INDUSTRY SHEET

GRANULATED MAPLE SUGAR

Technical Description

04/2018

TECHNICAL DESCRIPTION	
Product	Sugar obtained by concentrating 100% natural raw sap, or "maple water." Extraction of maple sap, concentration by osmosis and boiling to a sugar density of 66 °Brix.
Advantages	100% pure product, harvested exclusively from Canadian forests. No added preservatives. Natural product and from renewable sources. Maple industry means Quebec and Canadian forests are protected.
Potential Certifications	Organic. Kosher. As confirmed by each individual producer.
Origin	Quebec, Canada.
Declaration in the list of ingredients	Maple Sugar.
Codes	Provided by processor.
Compliance	Meets the requirements of the Règlement sur les aliments [Food regulations] (P-29, r. 1) administered by the Ministry of Agriculture, Fisheries and Food of Quebec; the Règlement des producteurs acéricoles sur les normes de qualité et le classement [Maple Syrup producer regulations on quality standards and classification] (chapter M-35.1, r. 18) administered by the Federation of Quebec Maple Syrup Producers; and the Maple Products Regulations (C.R.C., c.289) administered by the Canadian Food Inspection Agency.
Commercial sterility	Yes, drying method.
GMOs	None.
Pesticides	No pesticide residue Maple syrup production does not require the use of products such as antibiotics, antiparasitics, pesticides, herbicides, growth promoters or similar. The risk of finding residues of these substances in maple sugar is therefore practically zero, in line with the recommendations in force in Quebec.
Allergens	None added at the sugar bush.

COMPOSITION	
Ingredients	Maple sugar.
Brix	66.0 to 68.9 °Brix
pH	5.5 to 8.0

SPECIFICATIONS		
Organoleptic Properties	Granulated sugar with more-or-less fine or coarse crystals depending on the sugar category. Crystals melt in the mouth. Colour varies from light to dark. Sweet taste and characteristic maple scent with a note of caramelized sugar (toffee).	
Density	Apparent density: Min. 625 g/L Compacted density: Max. 740 g/L	
Aw	0.34	
Particle Size	Fine sugar 88.5%: < 250 microns (< mesh 60) 11.5%: 420 < 250 microns (mesh 40 < 60)	Sugar with more-or-less fine crystals 59%: < 250 microns (< mesh 60) 34%: 420 < 250 microns (mesh 40 < 60) 7%: > 840 microns (> mesh 20)

Analysis

MICROBIOLOGICAL ANALYSIS AFTER 12 MONTHS COMMERCIAL STERILITY		
MICROBIOLOGY	**Results**	**Method**
Yeasts (CFU/g)	<5	MFHPB-22
Molds (CFU/g)	<5	MFHPB-22
Aerobic mesophilic bacteria (CFU/g)	<5	MFHPB-18
Anaerobic mesophilic bacteria (CFU/g)	<5	MFHPB-18
Total coliform count (CFU/g)	<10	MFHPB-34
Pseudomonas aeruginosa (CFU/g)	<10	ILMA-017
Bacillus cereus (CFU/g)	<25	MFLP-42
E. Coli (CFU/g)	<10	MFHPB-34
Clostridium spp. (CFU/g)	Not detected	ILMA-61
Staphylococcus aureus (CFU/g)	<10	MFLP-21
Salmonella (CFU/g)	Not detected	MFHPB-20

Nutritional Values

NUTRIENTS	Typical Values per 100 g				
CARBOHYDRATES	**Average**	**Number of Observations**	**Minimum**	**Maximum**	**Method**
Sucrose (g)	94.78	22	91.08	97.50	HPLC-RI
Glucose (g)	0.35	22	0.23	0.55	HPLC-RI
Fructose (g)	0.19	22	0.12	0.28	HPLC-RI
Total Sugar (g)	95.33	22	91.56	98.22	HPLC-RI
Complex Sugars (g)	1.55	22	1.23	2.25	HPLC-RI
Total carbohydrates	**96.88 g**				

