

Technical Packet

BakeSmart®

Powder

by



ADVANCED
INGREDIENTS



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PRODUCT DESCRIPTION

BakeSmart® Powder

OVERVIEW

BakeSmart® Powder is a remarkable, breakthrough ingredient. It was developed to bind more water in baked goods and retain that moisture longer than any other ingredients. Consequently, BakeSmart® reduces total ingredient costs, increases product shelf life and improves product quality. It is a cream-colored, carbohydrate-based powder that has a bland, neutral flavor. And, it will not adversely affect the taste or appearance of food.

REDUCES INGREDIENT COSTS

With BakeSmart®, the average ingredient cost savings is 6%. That savings is derived from two sources. First, BakeSmart® binds extra water in finished goods, which accounts for slightly more than ½ of the average savings. Second, BakeSmart® reduces “baking loss,” which increases yields and accounts for the remainder of the savings in ingredient costs.

INCREASES SHELF LIFE

The extraordinary moisture-binding capability of BakeSmart® increases the shelf life of finished goods 2-3 times on average. Up to four-fold increases have been achieved on some items.

IMPROVES PRODUCT QUALITY

The extra moisture retained by BakeSmart® makes food-fresher tasting. By more thoroughly dispersing fat, it also increases perceived richness, thereby delivering a markedly better eating experience.

SECONDARY SAVINGS

When using BakeSmart®, the following secondary benefits reduce costs even more:

- Longer Production Runs
- Reduced Machinery Maintenance Costs
- Reduced Labor Costs
- Less Capital Equipment Spending
- Lower Distribution Costs

MARKETPLACE RESULTS

Here are the results at one east-coast manufacturer after using BakeSmart® for several months:

- 9.6% Reduction In Ingredient Costs
- Highest-Ever Consumer Product Ratings
- 11.4% Increase In Production Yields
- Almost Doubled Operating Profits
- Nearly Tripled Shelf Life

EASY-TO-USE

Simply add between 0.9%-1.25% BakeSmart® to any formulation based on the total weight of the formulation without BakeSmart®. Then, add 4-8 times more water than the amount of BakeSmart® used. The consistency of the dough will dictate the right amount of extra water to add. Mix and bake as usual.

TECHNICAL SUPPORT

Advanced Ingredients provides technical assistance in formulation development using BakeSmart®.

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BakeSmart® Benefits & Usage Summary

Finished Baked Goods	Ingredient Cost/ Savings (¢ & %)			Shelf Life Improvements			Usage Levels		
	Each	Per Pound	%	Standard	With BakeSmart®	Increase	BakeSmart®*	Water Added*	Ratio
Pound Cake (4 lbs. 4 oz.) a. Standard b. With mold inhibitors	\$1.94/ -18.0¢ same	45.65/ -4.24¢ same	9.3% same	8 days 14 days	25+ days 37 days	tripled 2.5 times	1.27%	8.14%	6.4x
Donuts – Yeast Raised (2 oz.) a. Display Case	3.40¢/ -0.27¢	27.20¢ / -2.16¢	7.9% same	18 hours	72+ hours	quadrupled	1.25%	4.18%	3.3x
Crème Cake Muffins (5.5 oz.) a. Display Case b. Clam Shell c. Packaged	15.71¢ / -1.06¢ same same	45.91¢ / -3.1¢ same same	6.8% same same	1 day 9 days 13 days	3 days 18 days 33 days	tripled doubled 2.5 times	1.27%	8.14%	6.4x
Layer Cakes (12.25 oz.) a. Packaged b. Refrigerated	38.85¢ / -2.11¢ same	49.63¢ / -2.68¢ same	5.4% same	5 days 5 days	12 days 15 days	doubled tripled	0.84%	4.61%	5.5x
Scones (4 oz.) a. Display Case b. Clamshell	20.73¢ / -0.79¢ same	73.66¢ / -1.16¢ same	3.8% same	1 day 3 days	3 days 9 days	tripled tripled	2.4%	4.3%	1.8x
Donuts – Cake (3.5 oz.) a. Packaged b. Display Case	6.49¢/ -0.22¢ same	29.67¢ / -1.01¢ same	3.4% same	7 days 1.5 days	16 days 3 days	2+ times doubled	0.92%	4.58%	5x
Sweet Dough / Cinnamon Roll (5.5 oz.) a. 2-pack Clamshell b. 6-pack Packages	9.25¢/ -0.27¢ same	26.91¢ / -0.86¢ same	3.2% same	6 days 10 days	13+ days 22 days	2+ times 2+ times	0.98%	6.38%	6.5x

* Based on total weight of all ingredients in the formulation before added BakeSmart® and extra water.

