

Technical Description

04/2018

TECHNICAL DESCRIPTION	
Product	Pure maple sap harvested from sugar maple trees as they naturally flow in spring. Sterilized using UHT processing.
Advantages	100% natural and authentic product, harvested exclusively from Canadian maple groves. No preservatives added. Nothing has been added or removed.
Environment	Ecological and renewable source. The maple industry helps protect Québec's forests.
Certifications	<p>NAPSI-certified (Natural, Authentic, Pure, Sterile and Integral). Pure maple sap. May be certified organic. To be confirmed for each producer.</p> <p>The NAPSI logo is registered for certification mark registration in Canada, the United-States, the United Kingdom and Japan.</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> <p>This logo may be used only for maple water in containers of no more than five (5) kilograms or no more than (5) litres. It may in no way appear on maple water in bulk containers. Bulk maple water must be labelled, with no logo, only as follows: PRODUCT IN NAPSI-CERTIFIED PROCESSING STAGE.</p>
Origin	Quebec, Canada.
Declaration in the list of ingredients	Maple water or maple sap.
Production codes	Provided by the processor.
GMO	None.
Pesticides	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.
Allergens	None added at the maple grove.

COMPOSITION	
Ingredients	Maple water (or maple sap).
Brix	1.7 to 3.0 °Bx
pH	6.60 to 7.50

SPECIFICATIONS	
Organoleptic properties	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.
Sweetness	0.04 (sucrose = 1) 0.06 (glucose = 1)



Analysis

DETAILED PHYSICOCHEMICAL 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	1.01	6	1.006	1.01	
4 °C	1.01	6	1.01	1.01	
Viscosity (cP)					Brookfield viscometer
20-21 °C	0.82	6	0.81	0.84	SC4-18, 100 rpm
4 °C	0.80	6	0.78	0.81	SC4-18, 100 rpm

*BQL = Below Quantifiable Limit

MICROBIOLOGICAL ANALYSES AFTER 48 MONTHS COMMERCIAL STERILITY		
MICROBIOLOGY	Result	Method
Yeasts (CFU/ml)	<1	MFHPB-22
Molds (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



Nutritional Values

NUTRIENTS	Typical values for 100 ml (100 g)				
	Average	Number of observations	Minimum	Maximum	Method
CARBOHYDRATES					
Sucrose (g)	2.23	430	0.69	3.56	HPLC-RI
Glucose (g)	0.006	400	BQL*	0.027	HPLC-RI
Fructose (g)	0.006	405	BQL*	0.023	HPLC-RI
Total sugar (g)	2.29	411	0.78	3.67	HPLC-RI
Complex carbohydrates (g)	0.049	413	BQL*	0.127	HPLC-RI
Total carbohydrates	2.34 g				

MINERALS	Typical values for 100 ml (100 g)				
	Average	Number of observations	Minimum	Maximum	Method
Aluminum (mg)	BQL*	414	BQL*	BQL*	ICP-MS
Calcium (mg)	4.19	396	BQL*	11.28	ICP-MS
Copper (mg)	0.09	389	BQL*	0.43	ICP-MS
Iron (mg)	0.32	385	BQL*	1.61	ICP-MS
Magnesium (mg)	0.74	405	0.01	2.11	ICP-MS
Manganese (mg)	0.22	407	BQL*	0.78	ICP-MS
Potassium (mg)	5.59	407	BQL*	17	ICP-MS
Sodium (mg)	BQL*	402	BQL*	BQL*	ICP-MS
Zinc (mg)	0.13	388	BQL*	0.65	ICP-MS
Total minerals	11.28 mg				

VITAMINS	Not detected				HPLC-DAD
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AMINO ACIDS	Typical values for 100 ml (100 g)				
	Average	Number of observations	Minimum	Maximum	Method
Total amino acids	2.05 mg				HPLC-FL

*BQL = Below Quantifiable Limit



Nutritional Values (cont'd.)

NUTRIENTS	Typical values for 100 ml (100 g)				
	Average	Number of observations	Minimum	Maximum	Method
ORGANIC ACIDS					
Malic (mg)	24.17	398	1.79	48.69	HPLC-UV
Citric (mg)	1.78	121	0.89	3.09	HPLC-UV
Fumaric (mg)	0.24	378	BQL*	0.71	HPLC-UV
Lactic (mg)	BQL*	263	BQL*	BQL*	HPLC-UV
Acetic (mg)	0.83	347	0.07	1.33	HPLC-UV
Gluconic (mg)	1.00	295	BQL*	3.4	HPLC-UV
Pyruvic (mg)	0.41	386	BQL*	1.67	HPLC-UV
Succinic (mg)	0.92	381	BQL*	1.83	HPLC-UV
Total organic acids	29.35 mg				

ANTIOXIDANT	Average	Number of observations	Minimum	Maximum	Method
Antioxidant capacity	12 µmol TE	3	5.4	15.6	ORAC

POLYPHENOLS	Average	Number of observations	Minimum	Maximum	Method
More than 25 phenolic compounds	0.96 mg	318	0.33	2.22	Folin-Ciocalteu and UFLC-MS/MS

PHYTOHORMONES	Average	Number of observations	Minimum	Maximum	Method
Abscisic acid ABA (µg)	0.38	87	0.08	1.70	UPLC/ESI-MS/MS
Phaseic acid PA (µg)	3.29	87	0.87	10.34	UPLC/ESI-MS/MS
ABA metabolites (µg)	1.58	87	0.30	5.81	UPLC/ESI-MS/MS
Total phytohormones	5.25 µg				

ENERGY VALUE	Average	Number of observations	Minimum	Maximum	Method
	9.36 kcal				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

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

These tables are presented for information purposes only.

