imply nutrient levels associated with "**excellent source**" and "**very high**".

Minimum levels of protein, vitamins and mineral nutrients have been established as a result of an evaluation of the distribution of these nutrients in foods and correct usage.

These levels are found in the summary tables of protein claims (Section 6.2.2.2) and vitamin and mineral nutrient claims (Section 6.2.6.4).

6.1.7.2 Protein

A claim may not be made for protein or amino acids collectively or by name unless a reasonable daily intake of the food, as defined in Schedule K of the *Food and Drug Regulations* (see Annex 1), has a protein rating of 20 or more (see Section 6.4.2). (B.01.305, *FDR*)

6.1.7.3 Vitamins and Mineral Nutrients

A claim may not be made for a vitamin or mineral nutrient unless a serving of the food contains at least 5 percent of the "recommended daily intake" (D.01.004, D.02.002). At these minimum levels, a statement that a food **"contains"** or is **"a source of"** a particular nutrient is considered appropriate. However, more emphatic claims such as **"high in"** and **"a good source"**, or **"very high in"** and **"an excellent source"** should be applied only to foods with higher levels of nutrients (see Section 6.2.6).

6.1.7.4 Source of Nutrients

A general statement indicating that a food is **"a source of nutrients"** without identifying the specific nutrients, requires that a serving of the food so described contain the minimum levels of vitamins, mineral nutrients, and protein outlined in this section, and triggers full nutritional labelling (i.e., energy, protein, fat, carbohydrate, sodium, potassium and all vitamins and mineral nutrients for which there are established "recommended daily intakes" and which are present at a level of 5 percent of the "recommended daily intake" or more per serving of stated size). For claims such as **"contains 8 essential nutrients"**, each essential nutrient referred to must be present, in a serving of the food so described, at levels sufficient for a source claim (e.g. minimum 5 percent of the "recommended daily intake" for each vitamin and mineral nutrient and minimum protein rating of 20). A declaration of the amount of each nutrient per serving of stated size is required in the prescribed manner.

6.1.7.5 Fortified, Enriched and Vitaminized

The *Food and Drugs Act and Regulations* specify the nutrients which may be added to foods as well as the levels of these nutrients that may be present in such foods (D.03.002) (see Annex 2). Under these controlled conditions, no objection has been taken to claims such as **"enriched with..."**, **"fortified with..."** or **"vitaminized with..."** when the nature of the addition is specified and the content in the food of the nutrient is declared as a percentage of "recommended daily intake" as required by the Regulations. Thus, there is no objection to claims such as **"vitamin C enriched"**, **"vitaminized with riboflavin"** or **"fortified with iron"**. However, where fortification is mandatory, such claims must not imply that the product is uniquely different from similar products.

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However, the terms "**fortified**" or "**enriched**" are not acceptable when they refer to the addition or increase of an ingredient or component to a food, even though that ingredient or component may be a source of a nutrient, for example; "**fortified with milk**".

6.1.8 Claims for Food Combinations

Claims relating to the nutrient content of combinations of foods are acceptable providing the following conditions are satisfied:

- i) the total content of the nutrient(s) to which the claim refers is declared per stated serving of combined foods;
- ii) the claim is limited to foods which are usually consumed together, e.g., cereal and milk, bread and peanut butter;
- iii) the food sold contributes at least one third of the total content of the nutrient for which a combination claim is made, unless the nutrient declaration for the combined foods is present only as a part of nutrition labelling.

Examples of **acceptable** claims include:

"A serving of 2 slices of white bread with 35 g of peanut butter provides 22% of the recommended daily intake of folacin."

"A serving of 30 g of (naming the breakfast cereal) with 125 ml of milk is a good source of protein."

In the latter example, the quantities of breakfast cereal and milk mentioned must have a protein rating of at least 20. (B.01.305(1)(a), *FDR*)

6.1.9 Comparative Claims

Definition: Comparative claims are those which compare directly or indirectly the nutritional properties of two or more foods.

Comparative claims may refer to positive characteristics of a food such as "contains 50% **more** protein than...", "**increased** in...", "contains **as much as**...", or the potentially negative characteristics such as "contains 25% **less** fat than...", "**reduced** in...", "**lower** in...".

Conditions for Use: Comparative claims are potentially misleading unless they:

- i) involve similar foods;
- ii) clearly identify the foods being compared and the differences between them;

iii) are based on differences which are both nutritionally and analytically significant; and

iv) are accompanied by other relevant nutrition information regarding the compared foods.

When a comparative claim is made, the following conditions apply:

a) The reference food must be a similar food.

The reference food which is used as a basis for the comparison of nutritional properties must either be **another brand** of the same food, a **different version** of the same food, e.g., partly skimmed milk as reference for skim milk, regular cola as reference for diet cola, **a substitute food**, e.g., butter as reference for margarine, or **at minimum**, in the **same food group** in *Canada's Food Guide to Healthy Eating* as the advertised food.

It is not appropriate to compare foods from different food groups of *Canada's Food Guide to Healthy Eating*, since each food group has its own particular pattern of nutrients. The food groups are not interchangeable and daily consumption of foods from each group is recommended. For example, it is not appropriate to compare the protein content of a hamburger with that of an orange or, conversely, to compare the vitamin C content of an orange with that of a hamburger (see Section VII, Annex 2, for *Canada's Food Guide to Healthy Eating*).

b) The reference food and the amount of difference must be clearly identified.

Incomplete comparisons such as "**less fat**" or "**less salt**" are considered to be misleading.

The following information must be part of, or appear in close proximity to, the most prominent comparative claim:

- the **amount of difference**, expressed as a percentage, fraction or an absolute amount. If the servings of food being compared are not equal in size, these sizes or quantities must also be indicated.
- the **identity of the reference food(s)**. The reference food must be described so that it can be easily identified by consumers.

If the reference food is not a **single brand of product** but rather an entire **class of product**, the energy or nutrient value that is the basis for the comparative claim, i.e., reference value, must be **representative** of the brands within this class. Also, if the class of product is subject to a regulatory standard which establishes a minimum level for the claimed nutrient, this minimum may be used as the reference value. For example, a fat comparison with regular mozzarella cheese may use 20 percent fat, the minimum fat content required by the standard, as the reference value.

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Examples of acceptable comparative claims include:

- "at least 40 fewer Calories per 120 g serving than brand X fish sticks";
- "33% less sodium than our regular potato chips".

c) The comparison is to be based on a significant difference with the reference food.

Reductions or increases in energy value or nutrient content of less than **25 percent per serving from the reference value** are of questionable nutritional significance and are not acceptable. If the reference food is another brand or version of the **same food**, e.g., light bread vs. bread, the minimum 25 percent difference in energy or nutrient value must be based on equivalent weight if the products are sold by weight, or based on equivalent volume if the products are sold by volume.

In the case of **small portions** or where the level of the nutrient in the unaltered or reference food is initially low, a difference of 25 percent may not result in a **significant absolute difference**. For example, if the fat content of partly skimmed milk were reduced from 2 percent to 1.5 percent, this would result in a 25 percent reduction, but the actual amount of difference in the fat content of a serving of 250 ml would be only 1.25 g. Hence, in addition to a minimum 25 percent difference, there must also be a significant absolute difference between the foods being compared. Minimum absolute differences of energy value and specific nutrients are outlined in the following tables:

NUTRIENT INCREASES		
Nutrient	Minimum Increase from Reference Food (Percent/serving)*	Minimum Increase (Amount/serving)
Protein	25	7 g
Dietary fibre	25	1 g
Polyunsaturated fatty acids	25	0.5 g
Vitamins	25	10 % RDI
Mineral nutrients	25	10 % RDI

ENERGY AND NUTRIENT REDUCTIONS		
Nutrient	Minimum Reduction from Reference Food (Percent/serving)*	Minimum Reduction (Amount/serving)
Energy	25	30 Cal (125 kJ)
Fat	25	1.5 g
Saturated fatty acids	25	1 g
Cholesterol	25	20 mg
Sugar	25	5 g
Sodium	25	100 mg

*** Note: If reference food is another brand or different version of same food, minimum difference must be based on equivalent weight if product is sold by weight or equivalent volume if product is sold by volume.**

Finally, manufacturers are to take into consideration the variability of the nutrients in both the advertised and the reference foods before making a comparative claim. Where there are wide variations in nutrient and energy values, the values for some of the items of the advertised food could be the same as, or may overlap the values for the reference food. The extent of this variability will depend upon the nature of the food, the nutrients involved, the precision of the formulation and the processing method used. Claimed differences are, therefore, to be based on statistically-defensible analytical data. Comparison with the values provided in tables of food composition, such as the Canadian Nutrient File, is to be avoided since these values may not be representative of products currently on the market.

When a food is claimed to be the "**highest**" in a particular nutrient or in energy value, this food should have **at least 25 percent more** of that nutrient or energy value than the food on the market with the next highest level of that nutrient or energy value. Similarly, a food claimed to be the "**lowest**" in a particular nutrient or in energy value is to have **at least 25 percent less** of that nutrient or energy value than the food on the market with the next lowest level.

d) Relevant nutrition information regarding the compared foods must be provided.

Comparative claims for particular nutrients may lead consumers to believe that the advertised food is nutritionally superior overall to the reference food. Since this is not usually the case, these claims may be deceptive. For example, it can be misleading to

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claim that a food is lower in sodium than a reference food when the consumer is not made aware that the advertised food is also higher in fat and cholesterol.

Manufacturers should ensure that such deception does not occur by providing sufficient information regarding the nutrient profiles of both advertised and reference foods.

6.1.10 Light/Lite Claims

Proposals for light claims are contained in the consultation documents on Nutrient Content Claims, January 1996, available from Health Canada and the Canadian Food Inspection Agency.

In most instances, the promotion of "**light**" foods is directed toward calorie-conscious consumers who expect "**light**" foods to be lower in Calories. In order to achieve a meaningful and consistent use of "**light/lite**" and to avoid misleading consumers, the following guidelines have been developed. In general, the use of "**light/lite**" to describe a food will require complete qualifying information to appear on the label or in the advertisement of the food, grouped together with the most prominent claim which states the food is "**light**".

a) Historical uses of light/lite

Objection will not be taken to a claim associated with the use of the term "**light**", when it is clearly understood by consumers through long-established practice. For example, "**light**" in relation to rum is historically recognized as a reference to colour and/or flavour.

b) Use of light/lite to refer to energy reduction

No objection is taken to the use of "**light/lite**" on labels or in advertisements for foods meeting the compositional and labelling requirements of "**calorie-reduced**" and "**low-calorie**" foods (see Section 6.1.10.1). (B.24.006, B.24.007, B.24.011, B.24.012, *FDR*)

For foods which do not meet the requirements for "**calorie-reduced**" and "**low-calorie**" foods, but which have a significant reduction in energy value compared to an appropriate reference food, the term "**light/lite**" may be used if it is qualified by a statement meeting the conditions for use of comparative claims in Section 6.2.1.3. Where the term "**light/lite**" is used as part of the common name of an unstandardized food, the reference food must be an **identically named** food(s) not described as "**light**", or where these do not exist, a similar food or foods not so described.

Examples of acceptable claims include:

- "**Heavenly Light Microwave Popping Corn - 33% fewer calories than our regular microwave popping corn**"

- "Sandra's Lite Caesar Dressing and Dip - one third the Calories of regular caesar dressing".

c) Use of light/lite with respect to other nutritional characteristics

i) A food may be described as "**light/lite**" if it is **low** in a particular nutrient provided that:

- a statement indicating that the food is "**low in (naming the nutrient)**" is grouped, in a prominent and discernible manner, with the most prominent claim that the food is "**light/lite**" or is clearly linked to this claim on the principal display panel; and
- the food meets the criteria for "**low (name of the nutrient)**" (see Sections 6.1.6 and 6.1.9).

ii) A food may be described as "**light/lite**" if it is **lower** or **reduced** in a particular nutrient(s) provided that:

- there is at least a 25 percent reduction and a significant absolute amount of reduction in the content of that nutrient(s), and there is no increase in energy compared with the reference food; and
- a statement of the amount of difference in the content of that nutrient(s) and a clear identification of the "**non-light/lite**" reference food is grouped in a prominent and discernible manner with the most prominent claim that the food is "**light/lite**" or is clearly linked to this claim on the principal display panel.

Notwithstanding c) i) and c) ii) above, "**light**" may be used to describe the following alcoholic beverages which contain the alcohol levels indicated below:

Beer, Ale, Porter, Stout	2.6 - 4 % alc./vol. (B.02.132)
Cider	4 % alc./vol. or less
Wine	9 % alc./vol. or less
Whisky	25 % alc./vol. or less

In the case of the above alcoholic beverages, it is assumed that through long-established practice, most consumers understand "**light**" to be a reference to a lower alcohol content. No further qualification of "**light**" is required on labels and in advertisements of these products provided the declaration of the percentage of alcohol by volume appears prominently on the principal display panel of the label, and that "**light**" is not used to refer to some other aspect or characteristic of these products. If

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"**light**" is used to describe a reduction in some constituent other than alcohol, then the claim must satisfy the conditions established in this Guide.

d) Reference food for light/lite

i) When "**light/lite**" is used as part of the common name, the reference food for a comparative energy nutrient statement qualifying light is the **same named food not described as "light/lite"**. For example:

Claim: **"Light Microwave Popping Corn"**
Qualifying statement: **"50% fewer Calories than our regular microwave popping corn"**
(The basis for "**light**" should be a reduction in Calories as compared with microwave popping corn not described as "**light**" and not as compared with another product such as potato chips.)

Claim: **"Light Sour Cream"**
Qualifying statement: **"60% less fat than our regular sour cream"**

ii) If "**light/lite**" is not used as part of the common name but appears as a separate claim on the label, the reference food may be the same named food not described as "**light**", if it exists, or a similar food. For example:

Claim: **"1% Partly Skimmed Milk"** with "**light**" as a separate flash on the label
Qualifying statement: **"50% less fat than 2% partly skimmed milk"**
(**"1% partly skimmed milk"** cannot be qualified by the term "**light**" since it meets the standard for partly skimmed milk (B.08.005, *FDR*) and must bear the prescribed common name "**partly skimmed milk**".)

Claim: **"Cream Cheese Product"** with "**light**" as a separate claim on the label
Qualifying statement: **"40% less fat than our regular cream cheese"**

e) Use of light/lite to refer to sensory or physical characteristics

No objection is taken to claims such as "**light in texture**", "**light tasting**", etc., when these are factual descriptions. However, the term "**light/lite**" should not be used in the common, trade or brand name of a food whose only light attribute is a sensory or physical characteristic, unless this characteristic is also included in the name(s) in which the term "**light/lite**" appears.

f) Use of light/lite to describe a meal

A meal, meeting the compositional requirements of section B.01.001 of the *Food and Drug Regulations* and containing a maximum of 300 Calories, may be described as "**light/lite**" provided a declaration of the energy value of the meal is grouped together with the most prominent claim which states the food is "**light**".

g) Light (naming a standardized food)

Where a standard for a food has been prescribed by the Regulations, section 6 of the *Food and Drugs Act* makes it an offence to label, package, sell or advertise any article in such a manner that it is likely to be mistaken for such food unless the article complies with the prescribed standard. Therefore, in addition to satisfying the foregoing conditions, when "**light (naming a standardized food)**" is used to refer to food that does not comply with all of the provisions of the standard for the food named in the common name, it must be accompanied by a statement(s) identifying all the factors which make the food so described compositionally different from the standard. In providing this information, it must be made clear to consumers that the food so described does not comply with the standard. To meet the above conditions, this statement or statements should appear on the **principal display panel** of the label and in any advertisement for the food in a prominent and readily-discernible manner.

If consumers are not informed in a clear and prominent manner of all the factors in which the food described as "**light (naming the standardized food)**" does not comply with that standard, they are likely to be misled. For example, it is considered misleading under subsection 5(1) of the *Food and Drugs Act* to describe a particular brand of "**light French dressing**" as containing 25 percent less fat than another brand of French dressing, without further divulging deviations from the ingredients permitted by the standard.

Where a food, which is modified to the point where it no longer complies with one standard but complies with another, the common name prescribed by the standard with which it complies must be used to describe the food. For example, "**skim milk**" cannot be described as "**light milk**".

