

# MAPLE WATER OF QUÉBEC

IN SMALL CONTAINERS

## Technical Description

22/11/16

### TECHNICAL DESCRIPTION

<b>Product</b>	Pure maple sap harvested from sugar maple trees as they naturally flow in spring. Sterilized using UHT processing.
<b>Advantages</b>	100% natural and authentic product, harvested exclusively from Canadian maple groves. No preservatives added. Nothing has been added or removed. Renewable source.
<b>Environment</b>	Ecological and renewable source. The maple industry helps protect Québec's forests.
<b>Certifications</b>	<p>NAPSI-certified (Natural, Authentic, Pure, Sterile and Integral). Pure maple sap.</p> <p>The NAPSI logo is registered for certification mark registration in Canada, the United-States, the United Kingdom and Japan. It is the subject of an application for registration as a certification mark in France.</p> <p>The logo may only be used by businesses that sign a licensing agreement according to the terms established by the Federation of Quebec Maple Syrup Producers, and under the condition of adherence to the certification standard and the design standards.</p>
<b>Origin</b>	Quebec, Canada.
<b>Declaration in the list of ingredients</b>	Maple water or maple sap.
<b>Production codes</b>	Provided by the processor.
<b>GMO</b>	None.
<b>Pesticides</b>	No pesticide residue. Maple production does not require the use of products such as antibiotics, antiparasitics, pesticides, herbicides, plant-growth regulators, etc. As a result, the risk of finding traces of these substances is practically zero, according to the recommendations in effect in Quebec.
<b>Allergens</b>	None added at the maple grove.

### COMPOSITION

<b>Ingredients</b>	Maple water (or maple sap).
<b>Brix</b>	1.7 to 3.0 °Bx
<b>pH</b>	6.60 to 7.50

### SPECIFICATIONS

<b>Organoleptic properties</b>	Clear and translucent appearance, like pure water, sometimes with a very slight amber tint. Slightly sweet with a subtle maple flavour. Free of foreign flavours or odours. Sediment of natural components of the maple tree may be present.
<b>Sweetness</b>	0.04 (sucrose = 1) 0.06 (glucose = 1)



## Analyses

DETAILED PHYSICO-CHEMICAL ANALYSES					
	Median	Number of samples	Minimum	Maximum	Method
Total solids (%)	2.56	18	1.70	2.97	AOAC, 100 °C
Water activity	0.98	15	0.98	0.99	AW meter
Dextrose equivalent	BQL*	6	BQL*	BQL*	Titrimetry
Invert sugar (%)	BQL*		BQL*	BQL*	Calculations
Transmittance at 560 nm (%)	98.6	6	97.4	99.7	Spectrophotometer
Density (g/ml)					Densimeter
	20-21 °C	6	1.005	1.01	
	4 °C	6	1.01	1.01	
Viscosity (cP)					Brookfield viscometer
	20-21 °C	6	0.78	0.81	SC4-18, 100 rpm
	4 °C	6	0.81	0.84	SC4-18, 100 rpm

MICROBIOLOGICAL ANALYSES AFTER 4 YEARS COMMERCIAL STERILITY		
MICROBIOLOGY	Result	Method
Yeasts (CFU/ml)	<1	MFHPB-22
Moulds (CFU/ml)	<1	MFHPB-22
Aerobic spore-forming bacteria (CFU/ml)	<1	MFLP-44
Aerobic mesophilic bacteria (CFU/ml)	<1	MFHPB-18
Anaerobic spore-forming bacteria (CFU/ml)	<1	MFLP-44
Anaerobic mesophilic bacteria (CFU/ml)	<1	MFHPB-18
Pseudomonas aeruginosa (CFU/ml)	<1	ILMA-017
Bacillus cereus (CFU/ml)	<2.5	MFLP-42
Clostridium spp (CFU/ml)	Not detected	MFHPB-23

ANALYSE OF METALLIC TRACE ELEMENTS			
METALLIC ELEMENTS	Number of samples	Result	Method
Arsenic (mg/100g)	3	<0.002 mg (<BLQ*)	ICP-MS
Lead (mg/100g)	3	<0.00017 mg (<BLQ*)	ICP-MS
Tin (mg/100g)	3	<0.005 mg (<BLQ*)	ICP-MS

\*BQL = Below Quantifiable Limit

## Nutritional Values

NUTRIENTS	Typical values for 100 ml (100 g)				
	Median	Number of observations	Minimum	Maximum	Method
CARBOHYDRATES					
Sucrose (mg)	2273.59	437	658.89	3361.94	HPLC-RI
Glucose (mg)	5.25	439	BQL*	73.57	HPLC-RI
Fructose (mg)	4.45	439	BQL*	49.92	HPLC-RI
Complex carbohydrates (mg)	45.28	439	BQL*	142.43	HPLC-RI
<b>Total carbohydrates</b>	<b>2.32 g</b>				