The values presented in the Nutrition Facts Table are averages.

MAPLE WATER 100 ml

Nutrition Facts Valeur nutritive

pour 100 ml
Per 100 ml

Calories 10	% valeur quotidienne* % Daily Value*
Lipides / Fat 0 g	0 %
saturés / Saturated 0 g	0 %
+ trans / Trans 0 g	0 %
Glucides / Carbohydate 2 g	
Fibres / Fibre 0 g	0 %
Sucres / Sugars 2 g	2 %
Protéines / Protein 0 g	
Cholestérol / Cholesterol 0 mg	
Sodium 0 mg	0 %
Potassium 10 mg	0 %
Calcium 0 mg	0 %
Fer / Iron 0,3 mg	2 %
Zinc 0,1 mg	1 %
Cuivre / Copper 0,09 mg	10 %
Manganèse / Manganese 0,225 mg	10 %

* 5% ou moins c'est **peu**. 15% ou plus c'est **beaucoup**
* 5% or less is **a little**. 15% or more is **a lot**

Nutrition Facts Valeur nutritive

pour 100 ml
Per 100 ml

Calories 10	% valeur quotidienne* % Daily Value*
Lipides / Fat 0 g	0 %
Glucides / Carbohydate 2 g	
Sucres / Sugars 2 g	2 %
Protéines / Protein 0 g	
Potassium 10 mg	0 %
Fer / Iron 0,3 mg	2 %
Cuivre / Copper 0,09 mg	10 %
Manganèse / Manganese 0,225 mg	10 %

Source négligeable de lipides saturés, lipides trans, cholestérol, sodium, fibres et calcium.

Not a significant source of saturated fat, trans fat, cholesterol, sodium, fibre or calcium.

* 5% ou moins c'est **peu**. 15% ou plus c'est **beaucoup**
* 5% or less is **a little**. 15% or more is **a lot**



Potential Claims in Canada for Pure Maple Water

(In accordance with new Health Canada standards)

- Nutrient content claims are based on rounded values as per the new Food and Drug Regulations, Article B.01.401 (1.2) "The percentage of the daily value for a mineral nutrient shown in the nutrition facts table for a prepackaged product in accordance with subsection (1) shall be established on the basis of the amount, by weight, of the mineral nutrient per serving of stated size for the product, rounded off in the applicable manner set out in column 4 of the table to this section."
- It is important to note that claims vary according to the serving size in the Nutrition Facts Table.

VITAMINS AND MINERALS

	Stated Serving Size of 100 ml*		Vitamin and Mineral Claims
Copper	0.09 mg	10 %	Source of copper
Manganese	0.225 mg	10 %	Source of manganese

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
100 ml	0.96 mg polyphenols per serving of 100 ml*

*The data presented in these tables correspond to average value.

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

CLAIMS REGARDING COMPOSITION, QUALITY, QUANTITY AND ORIGIN

No added sugar	Yes, but only if a general note is added	The text must not imply that other maple waters may contain added sugar. 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. <u>General note:</u> Ex.: "Maple products do not contain added sugar" or "Like all maple products, contains no added sugar," etc.
100% pure and natural*	Yes	
Naturally sweet	Yes	
100% pure	Yes	
No preservatives/ additives/ parabens	Yes, but only if a general note is added	The text must not imply that other maple waters may contain preservatives, additives or other added substances. 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. <u>General notes:</u> Ex.: "Maple products do not contain preservatives" or "Preservative-free, like all maple products," etc. And "Maple products do not contain additives" or "Additive-free, like all maple products," etc. And "Maple products do not contain parabens" or "Paraben-free, like all maple products," etc.
No added flavours	Yes, but only if a general note is added	The text must not imply that other maple waters may contain added flavours. 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. <u>General note:</u> Ex.: "Maple products do not contain added flavours" or "Like all maple products, contains no added flavours," etc.
Subtle maple flavour	Yes	
Hydrate naturally	Yes	
Refreshing	Yes	
Thirst-quenching	Yes	
Organic	To be confirmed	Claim is possible if the standard is met. Contact the authorities responsible for this certification.
Halal/kosher	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 mineral nutrient, added vitamin, 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

Tote in 200 L or 1 000 L.

Storage and Shelf Life

18 months at room temperature. Potential for sedimentation of maple water's natural compounds.

Freezing

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

Potential Uses

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

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

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*.