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**BAKESMART® POWDER -
PRODUCT SPECIFICATIONS**

Proximate Analysis*:

<u>Components</u>	<u>Amount</u>
Sugars	50% ± 3%
Other Carbohydrates	6% ± 2%
Fiber	27% ± 2%
Soluble Fiber	4%
Insoluble Fiber	<u>23%</u>
Total Carbohydrates	83% ± 2%
Protein	1.6% ± 0.2%
Ash	4.4% ± 0.6%
Fat	0.3% ± 0.1%
Unsaturated	0.3%
Saturated	0.0%
Trans Fat	<u>0.0%</u>
Total Solids	89% ± 2%
Moisture	<u>11% ± 2%</u>
Total	100%

*These values are dependent upon natural ingredients and therefore may vary slightly.

Density: 26 lbs. per cu. ft.
Color: Cream-gold
Mesh Size: 90% through 14-mesh screen

<u>Microbial:</u>	Total Plate Count	<10,000/gram	Total Coliform	<100/gram
	Yeast	<100/gram	Salmonella (in 100 gram)	negative
	Mold	<100/gram	E. Coli (in 100 gram)	negative
	Staph aureus	negative	Lysteria monocytogenes	negative

Pack Size, Storage and Shipping: Net Weight - 40 lbs per bag (Gross Weight: 42 lbs per bag). Net Weight per pallet maximum is 1,600 lbs. - 40 bags per pallet (5 per row, 8 high). Pallet size: 48" x 40". **ALL PALLETS SHOULD BE SLIPSHEETED AND SHRINKWRAPPED. DOUBLE STACKING PALLETS MAY CAUSE SOME CLUMPING OF THE POWDER. DO NOT TOP STACK WITH OTHER PRODUCTS.**

Shelf Life: Properly shipped and stored at temperatures below 85° F (29° C), the shelf life of this ingredient is 12 months. Opened bags should be resealed immediately to avoid exposure to air and moisture. It is best to use the remaining product as soon as possible, even though when properly resealed and stored, this ingredient should remain functionally viable for the balance of its 12-month shelf life.

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BAKESMART® POWDER -
TECHNICAL DATA SHEET

<u>Assay*</u>	<u>ANALYSES</u>		<u>Units</u>
	<u>Powder Only (x)**</u>	<u>Powder + 5x Extra H₂O</u>	
Protein (N X 6.25)	1.62	0.27	g/100g
Moisture	11.0	66.0	g/100g
Fat	0.3	0.05	g/100g
Ash	4.4	0.7	g/100g
Carbohydrates	82.7	13.8	g/100g
Calories	223.6	37.3	calories/100g
Fiber	27.0	4.5	g/100g
Calcium (mg)	476.0	79.3	mg/100g
Iron (mg)	2.26	0.38	mg/100g
Potassium	117	20	mg/100g
Sodium	128	21	mg/100g

* The above assays are a typical analysis and should not be construed as specifications. From time-to-time, assays may vary from the above data.

** In most food applications, when BakeSmart® Powder is used, extra water is added amounting to four-to-six times (averagely five times) the weight of the BakeSmart®. Therefore, a representative example of the nutritional effect of using BakeSmart® Powder is the data in the above “Powder + 5x Extra H₂O” column. The “Powder Only” column is provided for calculating nutritional data when different amounts of extra water (i.e. other than 5x) are added.

**BAKESMART® POWDER –
LABELING**

Nutrition Facts			
Serving Size (100g)			
Servings Per Container			
Amount Per Serving			
Calories 220			
Calories from Fat 0			
Calories from Saturated Fat 0			
	% Daily Value*		
Total Fat 0g	0%		
Saturated Fat 0g	0%		
Trans Fat 0g			
Stearic Acid 0g			
Polyunsaturated Fat 0g			
Monounsaturated Fat 0g			
Cholesterol 0mg	0%		
Sodium 130mg	5%		
Potassium 115mg	3%		
Total Carbohydrate 83g	28%		
Dietary Fiber 27g	108%		
Soluble Fiber 4g			
Insoluble Fiber 23g			
Sugars 50g			
Sugar Alcohol --g			
Other Carbohydrates 6g			
Protein 2g			
Vitamin A 0%	•	Vitamin C 0%	
Calcium 50%	•	Iron 15%	
*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:			
	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Saturated Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Potassium		3,500mg	3,500mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g
Calories per gram:			
Fat 9 • Carbohydrate 4 • Protein 4			

Ingredients

BakeSmart® Powder – glucose syrup, dextrose, fiber

Certification

BakeSmart® is Kosher and Pareve under the supervision of the Orthodox Union.

