



## Technical Data Specification Confidential and Proprietary

<b>Category/Sub Category</b>	: Sweeteners / Dry -- Natural	<b>Effective Date</b>	06/12/2018
<b>Validity Area</b>	: REG_WORLD	<b>Review Date</b>	
<b>SAP Substance Number</b>	220000008195	<b>Replaces Date</b>	08/22/2017
<b>SAP Material Number(s)</b>	: R000260130, R170837000, R170837001, R170837002	<b>Status:</b>	Released
<b>GPRS Number</b>	: K134972000 MX - FRUCTOSA CRISTALINA SAP LIN		

### CRYSTALLINE FRUCTOSE GF

#### DESCRIPTION

The following are Kellogg Company control specifications for a free-flowing nutritive corn sweetener produced from high fructose corn syrup. The material shall meet United States Pharmacopeia and Food Chemicals Codex identification and specifications and shall be gluten free.

#### GENERAL REQUIREMENTS

This product is produced in accordance with recognized GMPs (Good Manufacturing Practices) as outlined in the CFR 21. Ingredients used in manufacturing this product shall be approved for use as set forth in the Code of Federal Regulations of the Food and Drug Administration (FDA), or are generally recognized as safe (GRAS).

Product shall be free of all substances and degrading physical characteristics which are deleterious to human consumption. Foreign material control in the form of metal detection, rare earth magnets or filters is strongly recommended at critical points and must be maintained in proper working order. Screens, filters and/or magnets shall be in place on lines where applicable to control for foreign material.

Supplier will report all critical parameters preferably through an electronic system for ingredients being delivered to Kellogg-owned locations or on a COA accompanying each shipment. If an ingredient does not meet the Critical Parameters, approval for use MUST be obtained from the Quality Manager of the receiving Kellogg, Co-Manufacturer or Co-Packer facility prior to shipping.

Suppliers shall maintain, and upon request of Kellogg Company, make available any and all records of chemical, physical, and/or microbiological tests of basic ingredients and/or finished products made by supplier, or required of supplier's vendors.

Please refer to supplier documentation for specific lot code interpretation.

This product shall be certified Kosher.

#### Ingredient Use

This ingredient has been processed, treated, or formulated such that it is acceptable for post-lethality application.

#### REQUIRED CERTIFICATIONS

Religious Consideration / Avoidance Diet / Allergens	Value
KOSHER	Kosher Pareve
HALAL	Halal

## COMPOSITION

Kellogg # /Component Name	% Composition				UOM
	Tgt	Min	Max	Tol +/-	
FRUCTOSE		99.5			%
DEXTROSE			0.5		%

## CHEMICAL PROPERTIES

Analytical results for ash and sulfur dioxide are not routinely reported on COAs for each lot. Supplier will verify through process controls and periodic monitoring that the material supplied to Kellogg meets established limits for ash and sulfur dioxide. Results of periodic monitoring will be supplied to Kellogg upon request.

Property	COA	Min	Tgt	Max	UOM	Outcome / Measure ment Condition s	Test Condition	Method	Instrument of Measure
Arsenic	No	-	-	1	PPM	-	-		
Lead	No	-	-	1	PPM	-	-		
Sulfur Dioxide (SO2)	No			9.00	PPM	-	-	AOAC (Current Edition) 18TH EDITION 990.31	Periodically monitored and verified by supplier testing.
Ash, Total	No			250	PPM	-	-	AOAC (Current Edition) 18TH EDITION 900.02	Periodically monitored and verified by supplier testing.
Moisture	Yes			0.05 %		-	-	Karl Fischer	
Fructose	Yes	99.5			%	-	-		
Dextrose (Glucose)	Yes			0.5	%	-	-		

## PHYSICAL PROPERTIES

Property	COA	Min	Targ et	Ma x	UOM	Outcome	Test Condition	Method	Instrument of Measure
Bulk Density (Loose)	No	0.80		0.88	G / ML				

