

CAVAMAX® W6 – THE EMULSIFYING DIETARY FIBER FOR TOPPING AND FILLINGS

Description

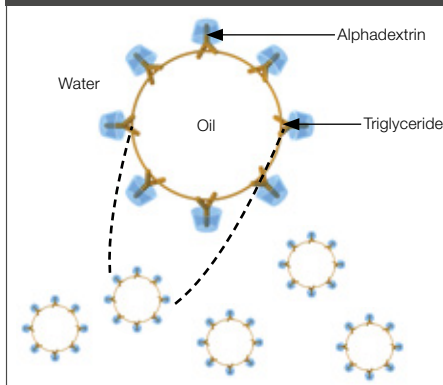
Icing and frosting enhance the overall appearance of bakery goods and improve their flavor, sweetness, texture and shelf-life. They usually contain large amounts of hard fats, impacting the nutritional quality of the bakery item. CAVAMAX® W6 alpha-dextrin allows you to replace the hard fats in your products with healthy vegetable oils. At the same time, CAVAMAX® W6 significantly increases the heat stability of the icing, which is a big advantage during transport or in warmer climates.

Functional Properties

CAVAMAX® W6 is a naturally occurring, soluble dietary fiber enzymatically derived from starch. It has excellent emulsifying properties and forms stable oil-in-water emulsions by interacting with fatty acids. The fatty acid-CAVAMAX® W6 structure stabilizes liquid oil efficiently and results in icing and frosting preparations that are easy to process. CAVAMAX® W6 can easily be combined with common hydrocolloids, such as xanthan, guar gum and starches.



CAVAMAX® W6 – Stabilization of Oil-in-Water Emulsions



Oil-in-water emulsions can be stabilized by adding CAVAMAX® W6 alphadextrin.

CAVAMAX® W6 – Key Benefits for Icing and Frosting Preparations

- Emulsifying dietary fiber
- 100% vegetarian grade
- Replacement of hard fats with vegetable oils
- Better nutrition profile by replacing solid and trans fats
- Easy viscosity modulation
- Spreadable even at refrigerated temperatures Improved heat stability

Exemplary Formulation of Icings/Frostings

	Basic Vanilla Icing/Frosting (SG*~1.0) Percentage [%]	Whipped Icing/Frosting (SG*~0.8) Percentage [%]
Powdered sugar	61.6	39.9
Soybean oil	12.4	21.4
Granulated sugar	–	10.4
Sorbitol	5.0	5.0
CAVAMAX® W6	3.0	3.5
Corn syrup, 42 DE	1.5	1.5
Corn syrup, 63 DE	1.5	1.5
Flavor	0.2	0.25
Salt	–	0.1
Potassium sorbate	0.05	0.05
Citric acid	0.04	0.04

Add water to 100%

*SG = specific gravity

Procedure

Basic vanilla icings/frostings

(SG ~ 1.0):

1. Add water to sauce pan followed by citric acid, potassium sorbate, sorbitol, CAVAMAX® W6 and half the powdered sugar (granulated sugar can be used in place of powdered sugar in this step).
2. Heat until dissolved (60 °C/140 °F to 65 °C/150 °F).
3. Transfer to a mixing bowl containing the corn syrups and whisk for 1 minute at medium speed.
4. Add flavor powder then slowly blend in oil over 1 minute while mixing at medium speed. Liquid flavors can be blended into the oil before addition.
5. Whip at high speed for 1 minute then scrape down sides. Continue to whip for 2 more minutes.
6. Add second portion of the powdered sugar and blend in using the leaf paddle. Cream until smooth.

Whipped vanilla icings/frostings

(SG ~ 0.8):

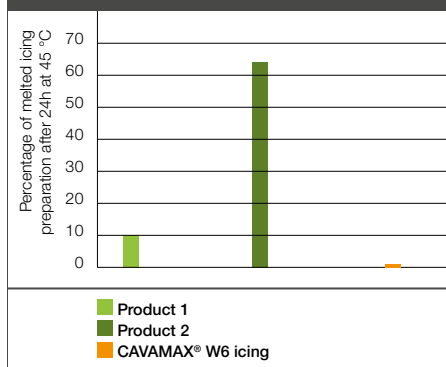
1. Add water to sauce pan followed by granulated sugar, citric acid, salt, potassium sorbate, sorbitol, and CAVAMAX® W6.
2. Heat until dissolved (60 °C/140 °F to 65 °C/150 °F) and transfer to a mixing bowl.

3. In a separate bowl, combine oil and corn syrups. While mixing, add a dry blend of the powdered sugar and flavor. For liquid flavors, add directly to the oil.
4. Cream the oil/sugar mixture using the leaf paddle.
5. Slowly add the creamed oil mixture to the wet ingredients while mixing on low speed until homogenous.
6. Once blended, whip on high speed for 1–3 minutes while periodically scraping down the walls of the vessel until the target specific gravity is obtained (typically ~ 0.80).

Formulation Flexibility

The sensory attributes of icings and frostings prepared with CAVAMAX® W6 can be adjusted by modifying the sugar, water and fat. In these applications, CAVAMAX® W6 allows manufacturers to use soybean or any other vegetable oil instead of hard fats for easier processing. As CAVAMAX® W6 also acts as an aeration aid, it supports whipped icing and frosting formulations with a specific gravity < 1.0. The stability of the resulting icings and frostings is much greater under high temperature stress conditions, i.e. above 40 °C/104 °F during transport or in warmer climates.

Thermal Stability of Icing Preparations After 24 Hours at 45 °C/113 °F: Two Commercial Control Samples* vs. a CAVAMAX® W6 Icing



The two commercial controls melted significantly, whereas the icing preparation with CAVAMAX® W6 and vegetable oil exhibited excellent heat stability.

* Containing partially hydrogenated soybean and cotton seed oil.

What Can CAVAMAX® W6 Do for You?

WACKER CAVAMAX® W6 is the vegetarian solution that allows you to create your icings and frostings with healthy vegetable oils. Replacing hard fats with the help of CAVAMAX® W6 in icing and frosting preparations makes production more convenient, while also enhancing the nutritional profile of your product. In addition, CAVAMAX® W6 also improves heat stability and makes products readily spreadable, even at refrigerated temperatures.

CAVAMAX® W6 – the emulsifying dietary fiber ideally suited for your next-generation icing and frosting formulations.

Wacker Chemie AG, Tel. +49 89 6279-1346
 Wacker Chemical Corp., Tel. +1 517 264 8671
 Wacker Chemicals (China) Co., Ltd., Tel. +86 21 6100 3535
 Wacker Química do Brasil Ltda., Tel. +55 11 4789-8087
 info.biosolutions@wacker.com, www.wacker.com/socialmedia



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