



**FOOD QUALITY SPECIFICATIONS -  
FOOD PURCHASED BY FEDERAL GOVERNMENT  
DEPARTMENTS**

**Flour and Mixes**

The following specifications are used by federal government departments purchasing the items listed below for their departmental food requirements

### FQS-37 – Flour and Cake, Pancake and Waffle Mixes

Any items listed in all Food Quality Specification that are **bolded and in brown** are part of the current National Standard Cycle Menu (NSCM) Standing Offer. Other items that are not on the NSCM but are on the Standing Offer may not be listed in **brown**.

[Applicable Regulations and Resources for Flour and Cake, Pancake and Waffle Mixes Flour and Cake, Pancake and Waffle Mixes](#)

#### FQS-37-01 – Flour

##### Description

1. Flour is made by grinding cereal grains, other seeds or roots. Flour is mainly made from wheat, although it can be milled from corn, rice, nuts, legumes, etc. Vitamins and minerals are added to flour to restore some of the nutrients lost during processing.

#### FQS-37-01-01 – Table 1: Type of Flour

Flour Type	Description	Requirements
<b>White Flour, Enriched Flour and Enriched White Flour</b>	<b>White Flour, Enriched Flour and Enriched White Flour</b> are the acceptable naming options for the common name of the same food. This flour must contain added thiamine, riboflavin, niacin, folic acid and iron at the levels prescribed by in the <a href="#">Food and Drug Regulations (C.R.C., c. 870), Division 13, Grain and Bakery Products</a> . In addition, vitamin B <sub>6</sub> , d-pantothenic acid, magnesium and calcium may also be added to levels indicated in the <a href="#">Food and Drug Regulations (C.R.C., c. 870), Division 13</a> . When any of these nutrients are added to flour, a claim may be made to that effect in advertising and on the label as per the <a href="#">Food and Drug Regulations (C.R.C., c. 870), Division 13</a> . Added nutrients must be declared in the Nutrition Facts table.	Must meet the specifications as set out in the <a href="#">Food and Drug Regulations (C.R.C., c. 870), Division 13, Grain and Bakery Products</a> and the <a href="#">Industry Labelling Tool (replaces the Guide to Food Labelling and Advertising)</a> .
<b>Whole Wheat Flour</b>	Flour prepared by the grinding and bolting of cleaned, milling grades of wheat from which a part of the outer bran or epidermis layer may have been separated. This flour shall contain the natural constituents of the wheat berry to the extent of not less than 95 per cent of the total weight of the wheat from which it is milled.	Must meet the specifications as set out in the <a href="#">Food and Drug Regulations (C.R.C., c. 870), Division 13</a> and the <a href="#">Industry Labelling Tool (replaces the Guide to Food Labelling and Advertising)</a> .
Graham Flour	Flour to which has been added part of the bran and other constituents of the wheat berry.	Must meet the specifications as set out in the <a href="#">Food and Drug Regulations (C.R.C., c. 870), Division 13</a> and the <a href="#">Industry Labelling Tool (replaces the Guide to Food Labelling and Advertising)</a> .
Gluten Flour	Gluten flour is food obtained by removing from flour a part of the starch.	Must meet the specifications as set out in the <a href="#">Food and Drug Regulations (C.R.C., c. 870), Division 13</a> and the

Flour Type	Description	Requirements
		<a href="#"><i>Industry Labelling Tool (replaces the Guide to Food Labelling and Advertising).</i></a>
<b>All Purpose Flour</b>	All Purpose flour (also known as Top Patent Spring) is enriched flour as described above. This flour is obtained by grinding and mixing different varieties of hard and soft winter wheat. It has approximately 9-12% protein content. The exact protein content varies by brand, by region, and also by country. It can be used for any purpose, as its name indicates.	Must meet the specifications as set out in the <a href="#"><i>Food and Drug Regulations (C.R.C., c. 870), Division 13</i></a> and the <a href="#"><i>Industry Labelling Tool (replaces the Guide to Food Labelling and Advertising).</i></a>
Bread Flour	Bread flour is known as hard or strong flour because it is a high protein or gluten flour. It has approximately 14-16% protein content. The exact protein content varies by brand, by region, and also by country. The flour is usually made with a greater percentage of hard red winter or hard red spring wheat which has higher gluten content giving the bread dough the elastic quality necessary for greater product volume.	Must meet the specifications as set out in the <a href="#"><i>Food and Drug Regulations (C.R.C., c. 870), Division 13</i></a> and the <a href="#"><i>Industry Labelling Tool (replaces the Guide to Food Labelling and Advertising).</i></a>
Cake and Pastry Flour	Cake and Pastry Flour is milled from soft winter wheat and has a soft texture and smooth feel. It has a low protein or gluten content. It has approximately 7-10% protein content. The exact protein content varies by brand, by region, and also by country. It Is made from soft wheat.	Must meet the specifications as set out in the <a href="#"><i>Food and Drug Regulations (C.R.C., c. 870), Division 13</i></a> and the <a href="#"><i>Industry Labelling Tool (replaces the Guide to Food Labelling and Advertising).</i></a>
Rye Flour	Rye Flour ground from the cereal grass grain rye (Gramineae). It is grown in the northern part of the United States, Canada, Eastern Europe and Russia. It has very low gluten content (less than 2%) and is usually blended with wheat flour to produce a lighter loaf.	Must meet the specifications as set out in the <a href="#"><i>Food and Drug Regulations (C.R.C., c. 870), Division 13</i></a> and the <a href="#"><i>Industry Labelling Tool (replaces the Guide to Food Labelling and Advertising).</i></a>