MINERALS	Typical values for 100 ml (100 g)				
	Median	Number of observations	Minimum	Maximum	Method
Aluminum (mg)	1.12	421	BQL*	3.82	ICP-MS
Calcium (mg)	4.10	421	BQL*	22.28	ICP-MS
Copper (mg)	0.07	421	BQL*	5.10	ICP-MS
Iron (mg)	0.20	421	BQL*	3.33	ICP-MS
Magnesium (mg)	0.70	421	0.10	5.23	ICP-MS
Manganese (mg)	0.19	421	BQL*	2.16	ICP-MS
Potassium (mg)	5.25	421	0.41	28.46	ICP-MS
Sodium (mg)	3.54	421	0.21	17.30	ICP-MS
Zinc (mg)	0.09	420	BQL*	1.69	ICP-MS
<b>Total minerals</b>	<b>15.26 mg</b>				

VITAMINS	Not detected				HPLC-DAD
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AMINO ACIDS	Typical values for 100 ml (100 g)				
	Median	Number of observations	Minimum	Maximum	Method
Arginine + Threonine (mg)	0.83	331	0.04	5.25	HPLC-FL
Leucine (mg)	0.005	330	BQL*	2.57	HPLC-FL
Proline (mg)	0.59	331	BQL*	4.42	HPLC-FL
Histidine (mg)	0.02	324	BQL*	0.10	HPLC-FL
<b>Total amino acids</b>	<b>1.44 mg</b>				

\*BQL = Below Quantifiable Limit

## Nutritional Values (cont'd.)

NUTRIENTS	Typical values for 100 ml (100 g)				
	Median	Number of observations	Minimum	Maximum	Method
ORGANIC ACIDS					
<b>Malic (mg)</b>	24.08	400	1.04	44.53	HPLC-UV
<b>Citric (mg)</b>	1.80	128	1.18	3.67	HPLC-UV
<b>Fumaric (mg)</b>	0.20	400	0.06	1.12	HPLC-UV
<b>Acetic (mg)</b>	0.91	400	BQL*	2.17	HPLC-UV
<b>Lactic (mg)</b>	0.40	400	BQL*	1.20	HPLC-UV
<b>Gluconic (mg)</b>	1.03	313	BQL*	9.40	HPLC-UV
<b>Pyruvic (mg)</b>	0.29	400	0,009	3.16	HPLC-UV
<b>Succinic (mg)</b>	0.93	400	BQL*	2.64	HPLC-UV
<b>Total organic acids</b>	<b>29.65 mg</b>				

ANTIOXIDANT	Median	Number of observations	Minimum	Maximum	Method
Antioxidant capacity	<b>12 µmol TE</b>	3	5.4	15.6	ORAC

POLYPHENOLS	Median	Number of observations	Minimum	Maximum	Method
More than 25 phenolic compounds	<b>0.90 mg</b>	332	0.42	2.79	UFLC-MS/MS

PHYTOHORMONES	Median	Number of observations	Minimum	Maximum	Method
Abcisic acid ABA (µg)	0.30	87	0.11	1.28	UPLC/ESI-MS/MS
Phaseic acid PA (µg)	2.67	87	1.05	10.09	UPLC/ESI-MS/MS
ABA metabolites (µg)	1.37	87	0.37	5.43	UPLC/ESI-MS/MS
<b>Total phytohormones</b>	<b>4.34 µg</b>				

ENERGY VALUE	Median	Number of observations	Minimum	Maximum	Method
	<b>8.4 kcal</b>				calculations

\*BQL = Below Quantifiable Limit

# Nutrition Facts Tables (generic)

CANADA

## GENERAL INFORMATION

Nutrition Facts tables may change depending on use:

- Industry: Nutrition Facts table for 100 ml
- Packager: Nutrition Facts tables for 250 ml, 330 ml and 500 ml (if intended for consumers)

**Format must be confirmed for your packaging. Consult with a specialist.**

These tables are presented for information purposes only.

The values shown in the nutritional values tables correspond to minimum values (except for salt). This approach was chosen in order to mitigate the natural variations of maple sap components, variations that can be attributed to its processing and to laboratory methods (rfc: Nutritional Labeling Toolkit, "Statement of Nutritional Value, section 1.1.3, p. 187). In addition, this approach enables compliance with the standards of the CFIA [Canadian Food Inspection Agency] with regard to acceptance criteria for the compliance of a batch (<http://www.inspection.gc.ca/aliments/etiquetage/l-etiquetage-des-aliments-pour-l-industrie/etiquetage-nutritionnel/renseignements-additionnels/test-de-conformite/fra/1409949165321/1409949250097?chap=2#s1c2>)

As a result, the nutritional values of a specific product may be higher.