6.1.10.1 Use of "Light/Lite" to Describe a Food

The following table summarizes conditions for the various uses of "**light/lite**":

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Constituent or characteristic to which "light/lite" refers	Information to be grouped with or clearly linked to the most prominent "light/lite" claim *	Information required by the <i>Food and Drug Regulations</i>	Compositional requirements
1) Energy	a) low-calorie, OR	core list (energy value in Calories and kilojoules, protein, fat and carbohydrate in grams per serving), the expression " low-calorie " on main panel in close proximity to and in the same type size as the common name, and recommended " for calorie-reduced diets " (B.24.012)	(R*) ≥50% reduced in Calories compared to same food not calorie-reduced and ≤15 Calories/average serving and ≤30 Calories/reasonable daily intake (B.24.007)
	b) calorie-reduced, OR	core list (energy value in Calories and kilojoules, protein, fat and carbohydrate in grams/serving), the expression " calorie-reduced " in close proximity to and in same type size as the common name, and recommended " for calorie-reduced diets " (B.24.011)	(R*) ≥50% reduced in Calories compared to the same food not calorie-reduced (B.24.006)
	c) "(%, fraction, or number) less [or fewer] Calories than (naming the reference food)"	energy value in Calories and kilojoules per serving (B.01.301)	≥25% less Calories and ≥30 fewer Calories per serving than appropriate reference food
2) Fat	a) low-fat, OR	fat in grams per serving (B.01.300)	(R*) ≤3 g fat per serving and ≤15% fat on dry basis (B.01.309)
	b) "(%, fraction, or grams) less fat than (naming the reference food)"	fat in grams per serving (B.01.300)	≥25% less fat and ≥1.5 g less fat per serving than appropriate reference food and no increase in energy from reference food

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Constituent or characteristic to which "light/lite" refers	Information to be grouped with or clearly linked to the most prominent "light/lite" claim *	Information required by the <i>Food and Drug Regulations</i>	Compositional requirements
3) Saturated Fatty Acids	a) low-saturates, OR	fat, polyunsaturates monounsaturates and saturates in grams per serving and cholesterol in milligrams per serving (B.01.303)	(R*) ≤ 2 g saturated fatty acids per serving and $\leq 15\%$ energy from saturated fatty acids (B.01.306.1)
	b) "(%, fraction, or grams) less saturated fat than (naming the reference food)"	fat, polyunsaturates monounsaturates and saturates in grams per serving and cholesterol in milligrams per serving (B.01.303)	$\geq 25\%$ less saturated fatty acids and ≥ 1 g less saturated fatty acids per serving than appropriate reference food and no increase in energy from reference food
4) Cholesterol	a) low cholesterol, OR	fat, polyunsaturates, monounsaturates and saturates in grams per serving and cholesterol in milligrams per serving (B.01.303)	(R*) ≤ 20 mg cholesterol per 100 g and per serving, and ≤ 2 g saturated fatty acids per serving, and $\leq 15\%$ energy from saturated fatty acids (B.01.307)
	b) "(%, fraction or milligrams) less cholesterol than (naming the reference food)"	fat, polyunsaturates, monounsaturates and saturates in grams per serving and cholesterol in milligrams per serving (B.01.303)	$\geq 25\%$ less cholesterol and saturated fatty acids per serving, ≥ 20 mg less cholesterol and ≥ 1 g less saturated fatty acids per serving than appropriate reference food, and no energy increase from reference food
5) Sugar	a) low-sugar, OR	sugars in grams per serving (B.01.300)	≤ 2 g sugars per serving and $\leq 10\%$ sugars on a dry basis
	b) "(%, fraction or grams) less sugar than (naming the reference food)"	sugars in grams per serving (B.01.300)	$\geq 25\%$ less sugars and ≥ 5 g less sugars per serving than appropriate reference food, and no energy increase from reference food

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Constituent or characteristic to which "light/lite" refers	Information to be grouped with or clearly linked to the most prominent "light/lite" claim *	Information required by the <i>Food and Drug Regulations</i>	Compositional requirements
6) Salt (sodium)	a) low-salt/sodium, OR	core list (energy value in Calories and kilojoules, protein, fat and carbohydrate in grams per serving), sodium and potassium in milligrams per serving, and the expression "low-sodium" on main panel in close proximity to and in the same type size as the common name (B.24.008)	(R*) $\geq 50\%$ reduced in sodium and ≤ 40 mg/100 g <u>except</u> ≤ 80 mg/100 g for meat/fish/poultry and ≤ 50 mg/100 g for cheddar cheese, and except for salt substitutes, no added salts of sodium (B.24.013)
	b) "(%, fraction or absolute amount) less salt or sodium than (naming the reference food)"	milligrams of sodium and potassium per serving	$\geq 25\%$ less sodium and ≥ 100 mg less sodium per serving than the reference food, and no energy increase from reference food
7) Sensory or physical characteristic (e.g., texture, flavour, colour, etc.)	statement of what characteristic the food is light in e.g., " light textured ", " light tasting ", etc.	None	None
8) A Meal	declaration of energy value of the meal	energy value in Calories and kilojoules per serving of stated size	≤ 300 Calories per meal "Meal" must meet compositional requirements of section B.24.201 of the <i>Food and Drug Regulations</i>

(R*) Regulatory requirement - *Food and Drug Regulations*

*If "**light/lite**" appears on the label, the qualifying information must be grouped with or clearly linked to the most prominent "**light/lite**" claim on the principal display panel. If "**light/lite**" appears in an advertisement, the qualifying information does not have to appear in the advertisement provided it appears on the label along with any information required by the *Food and Drug Regulations*, and the advertisement does not contain a nutrition statement or claim.

6.1.11 Lean and Extra Lean Claims (revised 1995)

**6.1.11.1 Meat, Including Poultry Meat, Fish and Shellfish Products
(Other Than Ground Meat and Poultry)**

a) Composition:

The terms "**extra lean**" and "**lean**" may be used to describe meat, including poultry meat cuts and prepared meat products, fish and shellfish products, which contain less than 7.5 percent fat and less than 10 percent fat respectively.

b) Labelling:

The terms "**extra lean**" and "**lean**", when used in relation to meat, including poultry meat, fish and shellfish products, other than "**ground (naming the species)**" meat and poultry, trigger a declaration of the fat content in grams per serving of stated size of the food as sold. (B.01.300, *FDR*)

Rationale: The term "**lean**" is currently used in relation to meat, poultry, fish and shellfish products, other than ground products, which contain no more than 10 percent fat, a level consistent with recommended healthy eating patterns. The "**extra lean**" category is based on a 25 percent reduction in fat compared to lean.

6.1.11.2 Ground (naming the species) Meat Including Poultry Meat

a) Composition:

"**Extra lean ground (naming the species)**" and "**lean ground (naming the species)**" are prescribed common names which may be used for ground meat, including poultry meat containing no more than 10 percent fat and 17 percent fat respectively.

b) Labelling:

The terms "**extra lean**" (no more than 10 percent fat), "**lean**" (no more than 17 percent fat), "**medium**" (no more than 23 percent fat) and "**regular**" (no more than 30 percent fat), are a part of the prescribed common names for "**ground (naming the species)**" meat including poultry meat (S.94(4) and Schedule I, *Meat Inspection Regulations*). A declaration of their fat content in grams per serving or as a percentage, although not mandatory, would provide useful information to consumers.

Rationale: The *Meat Inspection Regulations* (94(4) and Schedule I) were amended in 1990 to prescribe standards for "**extra lean, lean, medium and regular ground (naming the species)**" at maximum fat contents of 10, 17, 23 and 30 percent respectively.

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Although the current *Food and Drug Regulations* prescribe standards for only regular, medium and lean ground beef, these Regulations are to be amended to reflect the *Meat Inspection Regulations* in the near future.

6.1.11.3 Prepackaged Meals for Use in a Weight Reduction Diet, or Use in Achieving and Maintaining a Healthy Body Weight

The term "**lean**" may be employed in a trade, brand or fanciful name of a prepackaged meal for weight maintenance or for weight reduction if satisfying the requirements of Division 24 of the *Food and Drug Regulations*.

6.2 Specific Nutrient Requirements

6.2.1 Energy

6.2.1.1 How to Declare Energy

Energy must be expressed in **both** Calories (Cal) and kilojoules (kJ) per serving of stated size (B.01.301), using the following conversions:

$$1 \text{ Calorie} = 1 \text{ Cal} = 1 \text{ kilocalorie} = 4.184 \text{ kilojoules} = 4.184 \text{ kJ}$$

Calories should be rounded to the nearest whole number. Kilojoules should be rounded to the nearest 10 kJ for energy values of 10 kJ or more, and to the nearest kJ for energy values below 10 kJ.

6.2.1.2 Energy Claims

Foods provide energy to the body. The carbohydrate, fat, protein and alcohol in foods, when absorbed and utilized, provide energy for all body processes and muscle movement.

When a muscle contracts, it uses stored energy. After contraction the body replaces this energy so the muscle can contract again. Consuming a diet high in Calories does not assure that an individual will have lots of "pep" and "energy", since many factors, including the state of a person's health and physical fitness, have a major impact on how effectively and efficiently the muscles can use energy. Therefore, the popular concept of "energy" in the sense of being energetic, having pep, vigour, strength, endurance, etc., are not directly related to specific foods in the diet. For this reason, claims for the energy content of foods must be carefully phrased.

If used appropriately, the terms "**energy**", "**food energy**" and "**quick food energy**" are acceptable. Energy claims such as "**helps provide food energy**", "**helps provide energy**", "**helps give a lift**", "**for people on the go**", "**helps give you go**" or a simple declaration of the amount of Calories or kilojoules contributed by a stated serving of food or per 100 g or 100 ml of food, are acceptable and not misleading if the claims **DO NOT** imply that:

- the food in question provides "instant" pep, vitality, vigour, power or strength;
- the food provides all the food energy necessary to carry one through certain physical activities or recovery from these;
- the food provides all the energy necessary to carry one through until the next meal;

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- that a food, consisting mainly of carbohydrate, provides food energy which lasts over many hours of hard work or play.

A claim to the effect that a food is "**a source of energy**" should not be made unless the food provides at least 100 Calories per serving of stated size.

6.2.1.3 Summary Table of Energy Claims

The following table provides a summary of the Regulations and guidelines pertaining to energy claims (see also Sections 6.1, 6.3 and 6.4).

Energy Claims	Compositional Requirements	Information Required on Label and Advertisement*
a) "calorie reduced"	Only for foods for special dietary use and must: <ul style="list-style-type: none"> ● be \geq 50% reduced in Calories compared to the same food not calorie-reduced. (B.24.006) 	The label must state: <ul style="list-style-type: none"> ● "calorie-reduced" on the principal display panel in close proximity to, and in the same type size as, the common name; ● core list (energy - in Cal and kJ/serving; protein, fat, carbohydrate - in g/serving). The advertisement AND the label must state: <ul style="list-style-type: none"> ● recommended for "calorie-reduced diets" (B.24.011)
b) "low-calorie" "low in energy" "light in Calories" "lite in Calories" "light in energy" "lite in energy"	Only for foods for special dietary use and must: <ul style="list-style-type: none"> ● be \geq 50% reduced in Calories compared to the same food not calorie-reduced; and <ul style="list-style-type: none"> ● provide not more than 15 Cal/average serving; and <ul style="list-style-type: none"> ● provide not more than 30 Cal/Reasonable Daily Intake (see Annex 1). (B.24.007) 	The label must state: <ul style="list-style-type: none"> ● "low-calorie" on the principal display panel in close proximity to, and in the same type size as, the common name; (B.24.012) ● core list (energy - in Cal and kJ/serving; protein, fat, carbohydrate - in g/serving). The advertisement AND the label must state: <ul style="list-style-type: none"> ● recommended for "calorie-reduced diets"

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Energy Claims	Compositional Requirements	Information Required on Label and Advertisement*
<p>c) "(%, fraction or quantity) less (or fewer) Calories than (naming the reference food)"</p> <p>"lower in Calories than (naming the reference food)"</p> <p>or</p> <p>"less (or fewer) Calories than (naming the reference food)"</p>	<p>Compared to the reference food it must have:</p> <ul style="list-style-type: none"> ● $\geq 25\%$ less energy; <p>and</p> <ul style="list-style-type: none"> ● ≥ 30 Cal (125 kJ) less energy per serving. 	<ul style="list-style-type: none"> ● Calories and kilojoules per serving, preceded by the word "energy"; (B.01.301) <p>and</p> <ul style="list-style-type: none"> ● (the %, fraction or number) less or fewer Calories than (naming the reference food) to be either: <ol style="list-style-type: none"> a) part of or grouped with the most prominent claim that the food is lower in Calories; or b) clearly linked to this claim: <ol style="list-style-type: none"> i) on the principal display panel when the claim is made on the label; <p>and</p> <ol style="list-style-type: none"> ii) in the advertisement when the claim is made in the advertisement.
<p>d) "calorie free"</p>	<ul style="list-style-type: none"> ● ≤ 1 Cal/100 g of food. 	<ul style="list-style-type: none"> ● Calories and kilojoules per serving, preceded by the word "energy". (B.01.301)
<p>e) "light"</p> <p>"lite"</p> <p>"light (naming the common or brand name)"</p> <p>"lite (naming the common or brand name)"</p>	<p>In general these claims cannot be used without further qualification. The food must meet the composition requirements of:</p> <ul style="list-style-type: none"> ● a calorie-reduced food as described in a); <p>or</p> <ul style="list-style-type: none"> ● a low-calorie food as described in b); <p>or</p> <ul style="list-style-type: none"> ● a food containing less or fewer Calories than the reference food as in c). 	<p>Must meet the corresponding label and advertising requirements of a), b) or c), EXCEPT in an advertisement these claims may be used without further qualification provided that:</p> <ul style="list-style-type: none"> ● all required information is on the label; <p>and</p> <ul style="list-style-type: none"> ● no other nutrition statement or claim is made in the advertisement.
<p>f) "source of energy"</p>	<ul style="list-style-type: none"> ● ≥ 100 Cal/serving. 	<ul style="list-style-type: none"> ● Calories or kilojoules per serving preceded by the word "energy". (B.01.301)

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Energy Claims	Compositional Requirements	Information Required on Label and Advertisement*
g) "light" dinner "lite" dinner "light" meal "lite" meal	<ul style="list-style-type: none"> ● must be ≤ 300 Cal; and ● must contain at least one average-sized serving (as indicated in <i>Canada's Food Guide to Healthy Eating</i>) from each of the following two groups of foods: a) meat, fish, poultry, legumes, nuts, seeds, eggs OR milk or other dairy products (excluding butter, cream, sour cream, ice cream, ice milk and sherbet); and b) vegetables, fruits OR cereal products. (B.24.201) 	<ul style="list-style-type: none"> ● Calories and kilojoules per serving preceded by the word "energy". (B.01.301) and ● must carry a declaration of the energy value of the meal, grouped together either: a) with the most prominent claim stating the food is light/lite; or b) clearly linked to this claim: i) on the principal display panel when the claim is made on the label; and ii) in the advertisement when the claim is made in the advertisement.

* When claims are made on a label, unless otherwise specified, this information must appear on the label. For advertising claims, the required information must appear either in the advertisement or on the label.

≥ means "greater than or equal to".

≤ means "less than or equal to".

6.2.2 Protein and Amino Acids

6.2.2.1 How to Declare Protein

Protein follows energy in the nutrition labelling format and is expressed in grams per serving of stated size. Individual amino acids, if declared, are also expressed in grams and should follow protein (see table below).

The quantity of protein and amino acids should be rounded to the nearest whole gram for amounts of 10 g or more, and to the nearest tenth of a gram for amounts less than 10 g. If no protein is present, its absence is to be indicated by a zero (see Annex 2 for foods to which amino acids may be added).

A statement or claim with respect to proteins or amino acids, collectively or by name, is permitted provided a Reasonable Daily Intake of the food has a protein rating of 20 or more (see Annex 1 for Reasonable Daily Intakes). The nine essential amino acids are: histidine, isoleucine, leucine, lysine, methionine, phenylalanine, threonine, tryptophan and valine.

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The following statements on a label or in an advertisement **DO NOT** require the food to have a protein rating of 20 or more (B.01.305):

- protein as a part of the common name of an ingredient;
- amino acids declared in a list of ingredients;
- single amino acid preparations sold as foods;
- foods represented for use in gluten-free diets;
- declaration of phenylalanine on a food containing aspartame or a sweetener that contains aspartame;
- foods represented for use in protein or amino acid restricted diets;
- declaration of the amount of protein contained in a food.

NUTRITION INFORMATION NUTRITIONNELLE	
per x g or ml serving (x cups, items, etc.) par portion de x g ou ml (x tasses, unités, etc.)	
Energy/Énergie	x Cal x kJ
Protein/Protéines	x g
methionine/méthionine	x g
tryptophan/tryptophane	x g
valine	x g
Fat/Matières grasses	x g
Carbohydrate/Glucides	x g

6.2.2.2 Summary Table of Protein and Amino Acid Claims

The following table provides a summary of the Regulations and guidelines pertaining to protein and amino acids (see also Sections 6.1, 6.3 and 6.4).

Protein and Amino Acid Claims	Compositional Requirements	Information Required on Label and Advertisement*
a) "source of..." "contains..." "good source of..." "high in..."	<ul style="list-style-type: none"> ● Reasonable Daily Intake of the food must have a protein rating ≥ 20; <p>or</p> <ul style="list-style-type: none"> ● 30 g of breakfast cereal + 125 ml of milk must have a protein rating of ≥ 20. (B.01.305) 	<ul style="list-style-type: none"> ● g protein/serving. (for protein claims) (B.01.300) <p>and</p> <ul style="list-style-type: none"> ● g each essential amino acid/serving (for individual or collective amino acid claims) (B.01.300)

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Protein and Amino Acid Claims	Compositional Requirements	Information Required on Label and Advertisement*
<p>b) "excellent source of protein"</p> <p>"rich in protein"</p> <p>"very high in protein"</p>	<ul style="list-style-type: none"> Reasonable Daily Intake of the food must have a protein rating ≥ 40. 	<ul style="list-style-type: none"> g protein/serving. (B.01.300)
<p>c) "(%, fraction or quantity) more protein than (naming the reference food)"</p>	<ul style="list-style-type: none"> Reasonable Daily Intake of the food must have a protein rating ≥ 20. <p>Compared to the reference food it must have:</p> <ul style="list-style-type: none"> $\geq 25\%$ more protein; <p>and</p> <ul style="list-style-type: none"> ≥ 7 g more protein/serving. 	<ul style="list-style-type: none"> g protein/serving. (B.01.300) <p>and</p> <ul style="list-style-type: none"> (the %, fraction or number of grams) more protein than (naming the reference food) to be either: <ul style="list-style-type: none"> a) part of, or grouped with the most prominent claim that the food is higher in protein; or b) clearly linked to this claim: <ul style="list-style-type: none"> i) on the principal display panel when the claim is made on the label; and ii) in the advertisement when the claim is made in the advertisement.
<p>d) "contains all essential amino acids"</p> <p>"a good source of essential amino acids"</p>	<ul style="list-style-type: none"> a Reasonable Daily Intake of the food must have a protein rating ≥ 20; <p>or</p> <ul style="list-style-type: none"> 30 g of breakfast cereal + 125 ml of milk must have a protein rating of ≥ 20. (B.01305) 	<ul style="list-style-type: none"> g protein/serving <p>and</p> <ul style="list-style-type: none"> g of each essential amino acid/serving (B.01.300)

* When claims are made on a label, unless otherwise specified, this information must appear on the label. For advertising claims, the required information must appear either in the advertisement or on the label.

\geq means "greater than or equal to".

\leq means "less than or equal to".

6.2.3 Fat, Fatty Acids and Cholesterol

6.2.3.1 How to Declare Fat, Fatty Acids and Cholesterol

Fat and related substances follow protein in the nutrition labelling format. Fat should be calculated as total lipid fatty acids expressed as triglycerides.

Fat and fatty acids should be expressed in grams and cholesterol in milligrams per serving of stated size, and should be rounded to the nearest whole number for quantities of 10 g or more, and to the nearest tenth of a gram for quantities less than 10 g. Cholesterol should be rounded to the nearest milligram (i.e., 0.4 mg cholesterol would be declared as 0 mg, 0.6 mg cholesterol would be declared as 1 mg). If no fat or fat components are present, their absence should be indicated by a zero.

Polyunsaturates, as defined by the *Food and Drug Regulations*, refer only to *cis*-methylene interrupted polyunsaturated fatty acids, and monounsaturates refer only to *cis*-monounsaturated fatty acids (B.01.303).