**FQS-37-01-02 - Table 2: Types of Mixes**

Mix Types	Description	Requirements
Cake Mixes	Cake mixes consist of premixed ingredients consisting of flour, sugar, flavouring, baking powder, and sometimes some form of fat and require the addition of other ingredients, usually eggs, water, and sometimes vegetable oil or butter.	The minimum guaranteed storage life of the cake mixes under cool dry storage conditions must be nine months from the date of delivery. When baked according to the manufacturer's directions the finished product shall have the colour, texture, and flavour and characteristics of their type.
<b>Pancakes and Waffle Mixes</b>	Dry mixes used in the preparation of pancakes and waffles by the addition of either water or water and eggs. Mixes consist of flour, sugar or other sweetening ingredients, leavening agents, salt, shortening, dried skim milk, buttermilk or whey. Mixes may also contain flavourings, spices, emulsifying agents and other food	The mixes must have a shelf life of twelve months from the date of delivery. When prepared according to the manufactures directions the pancakes or waffles shall be light and tender, of good colour and texture and

	additives. Where the mix requires the addition of only water, the mix shall also contain dried eggs, egg yolks or egg whites. Mixes may be available as wheat, <b>buttermilk</b> , or buckwheat.	free from pastiness, bitterness or mustiness. Waffles mixes when prepared according to directions shall produce waffles with crisp, dry texture with even brown colour on both sides. Wheat pancakes shall contain at least 45% wheat flour by mass and not more than 45% by mass of other flours from barley, corn, rice, rye or soybeans. Buckwheat pancake mixes shall contain at least 30% by mass of buckwheat flour and not more than 50% by mass of other flours from barley, wheat, corn, rice or soybean.
<b>Biscuit Mixes</b>	Dry mixes used in the preparation of biscuits by the addition of either water or water and eggs. Mixes consist of flour, sugar or other sweetening ingredients, leavening agents, salt, shortening, dried skim milk, buttermilk or whey. Mixes may also contain flavourings, spices, emulsifying agents and other food additives. Where the mix requires the addition of only water, the mix shall also contain dried eggs, egg yolks or egg whites. Mixes may be available as tea or <b>buttermilk</b> .	The mixes must have a shelf life of twelve months from the date of delivery. When prepared according to the manufactures directions the biscuits shall be light, flaky and tender, of good colour and texture and free from pastiness, bitterness or mustiness.

2. All flour and mixes procured in Canada:
  - a. must be of the type and pack size specified;
  - b. must comply with [Food and Drug Regulations \(C.R.C., c. 870\), Division 13, Grain and Bakery Products](#);
  - c. must meet the description and requirements as indicated in [Tables 1](#) and [Table 2](#) for the applicable product;
  - d. must comply with relevant sections of Acts and Regulations listed under the [Food and Drugs Act \(R.S.C., 1985, c. F-27\)](#), [Food and Drug Regulations \(C.R.C., c. 870\)](#), [Canada Agricultural Products Act \(R.S.C., 1985, c. 20 \(4th Supp.\)\)](#), [Canadian Food Inspection Agency Act \(S.C. 1997, c. 6\)](#), [Canada Grain Act \(R.S.C., 1985, c. G-10\)](#) and the [Canada Grain Regulations \(C.R.C., c. 889\)](#);
  - e. must comply with fundamental principles related to Health and Safety listed under the [Canada Agricultural Products Act \(R.S.C., 1985, c. 20 \(4th Supp.\)\)](#);
  - f. must comply with the relevant sections listed under the [Canadian Food Inspection Agency - Food Safety](#);
  - g. must comply with food additive regulations listed under the [Food and Drug Regulations \(C.R.C., c. 870\), Division 16, Food Additives](#);
  - h. must comply with Pesticide and Pesticide Management Program listed under the [Agriculture and Agri-Food Canada's Pest Management Centre \(PMC\)](#) and the [Health Canada Pest Management Regulatory Agency \(PMRA\)](#);
  - i. must comply with all the requirements listed under the [Plant Protection Act \(S.C. 1990, c. 22\)](#) and [Plant Protection Regulations \(SOR/95-212\)](#);