## MAPLE WATER 100, 250, 330 AND 500 ML

Nutrition Facts Valeur nutritive	
Per 100 g (100 ml) / par 100 g (100 ml)	
Amount Teneur	% Daily Value % valeur quotidienne
<b>Calories / Calories</b> 10	
<b>Fat / Lipides</b> 0 g	0 %
Saturated / saturés 0 g	0 %
+ Trans / trans 0 g	0 %
<b>Cholesterol / Cholestérol</b> 0 mg	
<b>Sodium / Sodium</b> 15 mg	1 %
<b>Carbohydrate / Glucides</b> 2 g	1 %
Fibre / Fibres 0 g	0 %
Sugars / Sucres 2 g	
<b>Protein / Protéines</b> 0 g	
<b>Vitamin A / Vitamine A</b>	0 %
<b>Vitamin C / Vitamine C</b>	0 %
<b>Calcium / Calcium</b>	0 %
<b>Iron / Fer</b>	0 %

Nutrition Facts Valeur nutritive	
Per 250 ml / par 250 ml	
Amount Teneur	% Daily Value % valeur quotidienne
<b>Calories / Calories</b> 20	
<b>Fat / Lipides</b> 0 g	0 %
Saturated / saturés 0 g	0 %
+ Trans / trans 0 g	0 %
<b>Cholesterol / Cholestérol</b> 0 mg	
<b>Sodium / Sodium</b> 45 mg	2 %
<b>Carbohydrate / Glucides</b> 5 g	2 %
Fibre / Fibres 0 g	0 %
Sugars / Sucres 5 g	
<b>Protein / Protéines</b> 0 g	
<b>Vitamin A / Vitamine A</b>	0 %
<b>Vitamin C / Vitamine C</b>	0 %
<b>Calcium / Calcium</b>	0 %
<b>Iron / Fer</b>	0 %

Nutrition Facts Valeur nutritive	
Per 330 ml / par 330 ml	
Amount Teneur	% Daily Value % valeur quotidienne
<b>Calories / Calories</b> 30	
<b>Fat / Lipides</b> 0 g	0 %
Saturated / saturés 0 g	0 %
+ Trans / trans 0 g	0 %
<b>Cholesterol / Cholestérol</b> 0 mg	
<b>Sodium / Sodium</b> 55 mg	2 %
<b>Carbohydrate / Glucides</b> 7 g	2 %
Fibre / Fibres 0 g	0 %
Sugars / Sucres 7 g	
<b>Protein / Protéines</b> 0 g	
<b>Vitamin A / Vitamine A</b>	0 %
<b>Vitamin C / Vitamine C</b>	0 %
<b>Calcium / Calcium</b>	0 %
<b>Iron / Fer</b>	0 %

Nutrition Facts Valeur nutritive	
Per 500 ml / par 500 ml	
Amount Teneur	% Daily Value % valeur quotidienne
<b>Calories / Calories</b> 40	
<b>Fat / Lipides</b> 0 g	0 %
Saturated / saturés 0 g	0 %
+ Trans / trans 0 g	0 %
<b>Cholesterol / Cholestérol</b> 0 mg	
<b>Sodium / Sodium</b> 85 mg	4 %
<b>Carbohydrate / Glucides</b> 10 g	3 %
Fibre / Fibres 0 g	0 %
Sugars / Sucres 10 g	
<b>Protein / Protéines</b> 0 g	
<b>Vitamin A / Vitamine A</b>	0 %
<b>Vitamin C / Vitamine C</b>	0 %
<b>Calcium / Calcium</b>	0 %
<b>Iron / Fer</b>	0 %



# Potential Claims in Canada for Pure Maple Water

## CLAIMS REGARDING NUTRITIONAL VALUE

A. VITAMINS AND MINERALS

**No claim allowed.**

B. ENERGY

**No claim allowed.**

C. POLYPHENOLS

**Only quantitative claims are allowed (as in the table below), and only outside the Nutrition Facts tables. Note that using words such as “contains” is not allowed.**

Packaging format	Quantitative claims
250 ml	2.25 mg polyphenols per serving of 250 ml
330 ml	2.97 mg polyphenols per serving of 330 ml
500 ml	4.50 mg polyphenols per serving of 500 ml