6.2.3.2 Claims for Fatty Acids and Cholesterol

The claims "**low-fat**", "**low-cholesterol**", "**cholesterol-free**" and "**low in saturated fatty acids**" are controlled by the Regulations. For other fat and fatty acid claims, including "**a source of polyunsaturates**", "**source of linoleic acid**", "**fat-free**", "**saturated fat-free**" criteria are the subject of guidelines. Criteria for fatty acid and cholesterol claims take into consideration: i) the recommended intake of linoleic acid and of saturated fatty acids in the *Nutrition Recommendations for Canadians*, and ii) the distribution of fatty acids in food sources. Criteria for fat claims are given in Sections 6.1.2, 6.1.5, 6.1.6 and 6.1.7.

If a statement or a claim is made for any one of these fat components -- polyunsaturates, monounsaturates, saturates or cholesterol -- **all four plus total fat** must be declared (B.01.303). When linoleic acid is declared, the above four components plus total fat must also be declared (B.01.306). Statements or claims regarding specifically-named fatty acids, other than linoleic acid, or of groups of fatty acids are not permitted. Temporary Marketing Authorization Letters (B.01.054) have been issued by the Health Products and Food Branch (formerly Health Protection Branch) of Health Canada for claims relating to *trans*-fatty acids and omega-3 fatty acids on certain products.

The mandatory percent fat declaration on dairy products does not trigger a fat declaration in grams.

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The order of declaration of fat, fatty acids and cholesterol is as follows:

NUTRITION INFORMATION NUTRITIONNELLE	
per x g or ml serving (x cups, items, etc.) par portion de x g ou ml (x tasses, unités, etc.)	
Energy/Énergie	x Cal x kJ
Protein/Protéines	x g
Fat/Matières grasses	x g
polyunsaturates/polyinsaturés	x g
linoleic acid/acide linoléique	x g
monounsaturates/monoinsaturés	x g
saturates/saturés	x g
cholesterol/cholestérol	x mg
Carbohydrate/Glucides	x g

6.2.3.3 Summary Table of Fat Claims

The following table provides a summary of the Regulations and guidelines pertaining to fat claims (see also Sections 6.1, 6.3 and 6.4).

Fat Claims	Compositional Requirements	Information Required on Label and Advertisement*
a) "low-fat" "low in fat" "light in fat" "lite in fat"	<ul style="list-style-type: none"> ● ≤ 3 g fat/serving; and ● ≤ 15 g fat/100 g of dry matter. (B.01.309) 	<ul style="list-style-type: none"> ● g fat/serving. (B.01.300)
b) "(%, fraction or quantity) less fat than (naming reference food)" "lower in fat than..." "reduced in fat"	<p>Compared to the reference food it must have:</p> <ul style="list-style-type: none"> ● ≥ 25% less fat; and ● ≥ 1.5 g less fat/serving; and ● no increase in energy. 	<ul style="list-style-type: none"> ● g fat/serving. (B.01.300) and ● (the %, fraction or number of grams) less fat than (naming the reference food) to be either: <ul style="list-style-type: none"> a) part of, or grouped with the most prominent claim that the food is reduced in fat; or b) clearly linked to this claim: <ul style="list-style-type: none"> i) on the principal display panel when the claim is made on the label; and ii) in the advertisement when the claim is made in the advertisement.

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Fat Claims	Compositional Requirements	Information Required on Label and Advertisement*
c) "fat-free" "free of fat" "contains no fat" "very low fat" "ultra low fat"	<ul style="list-style-type: none"> • < 0.5 g fat per reference amount and per serving • < 0.5 grams of fat per serving in the case of a pre-packaged meal and a main dish entrée where no reference amount is indicated. 	<ul style="list-style-type: none"> • g fat/serving. (B.01.300)
d) "light" "lite" "light (naming the common or brand name)" "lite (naming the common or brand name)"	In general, these claims cannot be used without further qualification. The food must meet the compositional requirements of: <ul style="list-style-type: none"> • a low-fat food as described in a); or <ul style="list-style-type: none"> • a food containing less fat than the reference food as in b); or <ul style="list-style-type: none"> • a fat-free food as described in c). 	Must meet corresponding label and advertisement requirements of a), b), or c), EXCEPT in an advertisement these claims may be used without further qualification provided that: <ul style="list-style-type: none"> • all required information is on the label and <ul style="list-style-type: none"> • no other nutrition statement or claim is made in the advertisement.
e) "lean" (for all species of ground meat and poultry)	<ul style="list-style-type: none"> • ≤ 17% fat. 	-
f) "extra lean" (for all species of ground meat and poultry)	<ul style="list-style-type: none"> • ≤ 10% fat. 	-
g) "lean" (for all other meat, poultry, fish and shellfish)	<ul style="list-style-type: none"> • ≤ 10% fat. 	<ul style="list-style-type: none"> • g fat/serving. (B.01.300)
h) "extra lean" (for all other meat, poultry, fish and shellfish)	<ul style="list-style-type: none"> • ≤ 7.5% fat. 	<ul style="list-style-type: none"> • g fat/serving. (B.01.300)

* When claims are made on a label, unless otherwise specified, this information must appear on the label. For advertising claims, the required information must appear either in the advertisement or on the label.

≥ means "greater than or equal to".

≤ means "less than or equal to".

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6.2.3.4 Summary Table of Fatty Acid Claims

The following table provides a summary of the Regulations and guidelines pertaining to fatty acid claims (see also Sections 6.1, 6.3 and 6.4).

Fatty Acid Claims	Compositional Requirements	Information Required on Label and Advertisement*
a) "source of" or "contains polyunsaturates (or polyunsaturated fats, or polyunsaturated fatty acids)"	<ul style="list-style-type: none"> ● ≥ 2 g polyunsaturates/serving. 	<ul style="list-style-type: none"> ● total fat, polyunsaturates, monounsaturates and saturates in g/serving and cholesterol in mg/serving. (B.01.303)
b) "(%, fraction or quantity) more polyunsaturates than (naming the reference food)" "higher in polyunsaturates than (naming the reference food)"	<p>Compared to the reference food it must have:</p> <ul style="list-style-type: none"> ● $\geq 25\%$ more polyunsaturates; <p>and</p> <ul style="list-style-type: none"> ● ≥ 0.5 g more polyunsaturates/serving. 	<ul style="list-style-type: none"> ● total fat, polyunsaturates, monounsaturates and saturates in g/serving and cholesterol in mg/serving; (B.01.303) <p>and</p> <ul style="list-style-type: none"> ● (the %, fraction or number of grams) more polyunsaturates than (naming the reference food) to be either: <ul style="list-style-type: none"> a) part of, or grouped with the most prominent claim that the food is higher in polyunsaturates; or b) clearly linked to this claim: <ul style="list-style-type: none"> i) on the principal display panel when the claim is made on the label; <p>and</p> <ul style="list-style-type: none"> ii) in the advertisement when the claim is made in the advertisement.
c) "source of linoleic acid" "contains linoleic acid"	<ul style="list-style-type: none"> ● ≥ 2 g linoleic acid/serving. 	<ul style="list-style-type: none"> ● total fat, polyunsaturates, linoleic acid, monounsaturates and saturates in g/serving and cholesterol in mg/serving. [B.01.306(2)]
d) "source of" or "contains monounsaturates (or monounsaturated fats, or monounsaturated fatty acids)"	<ul style="list-style-type: none"> ● ≥ 2 g monounsaturates/serving. 	<ul style="list-style-type: none"> ● total fat, polyunsaturates, monounsaturates and saturates in g/serving and cholesterol in mg/serving. (B.01.303)
e) "low in saturated fatty acids (or saturates, or saturated fats)"	<ul style="list-style-type: none"> ● ≤ 2 g saturated fatty acids/serving. <p>and</p> <ul style="list-style-type: none"> ● $\leq 15\%$ of energy value from saturated fatty acids. (B.01.306.1) 	<ul style="list-style-type: none"> ● total fat, polyunsaturates, monounsaturates and saturates in g/serving and cholesterol in mg/serving. (B.01.303)
f) "free of saturated fatty acids (or saturates or saturated fats)"	<ul style="list-style-type: none"> ● ≤ 0.1 g saturated fatty acids/100 g. 	<ul style="list-style-type: none"> ● total fat, polyunsaturates, monounsaturates and saturates in g/serving and cholesterol in mg/serving. (B.01.303)

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Fatty Acid Claims	Compositional Requirements	Information Required on Label and Advertisement*
<p>g) "(%, fraction or quantity) less saturated fat than (naming the reference food)"</p> <p>"lower in saturates than (naming the reference food)"</p> <p>"reduced in saturates"</p>	<p>Compared to the reference food it must have:</p> <ul style="list-style-type: none"> ● ≥ 25% less saturates; <p>and</p> <ul style="list-style-type: none"> ● ≥ 1 g less saturates/serving. 	<ul style="list-style-type: none"> ● total fat, polyunsaturates, monounsaturates and saturates in g/serving and cholesterol in mg/serving; (B.01.303) <p>and</p> <ul style="list-style-type: none"> ● (the %, fraction or number of grams) less saturates than (naming the reference food) to be either: <ul style="list-style-type: none"> a) part of, or grouped with the most prominent claim that the food is lower in saturates; or b) clearly linked to this claim: <ul style="list-style-type: none"> i) on the principal display panel when the claim is made on the label; and ii) in the advertisement when the claim is made in the advertisement.

* When claims are made on a label, unless otherwise specified, this information must appear on the label. For advertising claims, the required information must appear either in the advertisement or on the label.

≥ means "greater than or equal to".

≤ means "less than or equal to".

6.2.3.5 Summary Table of Cholesterol Claims

The following table provides a summary of the Regulations and guidelines pertaining to cholesterol claims (see also Sections 6.1, 6.3 and 6.4).

Cholesterol Claims	Compositional Requirements	Information Required on Label and Advertisement*
<p>a) "low-cholesterol"</p> <p>"low in cholesterol"</p> <p>"light in cholesterol"</p> <p>"lite in cholesterol"</p>	<ul style="list-style-type: none"> ● ≤ 20 mg cholesterol/100 g AND per serving; <p>and</p> <ul style="list-style-type: none"> ● ≤ 15% of energy value from saturated fatty acids; <p>and</p> <ul style="list-style-type: none"> ● ≤ 2 g saturated fatty acids/serving. (B.01.307) 	<ul style="list-style-type: none"> ● total fat, polyunsaturates, monounsaturates and saturates in g/serving and cholesterol in mg/serving. (B.01.303)

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Cholesterol Claims	Compositional Requirements	Information Required on Label and Advertisement*
<p>b) "cholesterol-free"</p> <p>"free of cholesterol"</p> <p>"no cholesterol"</p>	<ul style="list-style-type: none"> ● ≤ 3 mg cholesterol/100 g; <p>and</p> <ul style="list-style-type: none"> ● ≤ 15% of energy value from saturated fatty acids; <p>and</p> <ul style="list-style-type: none"> ● ≤ 2 g saturated fatty acids/serving. (B.01.308) 	<ul style="list-style-type: none"> ● total fat, polyunsaturates, monounsaturates and saturates in g/serving and cholesterol in mg/serving. (B.01.303)
<p>c) "(%, fraction or quantity) less cholesterol than (naming the reference food)"</p> <p>"lower in cholesterol than..."</p> <p>"reduced in cholesterol"</p>	<p>Compared to the reference food it must have:</p> <ul style="list-style-type: none"> ● ≥ 25% less cholesterol; <p>and</p> <ul style="list-style-type: none"> ● ≥ 20 mg less cholesterol/serving; <p>and</p> <ul style="list-style-type: none"> ● ≥ 25% less saturated fat; <p>and</p> <ul style="list-style-type: none"> ● ≥ 1 g less saturated fat/serving. 	<ul style="list-style-type: none"> ● total fat, polyunsaturates, monounsaturates and saturates in g/serving and cholesterol in mg/serving; (B.01.303) <p>and</p> <ul style="list-style-type: none"> ● (the %, fraction or number of milligrams) less cholesterol than (naming the reference food) to be either: <ul style="list-style-type: none"> a) part of or grouped with the most prominent claim that the food is reduced in cholesterol or b) clearly linked to this claim: <ul style="list-style-type: none"> i) on the principal display panel when the claim is made on the label; and ii) in the advertisement when the claim is made in the advertisement.
<p>d) "light"</p> <p>"lite"</p> <p>"light (naming the common or brand name)"</p> <p>"lite (naming the common or brand name)"</p>	<p>In general, these claims cannot be used without further qualification. The food must meet the compositional requirements of:</p> <ul style="list-style-type: none"> ● a low-cholesterol food as described in a); <p>or</p> <ul style="list-style-type: none"> ● a cholesterol-free food as described in b); <p>or</p> <ul style="list-style-type: none"> ● a food containing less cholesterol than the reference food as in c). 	<p>Must meet the corresponding label and/or advertisement requirements of a), b) or c) EXCEPT in an advertisement these claims may be used without further qualification provided that:</p> <ul style="list-style-type: none"> ● all required information is on the label; <p>and</p> <ul style="list-style-type: none"> ● no other nutrition statement or claim is made in the advertisement.

* When claims are made on a label, unless otherwise specified, this information must appear on the label. For advertising claims, the required information must appear either in the advertisement or on the label.

≥ means "greater than or equal to".

≤ means "less than or equal to".

6.2.4 Carbohydrate, Sweeteners and Dietary Fibre

6.2.4.1 How to Declare Carbohydrate and Sweeteners

Carbohydrate includes: sugars such as monosaccharides (e.g., glucose), disaccharides (e.g., sucrose), etc.; sugar alcohols (isomalt, lactitol, maltitol, maltitol syrup, mannitol, sorbitol, and xylitol); polydextrose; starch; and dietary fibre. All are expressed in grams per serving of stated size and are rounded to the nearest whole number for quantities of 10 g or more, and to the nearest tenth of a gram for quantities less than 10 g. If no carbohydrate is present, its absence should be indicated by a zero. The declaration of one carbohydrate component does not trigger the declaration of any of the others.

The label of a food containing one or more of the sugar alcohols listed above, or polydextrose, must carry a statement of the **specific name and amount of each**, grouped together, in g/serving of stated size (B.01.018). The amount of each may be declared in the ingredient list, in a list in immediate proximity to the ingredient list, or in the nutrition panel as indicated below.

Aspartame, sucralose, acesulfame-potassium are sweeteners which must be declared on the principal display panel (see B.01.014 and B.01.015 for the labelling of aspartame; B.01.016 and B.01.017 for sucralose; and B.01.019 and B.01.020 for acesulfame-potassium). In the nutrition labelling format sucralose, aspartame, and acesulfame-potassium are declared in milligrams. No objection would be made, however, to declaring aspartame after protein.

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NUTRITION INFORMATION NUTRITIONNELLE	
per x g or ml serving (x cups, items, etc.) par portion de x g ou ml (x tasses, unités, etc.)	
Energy/Énergie	x Cal x kJ
Protein/Protéines	x g
Fat/Matières grasses	x g
Carbohydrate/Glucides	x g
sugars/sucres	x g
lactitol	x g
mannitol	x g
sorbitol, etc.	x g
polydextrose	x g
starch/amidon	x g
dietary fibre/fibres alimentaires	x g
Sucralose	x mg
Acesulfame-potassium/Acésulfame-potassium	x mg
Aspartame	x mg

6.2.4.2 No Sugar Added, Unsweetened, Not Sweetened

The term "**no sugar added**", "**unsweetened**" or "**not sweetened**" requires a declaration on the label of the total quantity of sugars (all mono and disaccharides) in the food in grams per serving of stated size. If the claim is made in an advertisement, the sugars declaration may be on the label or in the advertisement (B.01.304, *FDR*). The terms may be used on foods which do not contain any added sugars (sugar, honey, molasses, fructose, glucose or other mono and disaccharides), or any ingredient or component which contributes a significant amount of sugars to the food.

Rationale: The terms "**no sugar added**", "**unsweetened**" or "**not sweetened**" imply that the food contains no added sugar and are technically sugars claims under section B.01.300 (*FDR*). Consumers limiting sugars need to know the amount of naturally occurring sugars in the food.

Example: "unsweetened" juices.

Exceptions:

1. The following are conditions under which the claim "**no sugar added**" can be used, even if sugars other than sucrose are present:

- If sugar is to be added to a food by consumers before it is consumed, e.g., fruit drink mixes. When the claim "**no sugar added**" is made, a statement indicating that sugar should be added during the preparation of the foods should accompany the claim to inform consumers that the product is not sweet. A statement such as "**sweeten to your own taste**" would meet this requirement.

- If the statement "**no sugar added**" is used to describe a food sweetened with some other product such as honey, molasses or juice, and if the expression is intended to indicate the non-addition of sucrose rather than the non-addition of other sugars, i.e., monosaccharides or other disaccharides. There would be no deception if this expression is accompanied, **in equal prominence**, by an indication of the replacement sweetener, e.g., "**contains no added sugar (sucrose), sweetened with honey**".

2. Unsweetened and semi-sweet chocolate are products used mainly for further processing and not for direct consumption by the consumer. The use of the common names "**unsweetened chocolate**" and "**semi-sweet chocolate**" has a long history and such use does not require a declaration of the sugars content on the label or in an advertisement.

6.2.4.3 Less Sweet, Lightly Sweetened

The term "**less sweet**" or "**lightly sweetened**" requires a declaration of the total quantity of sugars in the food in grams per serving. They are comparative claims, acceptable on foods which have a minimum reduction in sugars content of 25 percent and a decrease of 5 g in sugars per serving, with no increase in energy compared to a similar reference food. A statement indicating the reference food and the amount of reduction should appear, grouped with the most prominent claim.

Rationale: The term "**less sweet**" implies that the food contains less sugar than a similar food; the term "**lightly sweetened**" is considered to imply that the food contains less sugar than the regular counterpart which is "**sweetened**" (unqualified). As such, both fall under the requirements for sugars claims (B.01.300, *FDR*) and the policy for comparative claims (Section 6.1.9). "**Lightly**" would also be subject to the policy on light (Section 6.1.10).

Example: "**lightly sweetened**" yogurt.

Exception: The use of the common name "semi-sweet chocolate" is not considered to constitute a comparative sugar claim for the purposes of this policy.

6.2.4.4 Sweet, Sweetened

Where the term "**sweet**" or "**sweetened**" is used, a declaration of the sugars content on the label or in an advertisement is not required.

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Rationale: Although technically, sugars claims trigger a declaration of the sugars content (B.01.300, *FDR*), these claims have been traditionally used on foods to indicate sweetness or sweetening. Consumers who are attempting to limit sugars, such as those with diabetes, are alerted to the high sugar content by the claim "**sweetened**". There is concern that some manufacturers may not indicate that the food is "**sweetened**" if such a claim triggered a declaration of the sugars.