FATS	**Average**	**Number of Observations**	**Minimum**	**Maximum**	**Method**
Saturated (g)	BQL*	23	BQL*	BQL*	HPLC-RI
Trans (g)	BQL*	23	BQL*	BQL*	HPLC-RI
Omega-3 (g)	BQL*	23	BQL*	BQL*	HPLC-RI
Omega-6 (g)	BQL*	23	BQL*	0.01	HPLC-RI
Monounsaturated (g)	BQL*	23	BQL*	0.03	HPLC-RI
Polyunsaturated (g)	BQL*	23	BQL*	0.03	HPLC-RI
Cholesterol (mg)	BQL*	23	BQL*	BQL*	HPLC-RI

* BQL = Below Quantifiable Limit

Nutritional Values *(cont'd.)*

NUTRIENTS	Typical Values per 100 g				
MINERALS	**Average**	**Number of Observations**	**Minimum**	**Maximum**	**Method**
Aluminium (mg)	0.04	22	BQL*	0.1	HPLC-RI
Calcium (mg)	155.3	22	141	175	HPLC-RI
Copper (mg)	0.025	22	0.02	0.04	HPLC-RI
Iron (mg)	0.099	20	0.05	0.18	HPLC-RI
Magnesium (mg)	32.56	23	26.4	45.5	HPLC-RI
Manganese (mg)	4.034	21	2.62	6.19	HPLC-RI
Potassium (mg)	338.5	21	313.1	364	HPLC-RI
Sodium (mg)	0.73	23	0.54	0.91	HPLC-RI
Zinc (mg)	1.535	23	0.93	2.69	HPLC-RI
Phosphate (mg)	0.84	21	0.62	1.08	HPLC-RI
Total minerals	**533.66 mg**				

VITAMINS	**Average**	**Number of Observations**	**Minimum**	**Maximum**	**Method**
Thiamin (B1) (mg)	0.03	23	BQL*	0.07	HPLC-RI
Riboflavin (B2) (mg)	BQL*	22	BQL*	BQL*	HPLC-RI
Niacin (B3) (mg)	0.18	22	0.14	0.23	HPLC-RI
Total vitamins	**0.21 mg**				

AMINO ACIDS	**Average**	**Number of Observations**	**Minimum**	**Maximum**	**Method**
Total amino acids	**4.1 mg**	2	2.62	5.58	HPLC-RI

* BQL = Below Quantifiable Limit

Nutritional Values *(cont'd.)*

NUTRIENTS	Typical Values per 100 g				
ORGANIC ACIDS	**Average**	**Number of Observations**	**Minimum**	**Maximum**	**Method**
Oxalic (mg)	1.71	21	1.07	2.73	HPLC-RI
Tartaric (mg)	BQL*	0	BQL*	BQL*	HPLC-RI
Quinic (mg)	BQL*	0	BQL*	BQL*	HPLC-RI
Pyruvic (mg)	5.24	20	4.52	7.48	HPLC-RI
Malic (mg)	694.25	20	662.25	744.57	HPLC-RI
Shikimic (mg)	0.84	23	0.39	1.49	HPLC-RI
Lactic (mg)	23.37	19	15.2	30.65	HPLC-RI
Acetic (mg)	91.86	22	57.61	123.69	HPLC-RI
Fumaric (mg)	12.11	22	8.64	16.79	HPLC-RI
Succinic (mg)	118.56	22	94.65	144.35	HPLC-RI
Citric (mg)	6.27	20	5.88	6.62	HPLC-RI
Total organic acids	**954.21 mg**				

ANTIOXIDANT	**Average**	**Number of Observations**	**Minimum**	**Maximum**	**Method**
Antioxidant strength	**1618 µmol TE**	22	1403	1818	ORAC

POLYPHENOLS	**Average**	**Number of Observations**	**Minimum**	**Maximum**	**Method**
67 phenolic compounds counted to date	**0.3 mg**	22	0.3 mg	0.33 mg	UFLC-MS/MS (isolated lignans)

PHYTOHORMONES	**Average**	**Number of Observations**	**Minimum**	**Maximum**	**Method**
Abscisic acid ABA (µg)	8.7	22	6.35	11.05	UPLC/ESI-MS/MS
Phaseic acid PA (µg)	128.75	22	109.69	155.06	UPLC/ESI-MS/MS
Other phytohormones (µg)	72.83	22	59.47	81.77	UPLC/ESI-MS/MS
Total phytohormones	**210.28 µg**				

ENERGY VALUE	**Average**	**Number of Observations**	**Minimum**	**Maximum**	**Method**
	394.09 kcal				Calculations

* BQL = Below Quantifiable Limit

Nutrition Facts Tables (generic)

GRANULATED MAPLE SUGAR

CANADA

GENERAL INFORMATION

Nutrition Facts tables may change depending on use:

- If the product is for industrial use, packagers must use the Nutrition Facts table for 100 g.
- If the product is for consumers, packagers must use the Nutrition Facts table for 3 g.