# Potential Claims in Canada for Pure Maple Water (cont'd.)

## CLAIMS REGARDING COMPOSITION, QUALITY, QUANTITY AND ORIGIN

<b>No added sugar</b>	Yes, but only if a general note is added	<p>The text must not imply that other maple waters may contain added sugar.</p> <p>The claim must be accompanied by a note stating that the quality attributed to this maple water does not apply to the food in question alone, but to all foods of the same category.</p> <p><u>General note:</u></p> <p>Ex.: “Maple products do not contain added sugar” or “Like all maple products, contains no added sugar,” etc.</p>
<b>100% pure and natural*</b>	Yes	
<b>Naturally sweet</b>	Yes	
<b>100% pure</b>	Yes	
<b>No preservatives/ additives/ parabens</b>	Yes, but only if a general note is added	<p>The text must not imply that other maple waters may contain preservatives, additives or other added substances.</p> <p>The claim must be accompanied by a note stating that the quality attributed to this maple water does not apply to the food in question alone, but to all foods of the same category.</p> <p><u>General notes:</u></p> <p>Ex.: “Maple products do not contain preservatives” or “Preservative-free, like all maple products,” etc.</p> <p>And “Maple products do not contain additives” or “Additive-free, like all maple products,” etc.</p> <p>And “Maple products do not contain parabens” or “Paraben-free, like all maple products,” etc.</p>
<b>No added flavours</b>	Yes, but only if a general note is added	<p>The text must not imply that other maple waters may contain preservatives, additives or other added substances.</p> <p>The claim must be accompanied by a note stating that the quality attributed to this maple water does not apply to the food in question alone, but to all foods of the same category.</p> <p><u>General note:</u></p> <p>Ex.: “Maple products do not contain added flavours” or “Like all maple products, contains no added flavours,” etc.</p>
<b>Subtle maple flavour</b>	Yes	
<b>Hydrate naturally</b>	Yes	
<b>Refreshing</b>	Yes	
<b>Thirst-quenching</b>	Yes	
<b>Biologic</b>	To be confirmed	Claim is possible if the standard is met. Contact the authorities responsible for this certification.
<b>Halal/kosher</b>	To be confirmed	Claim is possible if the standards are met. Contact the authorities responsible for these certifications.

**\*Notes regarding the use of the claim “Natural”**

- A natural food or ingredient is not expected to contain, or to ever have contained, an added vitamin, added mineral nutrient, artificial flavouring agent or food additive.
- Furthermore, in order for a food or ingredient to be called “natural,” it must not have any constituent or fraction thereof removed or significantly changed, except the removal of water.
- The new CFIA guidelines state that “a natural food or ingredient of a food must have been produced through the ordinary course of nature without the interference or influence of humans.”

## Packaging - Varies by Manufacturer

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Tetra Pak® containers in 250 ml, 330 ml, 500 ml and 1 L – to be confirmed per manufacturer.

## Storage and Shelf Life

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Before opening, 24 months at room temperature (about 25° C).  
After opening, 2 weeks in the refrigerator (about 4° C).

## Freezing

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Possible. Potential sedimentation of the natural components of maple sap.

## Potential Uses

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Can be used as is or can replace water or certain juices or liquids in food preparations such as: flavoured waters, functional beverages, sports drinks and thirst-quenchers, smoothies, broths, soups, poaching liquids, etc.



## NAPSI Standard

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The purpose of this mark is to certify that the maple water is:

- **Natural:** sourced exclusively from trees of the genus *Acer*;
- **Authentic:** harvested in Canada and controlled from production to marketing;
- **Pure:** free of any chemical preservatives;
- **Sterile:** free of any living microorganisms;
- **Integral:** unrefined, thus preserving the integrity of its constitution.

All according to specifications that must be followed at every step along the production chain.

## Copyright

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The information contained in this sheet is provided for information purposes only and is the result of generic analyses of maple water conducted by external laboratories based on current knowledge. However, it is important to remember that the product may vary depending on numerous factors, conditions and harvests. This sheet is a practical guide and as such shall not, in any case, be considered a legal opinion on the matter, and the Federation of Quebec Maple Syrup Producers makes no commitment in this regard. You are strongly advised to consult a lawyer for a legal opinion regarding labelling rules. Although the information contained in this sheet was obtained from reliable sources and the Federation of Quebec Maple Syrup Producers has every reason to believe it accurate, its accuracy and completeness are not guaranteed and it is intentionally presented in a summarized, generalized manner. The Federation of Quebec Maple Syrup Producers makes no guarantee or representation either explicit or implicit regarding the accuracy, integrity or usefulness of this sheet, and disclaims all liability resulting from its use or the information contained herein. Anyone who chooses to use this sheet in any way whatsoever, to rely on it or to make a decision based on its contents assumes full responsibility for such choice. It is important to remember that claims and statements must be based on facts and must not be false, misleading, deceptive or likely to create an erroneous impression, as required in paragraph 5(1) of Canada's *Food and Drugs Act* and article 7 of the *Consumer Packaging and Labelling Act*.