Examples: Examples of "**sweet**" and "**sweetened**" claims not requiring sugars declaration include "**sweetened apple juice**", "**sweetened condensed milk**" and "**sweet chocolate**".

A claim referring specifically to a "**sweet taste**", such as "**does not taste sweet**", is considered to be a taste claim and would not trigger a sugars declaration.

6.2.4.5 Summary Table of Carbohydrate Claims

The following table provides a summary of the Regulations and guidelines pertaining to carbohydrate claims (see also Sections 6.1, 6.3 and 6.4).

Carbohydrate Claims	Compositional Requirements	Information Required on Label and Advertisement*
a) "carbohydrate-reduced"	<p>Only for foods for special dietary use, and must have:</p> <ul style="list-style-type: none"> ● prior to carbohydrate reduction, $\geq 25\%$ of the Calories from its carbohydrate content; <p>and when ready to serve provides:</p> <ul style="list-style-type: none"> ● $\leq 50\%$ available carbohydrate normally found in that food when not carbohydrate-reduced; <p>and</p> <ul style="list-style-type: none"> ● no more Calories than would be provided if it were not carbohydrate-reduced. (B.24.004) 	<p>The label must state:</p> <ul style="list-style-type: none"> ● "carbohydrate-reduced" in close proximity to and of the same type size as common name; (B.24.009) ● core list (energy - in Cal and kJ/serving; protein, fat, carbohydrate - in g/serving). <p>The advertisement AND the label must state:</p> <ul style="list-style-type: none"> ● recommended for "carbohydrate-reduced diets".
b) "low carbohydrate" "low in carbohydrate"	<ul style="list-style-type: none"> ● $\leq 10\%$ available carbohydrate; <p>and</p> <ul style="list-style-type: none"> ● ≤ 2 g available carbohydrate/serving. 	<ul style="list-style-type: none"> ● g carbohydrate/serving. (B.01.300)
c) "source of" or "contains complex carbohydrate"	<ul style="list-style-type: none"> ● ≥ 10 g starch/serving. 	<ul style="list-style-type: none"> ● g starch/serving; <p>and</p> <ul style="list-style-type: none"> ● the words "complex carbohydrate" must appear in brackets after starch in the nutrition panel.

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Carbohydrate Claims	Compositional Requirements	Information Required on Label and Advertisement*
<p>d) "low-sugar"</p> <p>"low in sugar"</p> <p>"light in sugar"</p> <p>"lite in sugar"</p>	<ul style="list-style-type: none"> ● ≤ 2 g sugars/serving; <p>and</p> <ul style="list-style-type: none"> ● ≤ 10% sugars on a dry basis. 	<ul style="list-style-type: none"> ● g sugars/serving. (B.01.300)
<p>e) "(%, fraction or quantity) less sugar than (naming reference food)"</p> <p>"reduced in sugar"</p> <p>"lower in sugar than..."</p> <p>"lightly sweetened"</p>	<p>Compared to the reference food it must have:</p> <ul style="list-style-type: none"> ● ≥ 25% less sugars; <p>and</p> <ul style="list-style-type: none"> ● ≥ 5 g less sugars/serving; <p>and</p> <ul style="list-style-type: none"> ● have no increase in energy. 	<ul style="list-style-type: none"> ● g sugars/serving; (B.01.300) <p>and</p> <ul style="list-style-type: none"> ● (the %, fraction or number of grams) less sugar than (naming the reference food) to be either: <p>a) part of or grouped with the most prominent claim that the food is reduced in sugar;</p> <p>or</p> <p>b) clearly linked to this claim:</p> <ul style="list-style-type: none"> i) on the principal display panel when the claim is made on the label; <p>and</p> <ul style="list-style-type: none"> ii) in the advertisement when the claim is made in the advertisement.
<p>f) "sugar-free"</p> <p>"sugarless"</p> <p>"no sugar"</p> <p>"sweet without sugar"</p>	<p>Only for foods for special dietary use and is:</p> <ul style="list-style-type: none"> ● a carbohydrate-reduced food that, when ready to serve, contains: ● ≤ 0.25% available carbohydrate; <p>and</p> <ul style="list-style-type: none"> ● ≤ 1 Cal/100 g or 100 ml (except chewing gum). (B.24.005) 	<p>The label must state:</p> <ul style="list-style-type: none"> ● "sugar-free" or "sugarless" on the principal display panel in close proximity to and in the same type size as the common name; (B.24.010) <ul style="list-style-type: none"> ● core list (energy - in Cal and kJ/serving; protein, fat, carbohydrate - in g/serving). <p>The advertisement AND the label must state:</p> <ul style="list-style-type: none"> ● recommended for "carbohydrate-reduced diets".
<p>g) "light"</p> <p>"lite"</p> <p>"light (naming the food or brand)"</p> <p>"lite (naming the food or brand)"</p>	<p>In general, these claims cannot be used without further qualification. The food must meet the compositional requirements of:</p> <ul style="list-style-type: none"> ● a carbohydrate-reduced food as described in a); <p>or</p> <ul style="list-style-type: none"> ● a low-sugar food as described in d); <p>or</p> <ul style="list-style-type: none"> ● a food containing less sugar than the reference food as in e); <p>or</p> <ul style="list-style-type: none"> ● a sugar-free food as described in f). 	<p>Must meet the corresponding label and/or advertisement requirements of a), d), e), or f) EXCEPT in an advertisement these claims may be used without further qualification provided that:</p> <ul style="list-style-type: none"> ● all required information is on the label; <p>and</p> <ul style="list-style-type: none"> ● no other nutrition statement or claim is made in the advertisement.

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Carbohydrate Claims	Compositional Requirements	Information Required on Label and Advertisement*
h) "no sugar added" "unsweetened"	<ul style="list-style-type: none"> means no sucrose (B.18.001), or other sugars, e.g., honey, molasses, fruit juice, fructose, glucose or other monosaccharides or disaccharides are added to the food and no ingredient or component contributes a significant amount of sugars to the food. 	<ul style="list-style-type: none"> sugars (i.e., all mono and disaccharides) in g/serving. (B.01.300)
i) "no added sugar, sweetened with (naming the sweetening agent(s))" "sweetened with..."	<ul style="list-style-type: none"> contains no added sucrose (B.18.001) but may contain other sweetening agents such as honey, molasses, fruit juice, fructose, glucose or other monosaccharides or disaccharides, or sugar alcohols. 	<ul style="list-style-type: none"> sugars (i.e., all mono and disaccharides) and naming the sugar alcohols if used in g/serving; (B.01.018, B.01.300) <p>and</p> <ul style="list-style-type: none"> the claim must be accompanied by, in close proximity and in equal prominence to, a declaration of any sweetening agent used. <p>*For requirements specific to sweeteners, see Section 8.5</p>
j) "sweetened" "sweet" "with sugar" "heavy syrup"	-----	Exempt from a sugars declaration.

* When claims are made on a label, unless otherwise specified, this information must appear on the label. For advertising claims, the required information must appear either in the advertisement or on the label.
 ≥ means "greater than or equal to".
 ≤ means "less than or equal to".

6.2.4.6 Dietary Fibre and Novel Fibre

Dietary fibre is defined* as the endogenous components of plant material in the diet which are resistant to digestion by enzymes produced by humans. They are predominantly non-starch polysaccharides and lignin. The composition varies with the origin of the fibre and includes soluble and insoluble substances.

Fruits, nuts, legumes and cereals, when traditionally processed or prepared, are considered to be natural sources of dietary fibre. Their fibre content may be included in the declaration of total dietary fibre content.

Novel fibre or novel source is defined* as a food that has been manufactured to be a source of dietary fibre, **and**:

i) has not traditionally been used for human consumption to any significant extent; **or**

- ii) has been chemically processed (e.g., oxidized) or physically processed (e.g., very finely ground) so as to modify the properties of the fibre; **or**
- iii) that has been highly concentrated from its plant source.

(* These definitions were recommended by the Expert Advisory Committee on Dietary Fibre, 1985, reporting to Health Canada.)

Dietary fibre is associated with beneficial health effects, but these cannot be predicted from chemical analysis. It must be demonstrated that a novel fibre is safe and that it functions physiologically as dietary fibre for it to be considered a source of dietary fibre.

The **safety** of novel fibre sources must be established before they may be used as **ingredients** in foods.

The physiological **efficacy** of novel fibre sources as dietary fibre must be established before they may be claimed to be **sources of dietary fibre** in foods.

Once a novel fibre source has been successfully tested for efficacy, it may be considered an acceptable dietary fibre source. Otherwise, it is considered an unproven novel fibre and, if safe, may be used in foods but cannot be claimed to be a source of dietary fibre.

If a novel fibre source has been reviewed by Health Products and Food Branch of Health Canada and found acceptable, either as an ingredient only (safety demonstrated) or as a dietary fibre source (safety and efficacy demonstrated), the manufacturer will receive a "letter of no objection" indicating any restriction on its use. These letters of no objection are specific to the brand of the fibre source that was reviewed, unless otherwise specified.

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Manufacturers considering the use of novel fibre sources and wishing further guidance in this regard are advised to contact the Health Products and Food Branch, Health Canada.

6.2.4.6.1 Dietary Fibre Sources in the List of Ingredients

In the case of ingredients manufactured to be sources of dietary fibre, such as novel fibre sources, the common name of the fibre ingredient in the list of ingredients should include:

- the **name** of the plant which is the origin of the fibre; and
- the **specific part** of that plant.

The term "**fibre**" may be included as part of the common name, if appropriate (e.g., the product is 90 percent fibre).

6.2.4.6.2 Dietary Fibre Content Claims

Descriptive claims may be made for foods which are considered to be sources of dietary fibre, either fibre-containing foods or novel fibre sources having been demonstrated to be sources of dietary fibre. The terms "**good**" and "**excellent**", because they imply a judgment regarding the nature and value of the fibre in addition to quantity, **should not be used**. If a food contains an unproven novel fibre source, the amount of fibre contributed by this ingredient should not be included in the declaration of the dietary fibre content, and no fibre claims may be made for it.

Where dietary fibre claims are made, the dietary fibre content of a food must be declared in grams per serving of stated sizes (for methods of analysis, see Section 6.4.4.3).

a) Descriptive Claims

No claim should be made regarding the fibre content of a food unless the food contains at least **2 g** of dietary fibre per serving.

Foods (except meal replacements and formulated liquid diets) containing a minimum of **2 g** of dietary fibre per serving may be described as a "**source**" of dietary fibre or as containing "**moderate**" amounts of dietary fibre.

Foods (except for meal replacements and formulated liquid diets) containing a minimum of **4 g** of dietary fibre per serving may be described as containing "**high**" amounts of dietary fibre.

Foods (except for meal replacements and formulated liquid diets) containing at least **6 g** of dietary fibre per serving may be described as containing "**very high**" amounts of dietary fibre.

b) Comparative Claims

Quantitative comparisons of the fibre content of foods of proven fibre value are considered to be **misleading unless** the fibres are:

- derived from the same plant sources and parts;
- in similar physical forms;
- incorporated into compositionally similar foods; and
- have been shown by the manufacturer to have similar physiological effects (see **Claims for Physiological Effects of Fibre**, Section 7.5.3).

c) Fibre in Meal Replacements and Formulated Liquid Diets

Statement or claims regarding dietary fibre content of meal replacements, including "**fibre**" as part of the common name, may be made only if human studies have shown that the fibre source has the beneficial effects attributable to the dietary fibre ingredient when consumed in the specific meal replacement. No claims for "moderate", "high" or "very high" source of dietary fibre may be made for any meal replacement (see Policy Respecting Dietary Fibre in Meal Replacements, Health Protection Branch, Health Canada, 1993).

6.2.4.6.3 Bran, Oat Bran, Corn Bran

Proposals for implied nutrient content claims are contained in the consultation documents on Nutrient Content Claims, January 1996, available from Health Canada and the Canadian Food Inspection Agency.

A statement or claim relating to the **bran** content of a food other than the listing of "**bran**" in the list of ingredients is considered to be a claim that the food is a source of dietary fibre (see Section 7.5.3). A food described as containing "**bran**" should contain at least 2 g dietary fibre from bran and bran-containing ingredients per serving of stated size. Where a source of the bran is named, the product should contain at least 2 g dietary fibre per serving from each named source, e.g., "**wheat bran and oat bran pancakes**" should contain at least 2 g dietary fibre from wheat bran and 2 g dietary fibre from oat bran. For all bran claims, the total dietary fibre content of the food is to be declared in grams per stated serving size (B.01.300, *FDR*).

Rationale: In a consumer survey entitled "Consumer Perceptions and Understanding of the Bran/Fibre Relationship"*, when asked to choose from a list of statements, consumers agreed that food products containing bran could be a "source of dietary fibre" (91 percent). When not offered a choice of statements, consumers associated bran with general health benefits, including promotion of regularity (51 percent). Therefore, it is concluded by government that consumers associate "bran" with dietary fibre and the beneficial effects attributable to dietary fibre. Hence, a bran claim constitutes a claim for

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dietary fibre. Similarly, it is believed that consumers expect foods named "bran" or "oat bran" to have the beneficial effects of these fibres.

(* Canadian Facts, 1990, presented to the Bran Consortium, Don Mills, Ontario.)

6.2.4.6.4 Wheat Bran

If the source of bran is not named, the term "**bran**" will be considered a reference to wheat bran. Wheat bran contains approximately 42 percent dietary fibre.

6.2.4.6.5 Oat Bran

Oat bran is defined as the product derived from the dehulled oat kernel (oat groat) which provides, on a dry basis, a minimum content of 13 percent total dietary fibre, of which at least 30 percent must be soluble fibre. The moisture content of the product is not to exceed 12 percent.

A product may be represented as a source of oat bran, provided it contains at least 2 g dietary fibre derived from oat bran meeting the above definition and oat-bran-containing ingredients.

6.2.4.6.6 Corn Bran

Traditionally, milled corn bran contains 60-65 percent dietary fibre. Products may be represented as sources of corn bran, provided the product contains at least 2 g dietary fibre from traditionally-milled corn bran.

6.2.4.6.7 Rice Bran

No dietary fibre claims may be made for rice bran, which is considered a safe food ingredient but whose efficacy as a source of dietary fibre has not been established.

6.2.4.6.8 Summary Table of Dietary Fibre Claims

The following table provides a summary of the Regulations and guidelines pertaining to dietary fibre claims (see also Sections 6.1, 6.3 and 6.4).

Dietary Fibre Claims	Compositional Requirements	Information Required on Label and Advertisement*
<p>a) "contains a moderate amount of (naming the fibre source, e.g., oat bran)"</p> <p>"source of"</p> <p>"made with (naming the fibre source, e.g., oat bran)"</p> <p>"(naming the fibre source) (naming the food) (e.g., oat bran bread, bran muffins)"</p>	<ul style="list-style-type: none"> ● ≥ 2 g of dietary fibre/serving when a specific fibre source is not mentioned; <p>and/or</p> <ul style="list-style-type: none"> ● ≥ 2 g of each named dietary fibre/serving when a specific fibre source is mentioned. 	<ul style="list-style-type: none"> ● dietary fibre in g/serving. (B.01.300)
<p>b) "high source of..."</p> <p>"high in..."</p>	<ul style="list-style-type: none"> ● ≥ 4 g dietary fibre/serving. 	<ul style="list-style-type: none"> ● dietary fibre in g/serving. (B.01.300)
<p>c) "very high source of..."</p> <p>"very high in..."</p> <p>"fibre rich"</p>	<ul style="list-style-type: none"> ● ≥ 6 g dietary fibre/serving. 	<ul style="list-style-type: none"> ● dietary fibre in g/serving. (B.01.300)
<p>d) "promotes laxation"</p> <p>"promotes regularity"</p>	<ul style="list-style-type: none"> ● ≥ 7 g dietary fibre in a Reasonable Daily Intake (see Annex 1) from coarse wheat bran and from other foods with clinical proof that a Reasonable Daily Intake of food is safe and has a laxation effect. 	<ul style="list-style-type: none"> ● dietary fibre in g/serving. (B.01.300)
<p>e) "(naming the %, fraction or quantity) more fibre/bran than..."</p>	<ul style="list-style-type: none"> ● ≥ 2 g dietary fibre/serving; <p>and</p> <p>compared to the reference food it must have:</p> <ul style="list-style-type: none"> ● ≥ 25% more fibre; <p>and</p> <ul style="list-style-type: none"> ● ≥ 1 g more fibre/serving. 	<ul style="list-style-type: none"> ● dietary fibre in g/serving. (B.01.300) <p>and</p> <ul style="list-style-type: none"> ● (the %, fraction or number of grams) more fibre than (naming the reference food) to be either: <ul style="list-style-type: none"> a) part of or grouped with the most prominent claim that the food is higher in fibre; or b) clearly linked to this claim: <ul style="list-style-type: none"> i) on the principal display panel when the claim is made on the label; and ii) in the advertisement when the claim is made in the advertisement.

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* When claims are made on a label, unless otherwise specified, this information must appear on the label. For advertising claims, the required information must appear either in the advertisement or on the label.

≥ means "greater than or equal to".

≤ means "less than or equal to".

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6.2.4.6.9 Information on Fibre Sources

The following table (from Health Products and Food Branch, Health Canada) provides a summary of the fibre sources. This table is current as of September 1995, and is subject to change.