- j. must comply with food packaging and labelling requirements listed under the [Consumer Packaging and Labelling Act \(R.S.C., 1985, c. C-38\)](#), and the [Consumer Packaging and Labelling Regulations \(C.R.C., c. 417\)](#);
  - k. must comply with the relevant sections listed under the [Industry Labelling Tool \(replaces the Guide to Food Labelling and Advertising\)](#);
  - l. must be prepared and handled in accordance with essential principles of food hygiene applicable throughout the food chain (including primary production through to the final consumer), ensuring that food is safe and suitable for human consumption listed under the [Codex Alimentarius - General Principles of Food Hygiene](#), including Annex on Hazard Analysis and Critical Control Point (HACCP) system and guidelines; and
  - m. must comply with any microbiological criteria established in accordance with the [Principles and Guidelines for the Establishment and Application of Microbiological Criteria Related to Foods \[CAC/GL 21-1997\]](#).
3. All flour and mixes procured outside of Canada:
  - a. must only be procured from countries that meet federal acts and regulations govern the importation of food under the [Canadian Food Inspection Agency - Guide to Importing Food Products Commercially](#);
  - b. must be of the type and pack size specified;
  - c. must comply with [Food and Drug Regulations \(C.R.C., c. 870\), Division 13](#) (or the equivalent in the country where procured);
  - d. must meet the description and requirements as indicated in [Tables 1](#) and [Table 2](#) for the applicable product;
  - e. must comply with relevant sections of Acts and Regulations (or the equivalent in the country where procured) listed under the [Food and Drugs Act \(R.S.C., 1985, c. F-27\)](#), [Food and Drug Regulations \(C.R.C., c. 870\)](#), [Canada Agricultural Products Act \(R.S.C., 1985, c. 20 \(4th Supp.\)\)](#), [Canadian Food Inspection Agency Act \(S.C. 1997, c. 6\)](#), [Canada Grain Act \(R.S.C., 1985, c. G-10\)](#) and the [Canada Grain Regulations \(C.R.C., c. 889\)](#);
  - f. must comply with fundamental principles related to Health and Safety listed under the [Canada Agricultural Products Act \(R.S.C., 1985, c. 20 \(4th Supp.\)\)](#);
  - g. must comply with the relevant sections listed under the [Canadian Food Inspection Agency - Food Safety](#);
  - h. must comply with food additive regulations listed under the [Food and Drug Regulations \(C.R.C., c. 870\), Division 16, Food Additives](#); and/or
  - i. must comply with food additive classes listed under the [Codex Alimentarius - General Standard for Food Additives](#);
  - j. must comply with Pesticide and Pesticide Management Program listed under the [Agriculture and Agri-Food Canada's Pest Management Centre \(PMC\)](#) and the [Health Canada Pest Management Regulatory Agency \(PMRA\)](#);
  - k. must comply with all the requirements listed under the [Plant Protection Act \(S.C. 1990, c. 22\)](#) and the [Plant Protection Regulations \(SOR/95-212\)](#) (or the equivalent in the country where procured);
  - l. must comply with food packaging and labelling requirements listed under the [Consumer Packaging and Labelling Act \(R.S.C., 1985, c. C-38\)](#), and the [Consumer Packaging and Labelling Regulations \(C.R.C., c. 417\)](#); and/or