### Form

Form	Method of Measure 1	Method of Measure 2	Instrument of Measure	COA Parameter
FREE FLOWING CRYSTALS	Visual Evaluation			No

## Particle Size

Screen Type	CO A	Screen Number	Sample Size	Number of Samples	On / Through	Particle Size Min	Particle Size Tgt	Particle Size Max	Method of Measure 1	Method of Measure 2	Instrument of Measure
USS (US Standard)	Yes	20 /	100 G		ON			0.3 %	Supplier Method	5 MINUTES WITH HAMMER	Ro-tap
USS (US Standard)	Yes	30 /	100 G		ON			1.0 %	Supplier Method	5 MINUTES WITH HAMMER	Ro-tap
USS (US Standard)	Yes	40 /	100 G		ON			20 %	Supplier Method	5 MINUTES WITH HAMMER	Ro-tap
USS (US Standard)	Yes	60 /	100 G		ON	45 %		75 %	Supplier Method	5 MINUTES WITH HAMMER	Ro-tap
USS (US Standard)	Yes	100 /	100 G		THROUGH			8 %	Supplier Method	5 MINUTES WITH HAMMER	Ro-tap

## MICROBIOLOGICAL PROPERTIES

Micro-organisms known to cause food intoxication or poisoning in humans shall be absent.

Property	COA	Min	Target	Max	Outcome	Method/ Instrument of Measure	# Composite Samples / Composite Sample Size	Samples per Composite Sample / Sub Sample Size
<b>Aerobic Plate Count (APC)</b>	No			< 200 CFU / G		FDA BAM (current edition) or AOAC (current edition)		
<b>Yeast &amp; Mold</b>	No			< 50 CFU / G		FDA BAM or AOAC (Current Edition) Equivalent		
<b>Coliform</b>	No			< 10 CFU / G		FDA BAM or AOAC (Current Edition) Equivalent		

Sporeformers	No	< 100 CFU / G	FDA BAM or AOAC (Current Edition) Equivalent		
Salmonella	No	Negative	FDA BAM or AOAC (Current Edition) Equivalent	1 / 375 G	15 / 25 G
E. coli	No	< 10 CFU / G	FDA BAM or AOAC (Current Edition) Equivalent		
E. coli	No	< 3 MPN/g	FDA BAM or AOAC (Current Edition) Equivalent		

## **SENSORY PROPERTIES**

Property	COA	Description	Method	Instrument of Measure		
Aroma / Odor	No	NO OFF ODORS				
Flavor	No	NO OFF FLAVORS				
Colorimetry Scale	COA	Min	Target	Max	Method	Instrument of Measure
	No			30	R.B.U.	

## STORAGE, SHELF LIFE, and PACKAGING PROPERTIES

Packaging				Temperature				Relative Humidity		Shelf Life (Days)	Storage Condition	Additional Information
Primary Type	Size	Secondary Type	Number	Min	Tgt	Max	UOM	Min	Max			
Bag, Kraft, poly-lined	100 LB					77	°F		50 %	365	Ambient, low humidity	Crystalline fructose begins to absorb moisture at 56% relative humidity and room temperature. Temperature and humidity should be controlled to avoid difficulties with handling this material.
Bag, Kraft, poly-lined	50 LB					77	°F		50 %	365	Ambient, low humidity	Crystalline fructose begins to absorb moisture at 56% relative humidity and room temperature. Temperature and humidity should be controlled to avoid difficulties with handling this material.

## TRANSPORTATION

Trailers must be dry, free from off odors and pest free.

**SUPPLIER QUALITY MANAGER APPROVAL SIGNATURE**

I \_\_\_\_\_ (Quality Manager) of  
\_\_\_\_\_ (Supplier Company) on \_\_\_\_\_ (Date) have  
reviewed the Ingredient specification and understand that the CRITICAL PARAMETERS of the ingredient are to be met for  
each shipment. I understand that if an ingredient does not meet the Critical Parameters, that approval for use MUST be  
obtained from the Quality Manager of the receiving Kellogg facility or Copacker facility prior to shipping.