Name	Ingredient Name	Classification of Ingredient as Fibre Source		Acceptability as Ingredient	Fibre Labelling: Regular Foods ^(a)	Fibre Labelling: Meal Replacements ^(b)	
		Traditional	Novel			Amount of dietary fibre may be calculated for declaration in nutrition labelling	Claim permitted including "source of fibre"
Apple pomace <i>Treetop</i> brand	Apple pomace powder/ Poudre de tourteaux de pommes		✓	✓	No	No	No
Corn bran by traditional milling (≤ 65% total fibre)	Corn bran/ Son de maïs	✓		✓	✓	✓	No

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Name	Ingredient Name	Classification of Ingredient as Fibre Source		Acceptability as Ingredient	Fibre Labelling: Regular Foods ^(a)	Fibre Labelling: Meal Replacements ^(b)	
		Traditional	Novel			✓ Amount of dietary fibre may be calculated for declaration in nutrition labelling	✓ Claim permitted including "source of fibre"
Corn bran at > 65% total fibre	Corn bran/ Son de maïs		✓	✓	No	No	No
Mustard bran	Mustard bran/ Son de moutarde		✓	✓ In condimental amounts only.	No	No	No

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Name	Ingredient Name	Classification of Ingredient as Fibre Source		Acceptability as Ingredient	Fibre Labelling: Regular Foods ^(a)	Fibre Labelling: Meal Replacements ^(b)	
		Traditional	Novel			✓ Amount of dietary fibre may be calculated for declaration in nutrition labelling.	✓ Claim permitted including "source of fibre"
Oat bran ≥ 13 % total dietary fibre, ≥ 30% of fibre as soluble fibre, and ≤ 12% moisture	Oat bran/ Son d'avoine	✓		✓	✓ Amount of dietary fibre may be calculated for declaration in nutrition labelling. Claim permitted if 2 g or more total dietary fibre/svg (See nutrition labelling guidelines)	No	No

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Name	Ingredient Name	Classification of Ingredient as Fibre Source		Acceptability as Ingredient	Fibre Labelling: Regular Foods ^(a)	Fibre Labelling: Meal Replacements ^(b)	
		Traditional	Novel			✓ Amount of dietary fibre may be calculated for declaration in nutrition labelling.	✓ Claim permitted including "source of fibre"
Oat hulls - ground, bleached <i>Canadian Harvest® Oat Fiber 300-58 (Opta® Food Ingredients)</i>	oat hull fibre		✓	✓ in grain and bakery products at levels consistent with providing a source of fibre ²	✓ Amount of dietary fibre may be calculated for declaration in nutrition labelling. Claim permitted if 2 g or more total dietary fibre/svg (See nutrition labelling guidelines)	No	No

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Name	Ingredient Name	Classification of Ingredient as Fibre Source		Acceptability as Ingredient	Fibre Labelling: Regular Foods ^(a)	Fibre Labelling: Meal Replacements ^(b)	
		Traditional	Novel			✓ Amount of dietary fibre may be calculated for declaration in nutrition labelling.	✓ Claim permitted including "source of fibre"
Pea hulls - unbleached <i>Hi Fi Lite & Centara</i> (Woodstone Foods) <i>Exlite Coarse</i> (Parrheim Foods) (> 0.175 mm) ¹	Ground pea hull fibre/ Fibre de cosques de pois moulue		✓	✓	✓ Only in bakery products and cereals	No	No

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Name	Ingredient Name	Classification of Ingredient as Fibre Source		Acceptability as Ingredient	Fibre Labelling: Regular Foods ^(a)	Fibre Labelling: Meal Replacements ^(b)	
		Traditional	Novel			✓ Amount of dietary fibre may be calculated for declaration in nutrition labelling	✓ Claim permitted including "source of fibre"
Psyllium seed husk	Ground psyllium fibre/ Fibre de psyllium moulue		✓	✓ Only if accepted by HPB. Individual products must be submitted.	✓ (if accepted)	No	No
Rice bran <i>Fiberice</i> (Farmers Rice Cooperative)	Rice bran/ Son de riz		✓	✓	No	No	No

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Name	Ingredient Name	Classification of Ingredient as Fibre Source		Acceptability as Ingredient	Fibre Labelling: Regular Foods ^(a)	Fibre Labelling: Meal Replacements ^(b)	
		Traditional	Novel			✓ Amount of dietary fibre may be calculated for declaration in nutrition labelling.	✓ Claim permitted including "source of fibre"
Soy cotyledon <i>Fibrim</i> 300, 1000, 1010, 1250, 1255, 1450, and 2000 by Protein Technologies International	Ground soy cotyledon fibre/ Fibre de cotylédon de soya moulue		✓	✓	✓ Amount of dietary fibre may be calculated for declaration in nutrition labelling. Claim permitted if 2 g or more total dietary fibre/svg (See nutrition labelling guidelines)	No	No

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Name	Ingredient Name	Classification of Ingredient as Fibre Source		Acceptability as Ingredient	Fibre Labelling: Regular Foods ^(a)	Fibre Labelling: Meal Replacements ^(b)	
		Traditional	Novel			✓ Amount of dietary fibre may be calculated for declaration in nutrition labelling.	✓ Claim permitted including "source of fibre"
Sugar beet fibre, <i>FibreX</i> (Delta Fibre Foods) (> 0.125 mm)	Ground sugar beet fibre/ Fibre de betterave à sucre moulue		✓	✓	✓ Only in bakery products at ≤ 7%	No	No
Wheat bran, coarse (>0.75 mm)	Wheat bran/ Son de blé	✓		✓	✓ Claim for regularity if a reasonable daily intake provides 7 g of fibre from coarse wheat bran.	✓	✓ if a serving contains 7 g of fibre from coarse wheat bran.

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Name	Ingredient Name	Classification of Ingredient as Fibre Source		Acceptability as Ingredient	Fibre Labelling: Regular Foods ^(a)	Fibre Labelling: Meal Replacements ^(b)	
		Traditional	Novel			✓ Amount of dietary fibre may be calculated for declaration in nutrition labelling.	✓ Claim permitted including "source of fibre"
Wheat bran, medium (0.5 - 0.75 mm)	Wheat bran/ Son de blé	✓		✓	✓ Amount of dietary fibre may be calculated for declaration in nutrition labelling. Claim permitted if 2 g or more total dietary fibre/svg (See nutrition labelling guidelines)	✓ Amount of dietary fibre may be calculated for declaration in nutrition labelling	No
Wheat bran, fine (<0.5 mm)	Wheat bran/ Son de blé		✓	✓	---	No	No

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Name	Ingredient Name	Classification of Ingredient as Fibre Source		Acceptability as Ingredient	Fibre Labelling: Regular Foods ^(a)	Fibre Labelling: Meal Replacements ^(b)	
		Traditional	Novel			Amount of dietary fibre may be calculated for declaration in nutrition labelling	Claim permitted including "source of fibre"
Wheat, starch-reduced <i>Fibrotein</i> Mohawk Oil (mean PS=0.6 mm)	Starch-reduced wheat Blé à teneur réduite en amidon		✓	✓	✓ Amount of dietary fibre may be calculated for declaration in nutrition labelling. Claim permitted if 2 g or more total dietary fibre/svg (See nutrition labelling guidelines)	No	No

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Name	Ingredient Name	Classification of Ingredient as Fibre Source		Acceptability as Ingredient	Fibre Labelling: Regular Foods ^(a)	Fibre Labelling: Meal Replacements ^(b)	
		Traditional	Novel			✓ Amount of dietary fibre may be calculated for declaration in nutrition labelling.	✓ Claim permitted including "source of fibre"
Whole foods: fruits, vegetables, traditionally-milled cereals (including rare grains acceptable for food use e.g. quinoa), legumes, nuts, seeds (including flaxseed), etc.	e.g. carrots/carottes, beans/fèves	✓		✓	✓ Amount of dietary fibre may be calculated for declaration in nutrition labelling. Claim permitted if 2 g or more total dietary fibre/svg (See nutrition labelling guidelines)	✓ Amount of dietary fibre may be calculated for declaration in nutrition labelling	No

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Notes:

¹ Figures in column one refer to mean particle size as measured by the method of Mongeau, R. and Brassard, R., *Cereal Chemistry* 59 (5):413-417, 1982.

² Oat hull fibre has not been approved for use as a bulking agent for use in calorie reduction. Such a use would be suggested, for example, by the presence of a claim for calorie reduction achieved by means of the addition of oat hull fibre.

(a) Dietary fibre from novel fibre sources may not be calculated and declared in the nutrition labelling table of a food unless proof of efficacy as dietary fibre in the same type of food has been shown through clinical testing to the satisfaction of HPB and a letter of no objection has been issued. (See Food Directorate Guideline No. 9, "Guideline Concerning the Safety and Physiological Effects of Novel Fibre Sources and Food Products Containing Them", revised November 1994.)

(b) Dietary fibre from novel fibre sources may not be calculated and declared in the nutrition labelling table, regardless of their status in "Regular Foods" unless proof of efficacy as dietary fibre in the context of the meal replacement has been shown through clinical testing to the satisfaction of HPB and a letter of no objection has been issued. (See Policy Respecting Dietary Fibre in Meal Replacements, HPB, September, 1993.)

(c) A few examples of novel fibres* not currently recognized as ingredients or sources of fibre.

1) Fibre that has not traditionally been used for human consumption to any significant extent, for example:

- cane sugar stalks
- cocoa bean hulls
- oat hulls
- mucopolysaccharides (e.g. chitin) from shells of shellfish
- wheat straw

2) Fibre that has been chemically processed, e.g. oxidized, or physically processed, e.g. very finely ground, so as to modify the properties of the fibre contained therein, such as:

- finely ground wheat bran
- bleached pea hulls (seed coats)
- bleached wheat straw

3) Fibre that has been highly concentrated from its plant source, such as:

- beta-glucans from barley and oats

- (d) Some examples of food additives not *currently* recognized as fibre sources
- pectin
 - carrageenan
 - guar gum
 - methylcellulose, carboxymethylcellulose, microcrystalline cellulose, etc.
 - wood cellulose (powdered cellulose) [its use as a food additive is authorized under an Interim Marketing Authorization]
- (e) Definition of dietary fibre:
"Endogenous components of plant material in the diet which are resistant to digestion by enzymes produced by man. They are predominantly nonstarch polysaccharides and lignin and may include, in addition, associated substances." (Health Protection Branch, Health Canada, I.L. No. 736, February 5, 1988.)
- (f) * Novel Fibre: A "novel fibre" or "novel fibre source" means a food that is manufactured to be a source of dietary fibre, and:
- a) has not traditionally been used for human consumption to any significant extent;
 - b) has been chemically processed, e.g. oxidized, or physically processed, e.g. very finely ground, so as to modify the properties of the fibre contained therein; or
 - c) has been highly concentrated from its plant source.

6.2.5 Sodium (Salt) and Potassium

6.2.5.1 How to Declare Sodium and Potassium

Sodium and potassium follow the core list in the nutrition labelling format. A declaration of either sodium or potassium triggers a declaration of **BOTH** nutrients in mg/serving of stated size (B.01.302), and the quantities should be rounded to the nearest whole number.

6.2.5.2 Sodium and Potassium Claims

6.2.5.2.1 Salted

Where the term "**salted**" and similar claims indicating that salt has been added, such as "**extra salt**", and "**salted peanuts**" are used, a declaration of the sodium and potassium contents is not required.

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Rationale: Although these are technically sodium claims, under section B.01.302, *FDR*, although consumers are warned of the high sodium content of the food by the claim.

Reference to a "**salty taste**" is considered a taste claim and does not trigger sodium and potassium declarations.

6.2.5.2.2 No Salt Added, Unsalted

The term "**unsalted**" or "**no salt added**" requires a declaration of the milligrams of sodium and potassium per serving (B.01.302, *FDR*). The terms may appear on foods which have no added salt (NaCl) or salts of sodium (e.g., sodium bicarbonate). The claim should not be made if any one ingredient contributes a significant amount of sodium to the food.

Rationale: The claim is a sodium claim under section B.01.302, *FDR*. Although technically salt is only sodium chloride, it is considered that the presence of other sodium-containing salts could be misleading, since consumers would not expect to find other significant sources of sodium in the food apart from that naturally occurring in the food.

Examples: "**No salt added**" on a cereal or tomato juice container would require a declaration of the amount of sodium and potassium occurring naturally in the cereal grains or tomato juice in mg/serving. Other examples include bread with no salt added, unsalted butter, unsalted crackers.

6.2.5.2.3 Less Salt, Lightly Salted

The term "**less salt**" or "**lightly salted**" requires the declaration of the milligrams of sodium and potassium per serving (B.01.302, *FDR*). They are comparative claims limited to foods which have a minimum reduction in sodium content of 25 percent and 100 mg per serving compared with the reference food. A statement of the amount of reduction should be grouped with the most prominent comparative salt claim (see **Comparative Claims**, Section 6.1.9 and **Salted**, Section 6.2.5.2.1.).

Rationale: The terms imply that the food has less sodium than a similar food. As such, both are considered comparative sodium claims, falling under section B.01.302, *FDR* and Section 6.1.9 of this Guide.

Examples: "**Lightly salted**" chips would bear a statement such as "**25% less salt than our regular chips**".

6.2.5.3 Summary Table of Sodium (Salt) Claims

Canadian Food Inspection Agency

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The following table provides a summary of the Regulations and guidelines pertaining to sodium (salt) claims (see also Sections 6.1, 6.3 and 6.4).

Sodium (Salt) Claims	Compositional Requirements	Information Required on Label and Advertisement*
a) "low-sodium" "low salt" "low in sodium" "low in salt" "light in sodium" "lite in sodium" "light in salt" "lite in salt"	Only for foods for special dietary use: <ul style="list-style-type: none"> ● ≤ 50% of the sodium that would be present if the food were not a low-sodium food; and <ul style="list-style-type: none"> ● ≤ 40 mg sodium/100 g (except ≤ 50 mg/100 g for cheddar cheese, and ≤ 80 mg/100 g for meat, poultry and fish); and <ul style="list-style-type: none"> ● except for salt substitutes, contains no added salts of sodium. (B.24.008) 	The label must state: <ul style="list-style-type: none"> ● "low-sodium" on principal display panel in close proximity to the common name and in the same type size; (B.24.013) <ul style="list-style-type: none"> ● core list (energy - in Cal and kJ/serving; protein, fat, carbohydrate - in g/serving); and <ul style="list-style-type: none"> ● sodium and potassium in mg/serving. The advertisement and the label must state: <ul style="list-style-type: none"> ● "for sodium-restricted diets".
b) "(%, fraction or quantity) less sodium/salt than (naming reference food)" "lightly salted"	Compared to the reference food it must have: <ul style="list-style-type: none"> ● ≥ 25% less sodium (salt); and <ul style="list-style-type: none"> ● ≥ 100 mg less sodium/serving. 	<ul style="list-style-type: none"> ● sodium and potassium in mg/serving; (B.01.302) and <ul style="list-style-type: none"> ● (%, fraction or number) less sodium/salt than (naming the reference food) to be either: a) part of or grouped with the most prominent claim that the food is reduced in sodium (salt); or b) clearly linked to this claim: i) on the principal display panel when the claim is made on the label; and ii) in the advertisement when the claim is made in the advertisement.
c) "sodium-free" "salt-free"	<ul style="list-style-type: none"> ● ≤ 5 mg sodium/100 g of food. 	<ul style="list-style-type: none"> ● sodium and potassium in mg/serving. (B.01.302)
d) "light" "lite" "light (naming the food or brand)" "lite (naming the food or brand)"	In general, these claims cannot be used without further qualification. The food must meet compositional requirements of: <ul style="list-style-type: none"> ● a low-sodium food as described in a); or <ul style="list-style-type: none"> ● a food containing less salt than the reference food as in b); or <ul style="list-style-type: none"> ● a sodium-free food as described in c). 	Must meet the corresponding label and advertisement requirements of a), b) or c) EXCEPT in an advertisement these claims may be used without further qualification provided that: <ul style="list-style-type: none"> ● all required information is on the label; and <ul style="list-style-type: none"> ● no other nutrition statement or claim is made in the advertisement.
e) "no added salt" "unsalted"	No salt (NaCl) or other salts of sodium have been added directly to the food; and no ingredient or component contributes a significant amount of sodium to the food.	<ul style="list-style-type: none"> ● sodium and potassium in mg/serving.

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Sodium (Salt) Claims	Compositional Requirements	Information Required on Label and Advertisement*
f) "salted" (unqualified) "with added salt" "extra salted" "double salted"	-----	Exempt from sodium and potassium declarations.

* When claims are made on a label, unless otherwise specified, this information must appear on the label. For advertising claims, the required information must appear either in the advertisement or on the label.
 ≥ means "greater than or equal to".
 ≤ means "less than or equal to".

6.2.5.4 Summary Table of Potassium Claims

The following table provides a summary of the Regulations and guidelines pertaining to potassium claims (see also Sections 6.1, 6.3 and 6.4):

Potassium Claims	Compositional Requirements	Information Required on Label and Advertisement*
a) "source of" "contains"	● ≥ 200 mg/serving.	● sodium and potassium in mg/serving. (B.01.302)
b) "good source of" "high in"	● ≥ 350 mg/serving.	● sodium and potassium in mg/serving. (B.01.302)
c) "excellent source of" "very high in"	● ≥ 550 mg/serving.	● sodium and potassium in mg/serving. (B.01.302)

* When claims are made on a label, unless otherwise specified, this information must appear on the label. For advertising claims, the required information must appear either in the advertisement or on the label.
 ≥ means "greater than or equal to".
 ≤ means "less than or equal to".

6.2.6 Vitamins and Mineral Nutrients

6.2.6.1 How to Declare Vitamins and Mineral Nutrients

Declarations of vitamins and mineral nutrients are based on the combined total of both the naturally occurring and added nutrient content of a food. These declarations follow sodium and potassium in the nutrition labelling format (see Section 5.4 for details).

Each of the vitamin and mineral nutrients, for which a Recommended Daily Intake* has been established, is expressed as a percentage of the Recommended Daily Intake, rounded to the nearest whole number. If a vitamin or mineral nutrient is present in a food in an amount less than 5 percent of the Recommended Daily Intake, this percentage may be declared, but with no claims related to it. For nutrients present in quantities greater than 100 percent of the Recommended Daily Intake, the actual percentage present is also to be declared (e.g., 117%).

No mention may be made of a vitamin or mineral nutrient with no established Recommended Daily Intake, except for sodium and potassium, and the mandatory declarations of fluoride in water in parts per million (ppm), (B.12.002, B.12.008), and each of the following in mg/serving: copper when added to simulated meat and poultry (D.03.002); chloride when added to a meal replacement or nutritional supplement (D.03.002); biotin, copper, manganese, selenium, chromium and molybdenum when present in a meal replacement or nutritional supplement (B.24.202).

(* Note: The term "Recommended Daily Intake", although often abbreviated to RDI in conversation, must be written in full on labels and advertisements.)

6.2.6.2 Nomenclature, Order of Listing, and Highlighting

The following nomenclature and order of listing must be used for vitamins and mineral nutrients (D.01.002, D.02.001). **Highlighting** of specific nutrients to give them greater prominence is **not permitted** (B.01.310).