These tables are presented for information purposes only.
Format must be confirmed for your packaging.
Consult a specialist to ensure compliance with Food and Drug Regulations (c.r.c., c. 870).

MAPLE SUGAR 100 g

Nutrition Facts
Valeur nutritive
pour 100 g
Per 100 g

Calories 390	% valeur quotidienne* % Daily Value*
Lipides / Fat 0 g	0 %
saturés / Saturated 0 g + trans / Trans 0 g	0 %
Glucides / Carbohydrate 98 g	
Fibres / Fibre 0 g	0 %
Sucres / Sugars 98 g	98 %
Protéines / Protein 0 g	
Cholestérol / Cholesterol 0 mg	
Sodium 0 mg	0 %
Potassium 350 mg	7 %
Calcium 150 mg	12 %
Fer / Iron 0 mg	0 %
Manganèse / Manganese 4,05 mg	176 %

* 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 g
Per 100 g

Calories 390	% valeur quotidienne* % Daily Value*
Lipides / Fat 0 g	0 %
Glucides / Carbohydrate 98 g	
Sucres / Sugars 98 g	98 %
Protéines / Protein 0 g	
Potassium 350 mg	7 %
Calcium 150 mg	12 %
Manganèse / Manganese 4,05 mg	176 %

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

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

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* 5% or less is **a little**. 15% or more is **a lot**

MAPLE SUGAR 3 g

Nutrition Facts
Valeur nutritive
pour 1 c. à thé (3 g)
Per 1 tsp (3 g)

Calories 10	% valeur quotidienne* % Daily Value*
Lipides / Fat 0 g	0 %
saturés / Saturated 0 g + trans / Trans 0 g	0 %
Glucides / Carbohydrate 3 g	
Fibres / Fibre 0 g	0 %
Sucres / Sugars 3 g	3 %
Protéines / Protein 0 g	
Cholestérol / Cholesterol 0 mg	
Sodium 0 mg	0 %
Potassium 10 mg	0 %
Calcium 0 mg	0 %
Fer / Iron 0 mg	0 %
Manganèse / Manganese 0,125 mg	5 %

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* 5% or less is **a little**. 15% or more is **a lot**

Nutrition Facts
Valeur nutritive
pour 1 c. à thé (3 g)
Per 1 tsp (3 g)

Calories 10	% valeur quotidienne* % Daily Value*
Lipides / Fat 0 g	0 %
Glucides / Carbohydrate 3 g	
Sucres / Sugars 3 g	3 %
Protéines / Protein 0 g	
Potassium 10 mg	0 %
Manganèse / Manganese 0,125 mg	5 %

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

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

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* 5% or less is **a little**. 15% or more is **a lot**

Potential Claims in Canada

(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."

- Claims are based on reference quantities. All reference quantities of sugar, including maple sugar, are 4 g.

Legende:
RA: Reference Amount
MM: Metric Measurement
HM: Home Measurement

Product Category	Reference Amount (RA)	A. Criteria to determine the serving of stated size for multiple serving prepackaged products	B. Units for expressing the serving of stated size for multiple serving prepackaged products HM (MM)
Sugars, except those in another section of Column 1	4 g	• MM: RA • HM: number of teaspoons or packets with a weight in grams closest to RA	1 tsp. or packet(s) (4 g)

Source: Food and Drug Regulations

MINERALS

	Content by Reference Amount and Stated Size of 1 tsp. (3 g) *	**Claims for Minerals**
Manganese	0.125 mg 5%	Source of manganese

Packaging

As per packager.

Storage and Shelf Life

Room temperature. More than 5 years in airtight container. Keep dry.

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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 syrup 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.