- m. must comply with the relevant sections listed under the [Industry Labelling Tool \(replaces the Guide to Food Labelling and Advertising\)](#); and/or
- n. must comply with all the requirements listed under the [Codex Alimentarius - General Standard for the Labelling of Prepackaged Foods](#);
- o. must be prepared and handled in accordance with essential principles of food hygiene applicable throughout the food chain (including primary production through to the final consumer) ensuring that food is safe and suitable for human consumption listed under Recommended International Code of Practice [Codex Alimentarius - General Principles of Food Hygiene](#), including Annex on Hazard Analysis and Critical Control Point (HACCP) system and guidelines;
- p. must comply with other Codex Alimentarius standards relevant to Flour, such as: [Codex Alimentarius - General Standard for Wheat Flour](#) and the [Codex Alimentarius - General Standard for Durum Wheat Semolina and Durum Wheat Flour](#);
- q. must comply with all the requirements listed under the [Codex Alimentarius – Guidelines for the Use of Flavourings \[CAC/GL 66-2008\]](#);
- r. must be free from heavy metal and comply with maximum residue limits and maximum mycotoxin limits established by the Codex Alimentarius standards relevant to Flour;
- s. must comply with any microbiological criteria established in accordance with the [Principles and Guidelines for the Establishment and Application of Microbiological Criteria Related to Foods \[CAC/GL 21-1997\]](#); and
- t. meet all requirements of applicable local food legislation whenever those requirements are stricter. All flour and cake, pancake and waffle mixes must be obtained by sources approved by the applicable local and international laws, regulations, procedures and requirements.

## **Size**

4. The usual retail and commercial standard size available in the market applicable for flour and cake, pancake and waffle mixes unless otherwise specified.

## **Packaging**

5. Flour shall be packaged in normal retail and commercial packaging, packing, labelling and marking which safeguard the hygienic, nutritional, technological and organoleptic qualities of the product. Packaging material must be made of substances which are safe and suitable for their intended use and does not impart any toxic substance or undesirable odour or flavour to the product. If the product is packaged in sacks, these must be clean, sturdy and strongly sewn or sealed.

## **Storage and Distribution**

6. Product is to be stored and distributed in a clean, dry area at temperatures of 16-20° and 60% relative humidity. Maximum recommended product age limit is 12 months. Lower moisture limits may be required for certain destinations in relation to the climate, duration of transport and storage.

**Applicable Regulations and Resources for Flour and Cake, Pancake and Waffle Mixes**

[Agriculture and Agri-Food Canada \(AAFC\)](#)

[Agriculture and Agri-Food Canada's Pest Management Centre \(PMC\)](#)

[Canada Agricultural Products Act \(R.S.C., 1985, c. 20 \(4th Supp.\)\)](#)

[Canada Grain Act \(R.S.C., 1985, c. G-10\)](#)

[Canada Grain Regulations \(C.R.C., c. 889\)](#)

[Canadian Food Inspection Agency - Food Safety](#)

[Canadian Food Inspection Agency - Guide to Importing Food Products Commercially](#)

[Canadian Food Inspection Agency Act \(S.C. 1997, c. 6\)](#)

[Canadian Grain Commission](#)

[Canadian National Millers Association](#)

[Codex Alimentarius - General Principles of Food Hygiene](#)

[Codex Alimentarius - General Standard for Durum Wheat Semolina and Durum Wheat Flour](#)

[Codex Alimentarius - General Standard for Food Additives \[CODEX STAN 192-1995\]](#)

[Codex Alimentarius - General Standard for the Labelling of Prepackaged Foods](#)

[Codex Alimentarius - General Standard for Wheat Flour](#)

[Codex Alimentarius – Guidelines for the Use of Flavourings \[CAC/GL 66-2008\]](#)

[Consumer Packaging and Labelling Act \(R.S.C., 1985, c. C-38\)](#)

[Consumer Packaging and Labelling Regulations \(C.R.C., c. 417\)](#)

[Food and Drug Regulations \(C.R.C., c. 870\)](#)

[Food and Drug Regulations \(C.R.C., c. 870\), Division 13, Grain and Bakery Products](#)

[Food and Drug Regulations \(C.R.C., c. 870\), Division 16, Food Additives](#)

[Food and Drugs Act \(R.S.C., 1985, c. F-27\)](#)

[Health Canada Pest Management Regulatory Agency \(PMRA\)](#)

[Industry Labelling Tool \(replaces the Guide to Food Labelling and Advertising\)](#)

[Plant Protection Act \(S.C. 1990, c. 22\)](#)

[Plant Protection Regulations \(SOR/95-212\)](#)

[Principles and Guidelines for the Establishment and Application of Microbiological Criteria Related to Foods \[CAC/GL 21-1997\]](#)

[Processed Products Regulations \(C.R.C., c. 291\)](#)

[World of Flours and Flour Milling](#)