PERCENTAGE OF RECOMMENDED DAILY INTAKE* POURCENTAGE DE L'APPORT QUOTIDIEN RECOMMANDÉ	
Vitamin A/Vitamine A	x %
Vitamin D/Vitamine D	x %
Vitamin E/Vitamine E	x %
Vitamin C/Vitamine C	x %
Thiamine or/ou Vitamin B ₁ /Vitamine B ₁	x %
Riboflavin/Riboflavine or/ou Vitamin B ₂ /Vitamine B ₂	x %
Niacin/Niacine	x %
Vitamin B ₆ /Vitamine B ₆	x %
Folacin/Folacine	x %
Vitamin B ₁₂ /Vitamine B ₁₂	x %
Pantothenic acid/Acide pantothénique or/ou Pantothenate/Pantothénate	x %
Calcium	x %
Phosphorus/Phosphore	x %
Magnesium/Magnésium	x %
Iron/Fer	x %
Zinc	x %
Iodine/Iode	x %

(* Note: The term "Recommended Daily Intake", although often abbreviated to RDI in conversation, must be written in full on labels and advertisements.)

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6.2.6.3 Recommended Daily Intakes of Vitamins and Mineral Nutrients

The following table of **Recommended Daily Intakes** for vitamins and mineral nutrients is a reference standard developed for use in the nutrition labelling of foods in Canada. It is based on the 1983 **Recommended Nutrient Intakes for Canadians***, and represents the highest recommended intake of each nutrient for each age/sex group, omitting supplemental needs for pregnancy and lactation.

(* Recommended Nutrient Intakes for Canadians, Health and Welfare Canada, Ottawa, Ontario, 1983.)

Note: Recommended Daily Intakes are given for **two different age groups**. When using the following table be sure to use the appropriate column.

RECOMMENDED DAILY INTAKE (D.01.013, D.02.006)			
Nutrient	Units	Persons 2 years of age or older	Infants and children less than 2 years old
vitamin A	RE ^a	1000	400
vitamin D	m ^c g ^b	5	10
vitamin E	m ^c g ^c	10	3
vitamin C	mg	60	20
thiamine, vitamin B ₁	mg	1.3	0.45
riboflavin, vitamin B ₂	mg	1.6	0.55
niacin	NE ^d	23	8
vitamin B ₆	mg	1.8	0.7
folacin	m ^c g	220	65
vitamin B ₁₂	m ^c g	2	0.3
pantothenic acid or pantothenate	mg	7	2
calcium	mg	1100	500
phosphorus	mg	1100	500
magnesium	mg	250	55
iron	mg	14	7
zinc	mg	9	4
iodine	m ^c g	160	55

^a RE = retinol equivalents, ^b m^cg = μg = micrograms,
^c mg = milligrams, ^d NE = niacin equivalents

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6.2.6.3.1 Minimum Vitamin and Mineral Nutrients for Making Claims on Foods for Persons 2 Years of Age and Over

The following chart may be used to determine what claims can be made for nutrients on foods for persons two years of age or older.

CLAIMS FOR PERSONS 2 YEARS OF AGE OR OLDER			
	"a source of" "contains" (≥ 5% RDI)	"a good source of" "high in" (≥ 15% RDI except for vitamin C*)	"excellent source" "very high in" (≥ 25% RDI except for vitamin C**)
VITAMINS			
vitamin A	50 RE	150 RE	250 RE
vitamin D	.25 mcg	.75 mcg	1.25 mcg
vitamin E	0.5 mg	1.5 mg	2.5 mg
vitamin C	3.0 mg	18 mg	30 mg
thiamine (vitamin B ₁)	.07 mg	.20 mg	.33 mg
riboflavin (vitamin B ₂)	.08 mg	.24 mg	0.4 mg
niacin	1.15 NE	3.45 NE	5.75 NE
vitamin B ₆	.09 mg	.27 mg	.45 mg
folacin	11 mcg	33 mcg	55 mcg
vitamin B ₁₂	0.1 mcg	0.3 mcg	0.5 mcg
pantothenic acid or pantothenate	.35 mg	1.05 mg	1.75 mg
MINERAL NUTRIENTS			
calcium	55 mg	165 mg	275 mg
phosphorus	55 mg	165 mg	275 mg
magnesium	12.5 mg	37.5 mg	62.5 mg
iron	0.7 mg	2.1 mg	3.5 mg
zinc	.45 mg	1.35 mg	2.25 mg
iodine	8.0 mcg	24 mcg	40 mcg

* To claim that a food is a "good source" or "high in" vitamin C, it must provide ≥ 30% RDI.

** To claim that a food is a "very high" or an "excellent source" of vitamin C, it must provide ≥ 50% RDI.

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6.2.6.3.2 Minimum Vitamin and Mineral Nutrients for Making Claims on Foods for Infants and Children Under Two Years

The following chart may be used to determine what claims may be made for nutrients on foods for children less than 2 years of age.

CLAIMS FOR INFANTS AND CHILDREN LESS THAN 2 YEARS OF AGE			
	"a source of" "contains" (≥ 5% RDI)	"a good source of" "high in" (≥ 15% RDI except for vitamin C*)	"excellent source" "very high in" (≥ 25% RDI except for vitamin C**)
VITAMINS			
vitamin A	20 RE	60 RE	100 RE
vitamin D	0.5 mcg	1.5 mcg	2.5 mcg
vitamin E	.15 mg	.45 mg	.75 mg
vitamin C	1.0 mg	6.0 mg	10 mg
thiamine (vitamin B ₁)	.02 mg	.08 mg	.11 mg
riboflavin (vitamin B ₂)	.03 mg	.07 mg	0.14 mg
niacin	0.4 NE	1.2 NE	2.0 NE
vitamin B ₆	.04 mg	.11 mg	.18 mg
folacin	3.3 mcg	9.8 mcg	16.3 mcg
vitamin B ₁₂	.02 mcg	.05 mcg	.08 mcg
pantothenic acid or pantothenate	0.1 mg	0.3 mg	.5 mg
MINERAL NUTRIENTS			
calcium	25 mg	75 mg	125 mg
phosphorus	25 mg	75 mg	125 mg
magnesium	2.8 mg	8.3 mg	13.8 mg
iron	.35 mg	1.1 mg	1.8 mg
zinc	0.2 mg	0.6 mg	1.0 mg
iodine	2.8 mcg	8.3 mcg	13.8 mcg

* To claim that a food is a "good source" or "high in" vitamin C, it must provide ≥ 30% RDI.

** To claim that a food is a "very high" or an "excellent source" of vitamin C, it must provide ≥ 50% RDI.

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6.2.6.4 Summary Table of Vitamin and Mineral Nutrient Claims

The following table provides a summary of the Regulations and guidelines pertaining to vitamin and mineral nutrient claims (see also Sections 6.1, 6.3 and 6.4).

Vitamin and Mineral Nutrient Claims	Composition Requirements	Information Required on Label and Advertisement*
a) any vitamin or mineral nutrient claim "contains" "source of" "contains 8 essential nutrients"	<ul style="list-style-type: none"> ● Claims may be made only for vitamins or mineral nutrients for which RDI's have been established; [D.01.004(1)(a)], [D.02.002(1)(a)] and <ul style="list-style-type: none"> ● which provide \geq 5% of RDI. [D.01.004(1)(b)], [D.02.002(1)(b)] 	<ul style="list-style-type: none"> ● claimed vitamin(s) as % of RDI per serving; [D.01.004(1)(c)] and <ul style="list-style-type: none"> ● claimed mineral nutrient(s) as % RDI per serving. [D.02.002(1)(c)]
b) "good source of" "high in"	<ul style="list-style-type: none"> ● \geq 15% RDI, except \geq 30% RDI for vitamin C. 	Same as above. [D.01.004(1)(c)], [D.02.002(1)(c)]
c) "excellent source of" "very high in" "rich in" most other qualifying terms	<ul style="list-style-type: none"> ● \geq 25% RDI, except \geq 50% RDI for vitamin C. 	Same as above. [D.01.004(1)(c)], [D.02.002(1)(c)]
d) "added vitamins" "fortified/enriched with" "vitaminized with"	Permitted additions of vitamins and mineral nutrients are listed in D.03.002 (see Annex 2). Minimum and maximum amounts to be added are regulated. (D.01.009, D.01.010, D.01.011, D.02.009)	<ul style="list-style-type: none"> ● claimed vitamin(s) as a % of RDI per serving; [D.01.004(1)(c)] ● claimed mineral nutrient(s) as % of RDI per serving; [D.02.002(1)(c)] or mg/serving if no RDI exists. [D.01.005(b)], [D.02.003(b)]
e) "(%, fraction or quantity) more (named vitamin or mineral nutrient) than (naming reference food)" "higher in (named vitamin and/or mineral nutrients) than..."	Compared to the reference food it must be: <ul style="list-style-type: none"> ● \geq 25% increased in the claimed vitamin or mineral nutrient; and <ul style="list-style-type: none"> ● have a significant absolute difference in the vitamin or mineral nutrient content of \geq 10% of the Recommended Daily Intake of the vitamin or mineral nutrient. 	Same as above: [D.01.004(1)(c)], [D.02.002(1)(c)] and <ul style="list-style-type: none"> ● (the %, fraction or number) more vitamin or mineral nutrient than (naming the reference food) to be either: a) part of or grouped with the most prominent claim that the food is higher in a vitamin or mineral nutrients; or b) clearly linked to this statement: i) on the principal display panel when the claim is made on the label; and ii) in the advertisement when the claim is made in the advertisement.

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* When claims are made on a label, unless otherwise specified, this information must appear on the label. For advertising claims, the required information must appear either in the advertisement or on the label.

≥ means "greater than or equal to".

≤ means "less than or equal to".

6.3 Compliance for Nutrient Content Declarations and Claims

6.3.1 General Principles

- 1) It is the responsibility of industry to ensure that labelling information accurately reflects the nutrient content of the product;
- 2) Manufacturers should have good quality control of the formulation of the product to minimize variability;
- 3) The production lot should be properly sampled and analyzed by trained staff using recognized methods of measurement. The analyst may determine how best to collect and analyze products in order to ensure accuracy of the declared values; and
- 4) Canadian Food Inspection Agency compliance action, when necessary, will consider not only laboratory results, but also factors such as the past compliance history, the health risk, the potential economic loss to the consumer and the company's quality control over the analyses and processes.

6.3.2 Definitions

- 1) A **lot** is a collection of primary containers or units of the same size, type and style produced under conditions as nearly uniform as possible, designated by a common container code or marking, or in the absence of any common container code or marking, a day's production.
- 2) A **sample** is the unit of analysis. It shall consist of individual consumer units selected randomly from a lot; the consumer units may be composite and analyzed as a single sample, or may be analyzed individually and the results averaged.

6.3.3 Nutrient Definitions

The basis for nutrient definitions is found in **Calculating the Nutrients**, Section 6.4.

6.3.4 Methods of Analysis

Nutrients should be measured using internationally accepted methods of analysis such as AOAC methods* or Health Products and Food Branch (HPFB), Health Canada acceptable methods. (* Official Methods of Analysis of the Association of Official Analytical Chemists, 16th Edition, AOAC, Arlington, Virginia, 22209, U.S.A.)

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6.3.5 Tolerances for Nutrient Declaration

(i) **Type I Nutrients:** Where a nutrient is subject to a **regulatory minimum** (e.g., when vitamin C is added to fruit flavoured drinks), or a **regulatory maximum** (e.g., low fat), or has been specifically highlighted by a **claim** (e.g., 25 percent reduced in Calories), the total amount of the nutrient including any amount due to natural occurrence, is classified as a "Type I Nutrient". Included in this group are foods for special dietary use.

For Type I nutrients, five sample units should be drawn at random and analyzed as a composite or separately. If the five samples are analysed separately, the test results will be averaged to give a **mean** result. (The size of a sample unit will vary depending upon the nutrient analyzed, the methodology used and the food; on average, a 250 g sample may be sufficient).

When a **minimum value** is required by Regulation, or stipulated in a guideline, the lot will be deemed to be out of compliance if the result of the analysis is less than the minimum required value. The lot will also be out of compliance if the result of the analysis is less than 90% of the declared value, or if any one sample has less than 30% of the declared value.

When a **maximum value** is prescribed by Regulation, or stipulated in a guideline, the lot will be deemed to be out of compliance if the result of the analysis is greater than the maximum value prescribed. The lot will also be out of compliance if the result of the analysis is more than 110% of the declared value, or if any one sample has more than 170% of the declared value.

In the case of fat-free claims, a tolerance of 0.1g per serving and per reference amount is allowed. The lot will be deemed to be out of compliance if the result of the analysis is greater than 0.5g per serving and per reference amount.

Reasonable overages of the added vitamins and minerals within good manufacturing practice should be present to ensure that the required level of vitamins and minerals are maintained within the expected shelf life of the food.

(ii) **Type II Nutrients:** A nutrient which is present **naturally** in the food and for which there is no regulated minimum or maximum is classified as a "Type II Nutrient" (an example is vitamin C in orange juice).

For Type II nutrients, 12 sample units (see sample unit standards specified above) should be drawn at random and then combined to make a composite to be analyzed.

For vitamin, mineral, protein, carbohydrate, dietary fibre, polyunsaturated fatty acids, monounsaturated fatty acids, or potassium, the nutrient content of the composite must be at least equal to 80 percent of the value declared on the label.

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For energy, sugars, fat, saturated fatty acids, cholesterol or sodium, the lot is deemed to be unsatisfactory if the result exceeds 120 percent of the declared value.

For both Type I and Type II nutrients, the amount of vitamin, mineral, protein, carbohydrate, starch, dietary fibre, polyunsaturated fatty acids, monounsaturated fatty acids or potassium, may vary over labelled amounts within good manufacturing practices. The amount of energy, sugars, fat, saturated fatty acids, cholesterol or sodium may vary under labelled amounts within good manufacturing practice.

Rationale: Due to the inherent heterogeneous nature of food products, it is recognized that any declaration of the nutrient content is subject to variance. The content will fluctuate from container to container, lot to lot, and season to season, particularly for a naturally occurring nutrient. The concept of two different systems for assessing the compliance of nutrients subject to a regulated minimum, a regulated maximum, or which have been specifically highlighted by a claim (Type I) and naturally-occurring (Type II) nutrients, is to address the two levels of variability known to exist.

For a Type I nutrient, where the nutrient content is declared at the stipulated minimum or maximum, that stipulated level is established as the tolerance for the product. Where the declaration is made below the maximum level or above the minimum level, an additional 10 percent tolerance is applied to the declared value.

The option of testing a composite sample or testing individual samples is provided to address the cost of analysis. It is recognized that for some products, the sample-to-sample variability may be insignificant, whereas with other products, this variability may be a major factor. It is, therefore, the responsibility of industry to determine how best to collect and analyze their products to ensure the accuracy of declared values.

For the naturally occurring Type II nutrients, the manufacturer does not usually have control over the variability of the nutrient from container to container. A larger tolerance of 20 percent of the declared value is allowed in recognition of this.

The sampling plan calls for the testing of a composite sample and does not attempt to monitor this variability. The main objective is to ensure that the sample taken is representative of the lot and measures, as closely as possible, the lot average.

Note: These tolerances have taken into consideration variability among containers within a lot, variability in mean nutrient values between different lots, as well as within laboratory and between laboratory tolerances.

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6.3.6 Databases

For compliance with nutrition labelling regulations, the use of industry-maintained databases for some food products may be acceptable. Health Canada will assist industry in evaluating databases to determine their appropriateness for nutrition labelling. Guidelines on the measurement of nutrients in Canadian foods for the purposes of nutrition labelling are provided in Annex 3.

Products using nutrient values from a database for labelling and advertising, that are found not to be in compliance, may avoid enforcement action provided it can be demonstrated that production techniques were consistent with good manufacturing practice and corrective action has been initiated. **The use of a database does not eliminate the need for and industry's responsibility for periodic analysis of the product to ensure that nutrient values are still within the limits of the database.**

In the design of the sampling plan for gathering data for a database, all major sources of variation should be considered. Each sample should be a substantial composite to ensure that it is representative of the lot. The methods of analysis must have been validated for the food and performed by experienced analysts in a laboratory where there is an established system of quality assurance.

A submission of a database must be accompanied by a complete disclosure of the identity of the food, the reliability of the analysis, the variability encountered in the results, the method of analysis used, along with the name of the laboratory and analyst or responsible manager. The information should include individual results for all samples with the number of replicates and the standard error or standard deviation stated.

Rationale: The use of databases is viewed by some as a potential cost-saving tool to the industry, by reducing the need for vigorous laboratory testing. However, the reliability of databases to determine natural variability of a nutrient in a food and for meeting compliance requirements for nutrition labelling must be assessed carefully and cautiously on a case-by-case basis.

6.3.7 Use of the Canadian Nutrient File

The use of tables of food composition, such as the Canadian Nutrient File, for the purpose of labelling is to be avoided, since these values may not be representative of products currently on the market. An exception would be where a database as described above has been created and accepted for use in the Canadian Nutrient File.

6.3.8 Commodity-Specific Compliance Policy for Nutrient Content Declaration and Claims

A compliance policy for minimum protein standards and nutrition labelling of meat and poultry products containing phosphate salts or water is found in Section 8.10.3.8. This policy is consistent with the compliance policy for nutrient declaration with some differences in tolerance levels to reflect the differences in the purpose of the regulatory requirement for these commodities.

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6.4 Calculating the Nutrients

6.4.1 Energy

The energy value of foods should be calculated by the Atwater method, using specific factors from the latest revisions of *USDA Agriculture Handbook No. 8: Composition of Foods* (1984). Details of their derivation are outlined in A.L. Merrill and B.K. Watt, *Energy Value of Foods - Basis and Derivation USDA Handbook 74* (1955). The following average factors may be used in place of the specific factors provided that the energy values are in reasonable agreement with the more accurate values determined according to Merrill and Watt:

Average Energy Content of Nutrients

	Cal/g	kJ/g
protein	4	17
fat	9	37
carbohydrate*	4	17
alcohol	7	29

* The energy value for the total carbohydrate content may be less than 4 Cal/g if the carbohydrate includes sugar alcohols, polydextrose and/or dietary fibre (see Sections 6.4.1.3 to 6.4.1.5).

6.4.1.1 Converting Calories to Kilojoules

To convert Calories to kilojoules use the following formula:

$$1 \text{ Calorie} = 4.184 \text{ kilojoules}$$

6.4.1.2 Examples of Energy Calculations

Example 1 Calculating the energy content of 250 ml of cooked oatmeal using specific energy factors:

Nutrient	Amount in g	Specific Energy Factors for Oatmeal Cal/g	Calories
protein	3	x 3.46	= 10.38
fat	1	x 8.37	= 8.37
carbohydrate	13	x 4.12	= 53.56

Total energy = 72.31 Cal

Rounded = **72 Cal**

Converted to kilojoules: 72.31 Cal x 4.184 = 302.5 kJ

Rounded = **300 kJ**

Example 2 Calculating the energy of 250 ml of macaroni and cheese using the average energy values:

Nutrient	Amount in g	Average Energy Values Cal/g	Calories
protein	18	x 4	= 72
fat	23	x 9	= 207
carbohydrate	42	x 4	= 168

Total energy = **447 Cal**

Converted to kilojoules: 447 Cal x 4.184 = 1870.25 kJ

Rounded = **1870 kJ**

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6.4.1.3 Energy Values of Sugar Alcohols and Polydextrose

Energy Source	Energy Values (Cal/g)*
Isomalt	2.0
Lactitol	2.0
Maltitol	3.0
Mannitol	1.6
Sorbitol	2.6
Xylitol	3.0**
Polydextrose	1.0

* Values from the Bureau of Nutritional Sciences, Health Products and Food Branch, Health Canada.

** The value for xylitol is tentative.

6.4.1.4 Energy Value of Dietary Fibre

It is considered inappropriate to subtract the weight of dietary fibre from the weight of carbohydrate prior to applying the factor of 4 in the absence of accurate energy values for the source(s) of fibre in the food. A value of less than 4 Cal (17 kJ) per gram may be used for the dietary fibre content if a specific energy value is available for the fibre source.

6.4.1.5 Energy Value of Bran

For the dietary fibre of wheat bran, an energy value of 0.6 Cal (2.5 kJ) may be used when calculating the energy value of the dietary fibre portion of the total carbohydrate content. The energy value of wheat bran itself is 2.4 Cal (10 kJ).

6.4.2 Calculating Protein Rating

Proposals for protein source claims are contained in the consultation documents on Nutrient Content Claims, January 1996, available from Health Canada and the Canadian Food Inspection Agency.

The protein rating of a food is based on the protein content in a Reasonable Daily Intake of that food (see Annex 1). It is calculated by multiplying the **quantity** of protein present in the food (Column 1 below) by the **quality** of the protein, which is the protein efficiency ratio (PER) of the food (Column 2 below).

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Protein Rating of Certain Foods - Column (1) x Column (2) = Column (3)

Food	Protein %	Reasonable Daily Intake (g)	(1) Protein in Reasonable Daily Intake (g)	(2) Protein Efficiency Ratio (PER)*	(3) Protein Rating
Gelatin	85	10	8.5	-2.8	0
Almonds	20.0	30	6.0	0.4	2.4
Wheat germ	25.2	5	1.3	2.9	3.8
Rice	7.6	30	2.3	1.7	3.9
Corn, whole	3.7	100	3.7	1.2	4.4
Wheat, whole	9.9	30	3.0	1.5	4.5
Oats, rolled	14.2	30	4.3	2.2	9.5
Beans, navy (dry)	21.4	45	9.6	1.2	11.5
	8.4	150(5 slices)	12.6	1.0	12.6
Bread, white	7.7	100	7.7	1.7	13.1
Lentils, cooked	26.9	28	8.1	1.7	13.8
Peanuts	9.3	100	9.3	1.7	15.8
Chickpeas, cooked	10.8	100	10.8	2.1	22.7
	34.9	30	10.5	2.3	24.1
Wieners	13.6	100	13.6	2.1	28.7
Soybeans, heated	15.2	100	15.2	2.7	41.0
	25.0	57	15.0	2.8	42.0
Bologna	15.0	100	15.0	2.9	43.5
Pork, ham	19.7	85	16.7	2.7	45.1
Cheese, cheddar	12.8	100 (2 eggs)	12.8	3.8	48.6
Kidney, beef	19.9	100	19.9	3.3	65.7
Liver, beef	21.0	100	21.0	3.2	67.2
Egg, whole	23	100	23	3.6	82.8
Pork, tenderloin	3.5	852 ml (3.5 cups)	31.5	2.8	88.2
Beef, muscle					
Fish					
Milk, whole					

* Official method for determining the protein efficiency ratio is from Health Protection Branch Method FO-1, October 15, 1981, Health Canada.

6.4.3 Calculating Fat

Nutrient Content Claims - Date issued: 25/03/96

Amended: 10/06/97

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Fat should be calculated as total lipid fatty acids, expressed as triglycerides.

6.4.3.1 Calculating Fatty Acids

Unsaturated fatty acids are to include "cis" isomers only (B.01.303).

6.4.4 Calculating Carbohydrates

The declaration of carbohydrate content is to include mono and disaccharides, starch, dietary fibre, sugar alcohols and polydextrose.

The amount of carbohydrate may be determined by subtracting the content of protein, fat, ash and moisture from the weight of the product. Dietary fibre and sugar alcohols such as sorbitol are included in the total amount declared.

6.4.4.1 Sugars

The amount of sugars includes all monosaccharides and disaccharides (B.01.001).

6.4.4.2 Sugar Alcohols

Sugar alcohols include isomalt, lactitol, maltitol, maltitol syrup, mannitol, sorbitol, sorbitol syrup and xylitol (B.01.018).

6.4.4.3 Dietary Fibre

The amount of total dietary fibre may be determined by one of the following analytical methods or by methods which yield equivalent values:

a) Mongeau, R. and R. Brassard, Enzymatic gravimetric determination in foods of dietary fibre as the sum of insoluble and soluble fibre fractions: summary of collaborative study. J. AOAC Int. 76:923-925, 1993.

(Note: This method is the AOAC method #992.16. A detailed version of the method is available from Health Products and Food Branch, Health Canada, under the following identification: HPB-FC-12, January, 1992.)

b) Prosky, L., Asp, N-G, Furda, I., DeVries, J.W., Schweizer, T.F. and Harland, B.F. Determination of total dietary fibre in foods and food products: collaborative study. J. Assoc. Off. Anal. Chem. 68: 677-679, 1985.

(Note: This method is the AOAC method #985.29. The method of Prosky et al. will over-estimate the fibre content of dried legumes other than soybean, unless the samples are analyzed uncooked or after autoclaving.)

c) Englyst, H., M.E. Quigley, G.J. Hudson and J.H. Cummings, Determination of dietary fibre as non-starch polysaccharides by gas-liquid chromatography. Analyst 117:1707-1714, 1992.

(Note: This method plus permanganate lignin produces results comparable to methods a) and c) although in some cases the results are lower in spite of the latter adjustment.)

6.4.5 Calculating % Recommended Daily Intakes of Vitamins and Mineral Nutrients

Vitamins and mineral nutrients are declared as percentages of the "Recommended Daily Intake" (D.01.013, D.02.006). **Recommended Daily Intake** for vitamins and mineral nutrients is a reference standard developed for use in the nutrition labelling of foods. They are based on the **Recommended Nutrient Intakes for Canadians**, and represent the highest recommended intake of each nutrient for each age/sex group, omitting supplemental needs for pregnancy and lactation.

Note: Recommended Daily Intakes are given for **two different age groups**. When using the following table be sure to use the appropriate column.

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RECOMMENDED DAILY INTAKE (D.01.013, D.02.006)			
Nutrient	Units	Persons 2 years of age or older	Infants and children less than 2 years of age
vitamin A	RE ^a	1000	400
vitamin D	mcg ^b	5	10
vitamin E	mg ^c	10	3
vitamin C	mg	60	20
thiamine, (vitamin B ₁)	mg	1.3	0.45
riboflavin, (vitamin B ₂)	mg	1.6	0.55
niacin	NE ^d	23	8
vitamin B ₆	mg	1.8	0.7
folacin	mcg	220	65
vitamin B ₁₂	mcg	2	0.3
pantothenic acid or pantothenate	mg	7	2
calcium	mg	1100	500
phosphorus	mg	1100	500
magnesium	mg	250	55
iron	mg	14	7
zinc	mg	9	4
iodine	mcg	160	55

- ^a RE = retinol equivalents
- ^b mcg = μ g = micrograms
- ^c mg = milligrams
- ^d NE = niacin equivalents

Example: Calculating the % Value of Vitamins and Mineral Nutrients of the Recommended Daily Intake.

A 125 g sample of condensed tomato soup contains:

72 RE vitamin A
70 mg vitamin C
0.09 mg thiamine
15 mcg folacin

To express these quantities as a percentage of the Recommended Daily Intake **for adults**, divide each nutrient by the Recommended Daily Intake for that nutrient from the preceding table and multiply by 100:

vitamin A: $72/1000 \times 100 = 7\%$ Recommended Daily Intake
vitamin C: $70/60 \times 100 = 117\%$ Recommended Daily Intake
thiamine: $.09/1.3 \times 100 = 7\%$ Recommended Daily Intake
folacin: $15/220 \times 100 = 7\%$ Recommended Daily Intake

6.4.6 Calculating Specific Vitamins

6.4.6.1 Vitamin A

The units formerly used to express the vitamin A content of a food were international units (IU). Vitamin A is now measured in retinol equivalents (RE). To convert international units (IU) of vitamin A into retinol equivalents, the following formula is used:

$$\text{(IU retinol/3.33)} + \text{(IU beta-carotene/10)} = \text{1 RE}$$

The amount of vitamin A in a food can be calculated from its content of beta-carotene and of retinol and its derivatives, all expressed as retinol equivalents (RE) based on the following relationships:

$$\text{1 RE} = \text{1 microgram retinol} = \text{6 micrograms beta-carotene}$$

The following table may be used to convert international units (IU) of vitamin A to retinol equivalents (RE), and to % Recommended Daily Intakes of vitamin A for adults and children.

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Conversion Table for Vitamin A				
IU of retinol	IU of beta-carotene	RE	% RDI (≥ 2 years of age)*	% RDI (< 2 years of age)**
50	150	15	1.5	3.8
100	300	30	3.0	7.5
150	450	45	4.5	11.3
200	600	60	6.0	15.0
250	750	75	7.5	18.8
300	900	90	9.0	22.5
350	1050	105	10.5	26.3
400	1200	120	12.0	30.0
450	1350	135	13.5	33.8
500	1500	150	15.0	37.5
550	1650	165	16.5	41.3
600	1800	180	18.0	45.0
650	1950	195	19.5	48.8
700	2100	210	21.0	52.5
750	2250	225	22.5	56.3
800	2400	240	24.0	60.0
850	2550	255	25.5	63.8
900	2700	270	27.0	67.5
950	2850	285	28.5	71.3
1000	3000	300	30.0	75.0

* Recommended Daily Intake of vitamin A for persons of 2 years of age and older is 1000 RE.

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** Recommended Daily Intake of vitamin A for persons less than 2 years of age is 400 RE.

6.4.6.2 Vitamin D

Vitamin D was formerly expressed in international units (IU) but is now measured in micrograms (mcg).

The amount of vitamin D may be calculated based on the following relationship:

1 mcg of either ergocalciferol (vitamin D₂) or cholecalciferol (vitamin D₃) = 40 IU vitamin D

The following table contains IU of vitamin D converted to mcg, along with a calculation of the % of Recommended Daily Intake of vitamin D for adults and children.

Conversion Table for Vitamin D			
IU	mcg	% RDI (≥ 2 years of age)*	% RDI (< 2 years of age)**
4	0.10	2	1
10	0.25	5	2.5
20	0.50	10	5
30	0.75	15	7.5
40	1.00	20	10
50	1.25	25	12.5
60	1.50	30	15
70	1.75	35	17.5
80	2.00	40	20
90	2.25	45	22.5
100	2.50	50	25

* Recommended Daily Intake of vitamin D for persons of 2 years of age or older is 5 mcg.

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** Recommended Daily Intake of vitamin D for persons less than 2 years of age is 10 mcg.

6.4.6.3 Vitamin E

Vitamin E was formerly expressed in International Units (IU) but is now measured in milligrams. To determine the Recommended Daily Intake of vitamin E when it is expressed in IU, the following formula must be used:

$$1 \text{ IU Vitamin E} = 0.67 \text{ mg } d\text{-alpha tocopherol}$$

This formula applies no matter what the ingredient source of the vitamin E activity (e.g., dl-alpha-tocopherol acetate, dl-alpha tocopherol, or d-alpha tocopherol, etc.).

The following table gives conversions of IU of vitamin E converted to mg, along with a calculation of the % of the Recommended Daily Intake of vitamin E for adults and children.

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Conversion Table for Vitamin E			
IU	mg	% RDI (\geq 2 years of age)*	% RDI ($<$ 2 years of age)**
0.25	.17	2	5.6
0.5	.34	3	11.2
1.0	.67	7	22.3
1.5	1.0	10	33.5
2.0	1.3	13	44.7
2.5	1.7	17	55.8
3.0	2.0	20	67.0
3.5	2.3	23	78.2
4.0	2.7	27	89.3
4.5	3.0	30	100.5
5.0	3.4	34	111.7
5.5	3.7	37	122.8
6.0	4.0	40	134.0
6.5	4.4	44	145.2
7.0	4.7	47	156.3
7.5	5.0	50	167.5

* Recommended Daily Intake of vitamin E for persons of 2 years of age or older is 10 mg.

** Recommended Daily Intake of vitamin E for persons less than 2 years of age is 3 mg.

6.4.6.4 Vitamin C

The amount of vitamin C is based on the content of L-ascorbic acid and L-dehydroascorbic acid and their derivatives, calculated in milligram equivalents of L-ascorbic acid and expressed in milligrams.

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6.4.6.5 Thiamine

The amount of thiamine and its derivatives is based on the content of thiamine expressed in milligrams.

6.4.6.6 Riboflavin

The amount of riboflavin and its derivatives is based on the content of riboflavin expressed in milligrams.

6.4.6.7 Niacin

Although previously expressed in milligrams, niacin is now determined in niacin equivalents (NE). The conversion formula is as follows:

$$\text{NE} = \text{mg niacin and/or nicotinic acid} + \frac{\text{mg tryptophan}}{60}$$

The content of tryptophan in a food can be estimated if the protein content of the food is known. Tryptophan constitutes 1.5 percent of egg protein, 1.3 percent of protein from milk, meat, poultry or fish, and 1.1 percent of the protein from mixed and other sources.

Example: Calculating the % of the Recommended Daily Intake of niacin in a mixed protein source.

A 60 g serving of food contains 4.26 mg niacin and 7.5 g protein from a mixed source:

- a) NE from niacin alone = 4.26 NE
- b) calculate the amount of tryptophan (which is 1.1% of the protein)
 $1.1\% \times 7.5 \text{ g protein} = 0.082 \text{ g tryptophan} = 82 \text{ mg}$
- c) using the conversion formula above, divide mg of tryptophan by 60
 $\frac{82 \text{ mg}}{60} = 1.36 \text{ NE}$

60 mg

d) add niacin equivalents from the niacin and the tryptophan

$$4.26 \text{ NE} + 1.36 \text{ NE} = 5.62 \text{ NE}$$

e) calculate the % of the Recommended Daily Intake of niacin (for adults which is 23 NE)

$$\frac{5.62 \text{ NE}}{23 \text{ NE}} \times 100\% = 24\%$$

6.4.6.8 Pyridoxine

The amount of vitamin B₆ is based on the content of pyridoxine, pyridoxal and pyridoxamine and their derivatives, calculated in milligram equivalents of pyridoxine and expressed as milligrams.

6.4.6.9 Folicin

The amount of folicin is based on the content of folic acid (pteroylmonoglutamic acid) and related compounds exhibiting the biological activity of folic acid, calculated in microgram equivalents of folic acid and expressed in micrograms.

6.4.6.10 Vitamin B₁₂

The amount of vitamin B₁₂ is based on the content of cyanocobalamin and related compounds exhibiting the biological activity of cyanocobalamin, calculated in microgram equivalents of cyanocobalamin and expressed in micrograms.

6.4.6.11 Pantothenic Acid

The amount of pantothenic acid or pantothenate is based on the content of d-pantothenic acid and expressed in milligrams.

6.4.7 Calculating Vitamins and Mineral Nutrients with no Recommended Daily Intakes

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No mention may be made of vitamins and mineral nutrients without "Recommended Daily Intakes", (D.01.004, D.02.002) except sodium and potassium and the following specific exceptions:

- i) the declaration of the content of **copper** if added to a meat or poultry product extender or a simulated meat or poultry product (B.14.073, B.22.027, B.14.085-B.14.090, B.22.029);
- ii) the declaration of the contents of **biotin, copper, manganese, selenium, chromium** and **molybdenum** on the labels of meal replacements [B.24.202(a)(v)];
- iii) the declaration of the content of **chloride** on the label of a meal replacement if chloride is added to the food (D.03.002); and
- iv) the declaration of the content of total **fluoride ion** in parts per million on the label of prepackaged water and ice (B.12.002, B.12.008).

Except as noted in (iv), the quantities of these nutrients are to be declared in milligrams per serving of stated size [D.01.005(b), D.02.003(b)] and should follow the listing of vitamins and mineral nutrients with "Recommended Daily Intakes".

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Annex 1 – SCHEDULE K (Reasonable Daily Intake)
(Food and Drugs Regulations)

Reasonable Daily Intake for Various Foods

COLUMN I Name and Descriptions		COLUMN II Reasonable Daily Intake	
1.	Alimentary Pastes, dry	3.0 oz	85 g
2.	Bacon (side) simulated meat product that resembles side bacon, (cooked)	1.0 oz	28 g
3.	Beverage Bases and Mixes, Flavoured, for Addition to Milk (ready-to-serve)	16.0 fl oz	454 ml
4.	Bread, 5 slices	5.3 oz	150 g
5.	Butter	2.0 oz	57 g
6.	Buttermilk	30.0 fl oz	852 ml
7.	Cereals, Breakfast or Infant	1.0 oz	28 g
8.	Cereals, puffed	0.5 oz	14 g
9.	Cheese (other than Cottage Cheese)	2.0 oz	57 g
10.	Cheese, Cottage	3.5 oz	100 g
11.	Condensed Milk	15.0 fl oz	426 ml
12.	Cream, whipping	2.0 oz	57 g
13.	Egg, yolk-replaced egg	3.5 oz	100 g
14.	Evaporated Milk, Evaporated Skim Milk, Evaporated Partly Skimmed Milk	15.0 fl oz 30.0 fl oz (reconstituted to original volume)	426 ml 852 ml
15.	Fish, Shell Fish	3.5 oz	100 g
16.	Fruits, dried	2.0 oz	57 g
17.	Fruits (other than banana, lemon, lime, watermelon)	3.5 oz	100 g
18.	Fruits, Banana	5.3 oz	150 g
19.	Fruits, Lemon	1.8 oz	50 g
20.	Fruits, Lime	1.8 oz	50 g
21.	Fruits, Watermelon	7.0 oz	200 g
22.	Fruit Drinks, Fruit Nectars (ready-to-serve)	4.0 fl oz	114 ml
23.	Fruit Drink Bases, Mixes and Concentrates (ready-to-serve)	4.0 fl oz	114 ml
24.	Fruit Juices (other than lemon juice and lime juice)	4.0 fl oz	114 ml
25.	Fruit Juices, Lemon	1.0 fl oz	28 ml
26.	Fruit Juices, Lime	1.0 fl oz	28 ml
27.	Ice Cream, Ice Milk	3.5 oz	100 g

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COLUMN I Name and Descriptions		COLUMN II Reasonable Daily Intake	
28.	Infant Formulas, Prepared (ready-to-serve)	As directed by Label	
29.	Instant Breakfast, Ready Breakfast (ready-to-serve)	As directed by Label	
30.	Margarine	2.0 oz	57 g
31.	Meat Products	3.5 oz	100 g
32.	Meat Product Extenders	3.5 oz	100 g
33.	Extended Meat Products	3.5 oz	100 g
34.	Milk, whole	30.0 fl oz	852 ml
35.	Milk Powder (reconstituted and ready-to-serve)	30.0 fl oz	852 ml
36.	(naming the flavour) Milk	30.0 fl oz	852 ml
37.	Molasses	1.5 oz	43 g
38.	Nuts	1.0 oz	28 g
39.	Peanut Butter	1.0 oz	28 g
40.	Poultry Products	3.5 oz	100 g
41.	Extended Poultry Products	3.5 oz	100 g
42.	Poultry Product Extenders	3.5 oz	100 g
43.	Simulated Meat Products excluding a simulated meat product that resembles side bacon	3.5 oz	100 g
44.	Simulated Poultry Products	3.5 oz	100 g
45.	Skim Milk, Partly Skimmed Milk	30.0 fl oz	852 ml
46.	(naming the flavour) Skim Milk, (naming the flavour) Partly Skimmed Milk	30.0 fl oz	852 ml
47.	Skim Milk Powder, Partly Skimmed Milk Powder (reconstituted) and ready-to-serve	30.0 fl oz	852 ml
48.	Skim Milk with Added Milk Solids, Partly Skimmed Milk with Added Milk Solids	30.0 fl oz	852 ml
49.	(naming the flavour) Skim Milk with Added Milk Solids, (naming the flavour) Partly Skimmed Milk with Added Milk Solids	30.0 fl oz	852 ml
50.	Soup (ready-to-serve)	7.0 fl oz	200 ml
51.	Sterilized Milk	30.0 fl oz	852 ml
52.	Vegetable Juices	4.0 fl oz	114 ml
53.	Vegetable Drinks	4.0 fl oz	114 ml
54.	Vegetable Drink Concentrates, Mixes and Bases (ready-to-serve)	4.0 fl oz	114 ml
55.	Vegetables (other than baked beans and cooked potatoes)	3.5 oz	100 g

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COLUMN I Name and Descriptions		COLUMN II Reasonable Daily Intake	
56.	Vegetables, baked beans	8.5 oz	250 g
57.	Vegetables, cooked potatoes	7.0 oz	200 g
58.	Yeast	0.5 oz	14 g
59.	Yogurt, plain	5.0 oz	150 g

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Annex 2

Foods to Which Vitamins, Mineral Nutrients and Amino Acids May or Must be Added

(*Food and Drug Regulations*, Table D.03.002)

Note: In the second column of this table, “mandatory” refers to nutrients that must be present in the food at levels specified in the *Food and Drug Regulations (FDR)*. For some mandatory requirements, nutrients may not have to be added to achieve the levels identified in the regulations. “Voluntary” refers to nutrients that may be added to the products listed, also subject to levels specified in the *FDR*. The third column, “FDR”, refers to the sections of the Regulations where nutrient levels and other specific requirements are found.

COLUMN 1 Food	COLUMN 2 Vitamin, Mineral Nutrient or Amino Acid	COLUMN 3 FDR
1. Breakfast cereals	<i>Voluntary:</i> Thiamine, niacin, vitamin B ₆ , folic acid, pantothenic acid, magnesium, iron and zinc	B.13.060
2. Fruit nectars, vegetable drinks, bases and mixes for vegetable drinks and a mixture of vegetable juices	<i>Voluntary:</i> Vitamin C	B.11.134 D.01.009 to D.01.011
2.1 Fruit-flavoured drinks that meet all the requirements of section B.11.150	<i>Mandatory:</i> Vitamin C <i>Voluntary:</i> Folic acid, thiamine, iron, potassium	B.11.150
2.2 Bases, concentrates and mixes that are used for making fruit-flavoured drinks and meet all the requirements of section B.11.151	<i>Mandatory:</i> Vitamin C <i>Voluntary:</i> Folic acid, thiamine, iron, potassium	B.11.151

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COLUMN 1 Food	COLUMN 2 Vitamin, Mineral Nutrient or Amino Acid	COLUMN 3 FDR
3. Infant cereal products	<i>Voluntary:</i> Thiamine, riboflavin, niacin or niacinamide, calcium, phosphorus, iron, iodine	D.01.010 D.01.011 D.02.009
4. Margarine and other similar substitutes for butter	<i>Mandatory:</i> Vitamin A, vitamin D <i>Voluntary:</i> Alpha-tocopherol	B.09.016 D.01.011
5. Alimentary pastes	<i>Voluntary:</i> Thiamine, riboflavin, niacin or niacinamide, folic acid, pantothenic acid, vitamin B ₆ , iron, magnesium	B.13.052 (1)
"Enriched" alimentary pastes	<i>Mandatory:</i> Thiamine, riboflavin, niacin, folic acid, iron <i>Voluntary:</i> Pantothenic acid, vitamin B ₆ , magnesium	B.13.052 (2)

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COLUMN 1 Food	COLUMN 2 Vitamin, Mineral Nutrient or Amino Acid	COLUMN 3 FDR
6. Infant formulas and formulated liquid diets	<p><u>Mandatory:</u> Vitamins - Alpha-tocopherol, biotin, d-pantothenic acid, folic acid, niacin, riboflavin, thiamine, vitamin A, vitamin B₆, vitamin B₁₂, vitamin C, vitamin D, vitamin K Minerals - calcium, chloride, copper, chromium, iodide, iron, magnesium, manganese, molybdenum, phosphorus, potassium, selenium, sodium, zinc; Amino Acids - alanine, arginine, aspartic acid, cystine, glutamic acid, glycine, histidine, hydroxyproline, isoleucine, leucine, lysine, methionine, phenylalanine, proline, serine, taurine, threonine, tryptophan, tyrosine, valine (to improve the quality of the protein) Also - other nutritional substances at the same levels found in human milk (for infant formula)</p>	<p>B.25.052 B.25.054 B.24.101 B.24.102</p>
6.1 Food represented for use in a very low-energy diet	<p><u>Mandatory:</u> Vitamins - Alpha-tocopherol, biotin, d-pantothenic acid, folic acid, niacin, riboflavin, thiamine, vitamin A, vitamin B₆, vitamin B₁₂, vitamin C, vitamin D, vitamin K Minerals - Calcium, chloride, chromium, copper, iodine, iron, magnesium, manganese, molybdenum, phosphorus, potassium, selenium, sodium, zinc</p>	<p>B.24.303 D.01.011</p>
7. Flavoured beverage mixes and bases recommended for addition to milk	<p><u>Voluntary:</u> Vitamin A, thiamine, niacin or niacinamide, vitamin C, iron</p>	<p>D.01.009 to D.01.011 D.02.009</p>

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COLUMN 1 Food	COLUMN 2 Vitamin, Mineral Nutrient or Amino Acid	COLUMN 3 FDR
8. Simulated meat products, simulated poultry meat products, meat product extenders and poultry product extenders	<u>Mandatory:</u> Thiamine, riboflavin, niacin, pyridoxine, <i>d</i> -pantothenic acid, folic acid, vitamin B ₁₂ , iron, magnesium, potassium, zinc, copper Amino Acids - Histidine, isoleucine, leucine, lysine, methionine, phenylalanine, threonine, tryptophan, valine	B.14.073 B.14.085 to B.14.090 B.22.027 B.22.029 D.01.011
9. Meal replacements and nutritional supplements	<u>Mandatory:</u> Vitamins -- alpha-tocopherol, biotin, <i>d</i> -pantothenic acid, folic acid, niacin, riboflavin, thiamine, vitamin A, vitamin B ₆ , vitamin B ₁₂ , vitamin C, vitamin D Minerals -- calcium, chloride, chromium, copper, iodine, iron, magnesium, manganese, molybdenum, phosphorus, potassium, selenium, sodium, zinc	B.24.200 B.24.201
9.1 Ready breakfast, instant breakfast and other similar breakfast replacement foods however described	<u>Mandatory:</u> Vitamin A, thiamine, riboflavin, niacin or niacinamide, vitamin C, iron	B.01.053 D.01.009 D.01.011
10. Milk, milk powder, sterilized milk, (naming the flavour) milk	<u>Mandatory:</u> Vitamin D	B.08.003 B.08.007 B.08.013 B.08.016
Condensed milk	<u>Voluntary:</u> Vitamin D	B.08.009 D.01.009 D.01.011

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COLUMN 1 Food	COLUMN 2 Vitamin, Mineral Nutrient or Amino Acid	COLUMN 3 FDR
11. Skim milk with added milk solids, partly skimmed milk with added milk solids, (naming the flavour) skim milk, (naming the flavour) partly skimmed milk, (naming the flavour) skim milk with added milk solids, (naming the flavour) partly skimmed milk with added milk solids, skim milk, partly skimmed milk, skim milk powder	<u>Mandatory:</u> Vitamin A, vitamin D	B.08.004 B.08.005 B.08.014 B.08.017 B.08.018 B.08.019 B.08.020 B.08.026
12. Evaporated milk	<u>Mandatory:</u> Vitamin C, vitamin D	B.08.010
13. Evaporated skim milk, concentrated skim milk, evaporated partly skim milk, concentrated partly skimmed milk	<u>Mandatory:</u> Vitamin A, vitamin C, vitamin D	B.08.011 B.08.012
14. Apple juice, reconstituted apple juice, grape juice, reconstituted grape juice, pineapple juice, reconstituted pineapple juice, apple and (naming the fruit) juice as described in section B.11.132, concentrated fruit juice except frozen concentrated orange juice	<u>Voluntary:</u> Vitamin C	B.11.123 B.11.124 B.11.128 A B.11.130 B.11.132 B.11.133 D.01.009 to D.01.011

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COLUMN 1 Food	COLUMN 2 Vitamin, Mineral Nutrient or Amino Acid	COLUMN 3 FDR
15. Flour, white flour, enriched flour or enriched white flour	<i>Mandatory:</i> Thiamine, riboflavin, niacin, folic acid, iron <i>Voluntary:</i> Vitamin B ₆ , d-pantothenic acid, calcium, magnesium	B.13.001
16. Revoked		
17. Table salt, table salt substitutes	<i>Mandatory:</i> Iodine	B.17.003
18. Dehydrated potatoes	<i>Voluntary:</i> Vitamin C	D.01.009 D.01.011
19. Products simulating whole egg	<i>Mandatory:</i> Vitamin A, thiamine, riboflavin, niacin or niacinamide, vitamin B ₆ , d-pantothenic acid, folic acid, vitamin B ₁₂ , alpha-tocopherol, calcium, iron, zinc, potassium	B.22.032 D.01.011
20. Revoked		
21. Goat's milk, goat's milk powder	<i>Voluntary:</i> Vitamin D (see also the IMA table below)	B.08.029 (1)
22. Partly skimmed goat's milk, skimmed goat's milk, partly skimmed goat's milk powder, skimmed goat's milk powder	<i>Voluntary:</i> Vitamins A and D (see also the IMA table below)	B.08.029 (2)
23. Evaporated goat's milk	<i>Voluntary:</i> Vitamins C, D, folic acid	B.08.029 (3)

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COLUMN 1 Food	COLUMN 2 Vitamin, Mineral Nutrient or Amino Acid	COLUMN 3 FDR
24. Evaporated partly skimmed goat's milk, evaporated skimmed goat's milk	<i>Voluntary:</i> Vitamins A, C, D, folic acid	B.08.029 (4)
25. Pre-cooked rice as defined in subsection B.13.010.1(1)	<i>Voluntary:</i> Thiamine, niacin, vitamin B ₆ , folic acid, pantothenic acid, iron	B.13.010 (1)
26. Mineral water, spring water, water in sealed containers, prepackaged ice	<i>Voluntary:</i> Fluorine	B.12.001 B.12.004 B.12.005

In addition, **Interim Marketing Authorizations (IMA)** have been issued by Health Canada to permit the addition of vitamins and minerals to certain foods, as summarized below. The IMA process (*FDR* B.01.056) bridges the time between the completion of the scientific evaluation supporting certain amendments (e.g. expansion of the list of foods to which certain vitamins and mineral nutrient may be added) and publication of the approved amendments in the Canada Gazette, Part II. The criteria that must be met in order to request an IMA are detailed *FDR* B.01.056.

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Food	Vitamin, Mineral Nutrient or Amino Acid	Date in Canada Gazette, Part I
1. Beverages derived from legumes, nuts, cereal grains or potatoes to which a vitamin or nutrient has been added	<p><i>Mandatory:</i> Vitamin A, vitamin D, vitamin B₁₂, riboflavin, calcium, zinc</p> <p><i>Voluntary:</i> Vitamin B₆, vitamin C, thiamine, niacin, folic acid, pantothenic acid, phosphorus, potassium, magnesium</p>	29-11-1997
2. Corn meal	<i>Voluntary:</i> Thiamine, riboflavin, niacin, folic acid, iron, calcium	25-04-1998
“Enriched” corn meal	<p><i>Mandatory:</i> Thiamine, riboflavin, niacin, folic acid, iron</p> <p><i>Voluntary:</i> Calcium</p>	25-04-1998
3. Fluid or dried whole, skimmed or partly skimmed goat’s milk	<i>Voluntary:</i> Folic acid (addition triggers mandatory addition of vitamins indicated in subsections B.08.029 (1) and (2) at the prescribed levels)	25-04-1998

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Annex 3 – The Measurement of Nutrients in Canadian Foods*

The following guidelines are intended for use in the measurement of nutrient levels in marketed foods for the purposes of extending the Canadian Nutrient File or obtaining data to support nutrition labelling. In most instances, nutrients are distributed unevenly in foods and careful planning is needed to obtain a representative value. In the design of a suitable procedure, each commodity must be considered individually and some flexibility in approach is necessary. In general, however, adoption of the following basic guidelines should yield results that are reliable enough for use in tables of food composition. Use of the guidelines in preparation for nutrition labelling will reduce the risk of later failure to pass tests for compliance.

- 1) All major sources of variation should be considered in the design of the sampling plan. Some of the many factors that can affect nutrient values are the specificity of the food description, season and geographic location of the collection of raw ingredients, processing methods, composition of mixtures, use of different cultivars and length of storage. Such factors are of varying importance in different foods. Sometimes the design of a proper sampling plan will require preliminary analytical tests.
- 2) Each sample should be a substantial composite to ensure that measurements will be representative. A composite of 12 containers or units is recommended for most products. Composites should be thoroughly blended before removal of a test portion for analysis. Special precautions and equipment may be necessary to avoid destruction of sensitive nutrients.
- 3) The number of blended composite samples required to obtain reliable data will depend upon the expected and observed variations in the measurements. At least five composites should be examined before accepting results for any application.
- 4) The methods of analysis results should be validated for the food. Methods designed for the examination of nutrients in concentrates or drugs are not usually applicable to foods. Sometimes several methods or modifications to published methods may appear suitable but only those that have been or can be demonstrated to be acceptable alternatives to procedures used nationally or internationally are worth consideration. Collaboratively-studied methods for nutrients are described in Official Methods of Analysis of the Association of Official Analytical Chemists, 16th Edition, AOAC, Arlington, Virginia, U.S.A. 22209.

Other suitable procedures, which lack validation by collaborative assays but are generally recognized as acceptable, are described in:

Methods for the Determination of Vitamins in Food. Recommended by COST 91. Edited by G. Brubacher, W. Muller-Mulot and D.A.T. Southgate, Elsevier:London 1985.

Methods of Vitamin Assay, 4th Edition (Association of Vitamin Chemists). Edited by J. Augustin, B.P. Klein, D.A. Becker & P. B. Venugopal. Wiley:New York 1985.

5) The analytical work should be performed by experienced analysts in a laboratory in which there is an established system of quality assurance. If the analytical work is undertaken in the laboratory of the producer, the methods of analysis should be tested before the project is commenced and the performance of the analysts should be verified using check samples that have been examined elsewhere. If analysis is performed in academic or research institutions, equivalent systems of quality assurance should exist, and the work must be uniform; data obtained during training of students or research on methodology may not be acceptable.

6) The final report must include complete information concerning the identity of the food, the reliability of the analysis and the variability encountered in the results. The description of the food should correspond exactly with the design of the sampling plan, indicating, for example, restrictions to seasons or varieties. A full name should be provided, and if canned or packaged goods are involved, more specific information concerning identification including brand names, codes and dates of production. The method of analysis should be unambiguously identified, together with the laboratory and analyst or responsible manager. The report must include individual results for all composites; a single averaged value is not acceptable. In addition, the variation in replicate analyses of individual composites may be reported but this should be clearly distinguished from variation between composites and should always include the number of replicates and either the standard error or the standard deviation. Information concerning quality assurance procedures can greatly increase the likelihood of acceptance of data in cases of dispute.

* From: Thompson, J.W. and G. Jarvis, 1990. Compliance Evaluation in Nutrition Labelling: Information for Producers and Manufacturers, Health Protection Branch, Health Canada (with minor revision, 1995).

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GLOSSARY

Sample - Portion selected in some manner from a larger quantity of food with the intention that it should be representative. The term implies the existence of uncertainty, or a "sampling error". The term "sample" should be distinguished from the material actually consumed during analysis, which is better described as a "test portion".

Blended Composite Sample - A collection of one or more increments or units from a lot combined and mixed to homogeneity.

Sampling Plan - Predetermined procedure for the selection, withdrawal, preservation, transportation and preparation of the portions to be removed from a lot as samples. In a statistical context, the sampling plan is characterized by the sample size (number of items taken) and the criteria of acceptance.

Marketed Foods - All forms of processed, packaged and raw foods produced for sale in Canada. Data concerning exotic foods with no or few commercial uses are sometimes accepted for use in food tables when collected by methods not complying with the guidelines.