Therefore, this ingredient may be labeled with the symbol



Other

BakeSmart® is an all-natural, unrefined product that is Non-GMO, gluten-free, corn-free and contains no MSG. It is GRAS (Generally Recognized As Safe) under U.S. food standards.

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FOOD ALLERGEN INFORMATION

BAKESMART® Powder

ALLERGENS	FREE FROM	ALLERGENS	FREE FROM
ADDITIVES – NATURAL AND ARTIFICIAL	√	GELATIN	√
ANIMAL PRODUCTS AND DERIVATIVES	√	GLUTAMATES (MSG)	√
ASPARTAME (NUTRASWEET)	√	GLUTEN FROM THE LISTED GRAINS AND GRASSES*	√
BEEF PRODUCTS AND DERIVATIVES	√	LAMB/MUTTON PRODUCTS AND DERIVATIVES	√
BENZOATES	√	MILK PRODUCTS AND DERIVATIVES	√
BHA/BHT	√	NUT PRODUCTS AND DERIVATIVES **	√
BIO-SOLIDS	√	PORK PRODUCTS AND DERIVATIVES	√
CITRUS PRODUCTS AND DERIVATIVES	√	POULTRY PRODUCTS AND DERIVATIVES	√
COLORS AND DYES – NATURAL AND ARTIFICIAL	√	PRESERVATIVES – NATURAL AND ARTIFICIAL	√
EGG PRODUCTS AND DERIVATIVES	√	SEED PRODUCTS AND DERIVATIVES	√
FISH PRODUCTS AND DERIVATIVES	√	SOY PRODUCTS AND DERIVATIVES	√
FLAVORS – NATURAL AND ARTIFICIAL	√	SULFATES, SULFIDES, SULFUR DIOXIDE, SULFUR AND SULFUR DERIVATIVES	√
GARLIC	√	YEAST PRODUCTS AND DERIVATIVES	√

* Amaranth, Barley, Buckwheat, Kamut, Millet, Oats, Quinoa, Rye, Spelt, Triticale, and Wheat

** FREE FROM NUTS DECLARATION - means absolute absence of all nut & nut products, including oils & sources of vegetable protein containing derivatives of nuts in the product or any of its ingredients. Nuts are: Almonds, Brazil nuts, Beechnuts, Betal nuts, Breadnuts, Butternuts, Cashew nuts, Chestnuts, Cobnuts, Coconut, Chilean wild nuts, Chinquapins, Cola nuts, Ginkgo nuts, Hazelnuts, Heart nuts, Hickory nuts, Jacknuts, Jojoba nuts, Macadamia nuts, Oyster nuts, Peanuts, Pecans, Pistachio, Paradise, Persian walnuts, Pili nuts, Quandang nuts, Squari nuts, Tahiti chestnuts, Tallow nuts, Tiger nuts, Tropical Almonds, Walnuts, Sesame seeds. Note palm kernel oil is not deemed to be a nut oil.

BAKESMART® POWDER -
MATERIAL SAFETY DATA SHEET

DISCLAIMER - BakeSmart® Powder is produced according to appropriate food regulations, and it is not a hazardous chemical. The following information is being supplied as a convenience for customers.

SECTION I - PRODUCT IDENTIFICATION

Product Name: BakeSmart® Powder
Food/Chemical Name: Glucose syrup, dextrose, fiber
Chemical Family: Carbohydrate

SECTION II - HAZARDOUS INGREDIENTS

Material: None

SECTION III - PHYSICAL DATA

Boiling Point: N/A
Melting Point: N/A
Specific Gravity: 26 lbs. per cu. ft.
Vapor Pressure: N/A
Vapor Density: N/A
Water Solubility: Completely soluble
Appearance, Odor, Taste: Cream-gold powder, odorless, sweet-powdery taste

SECTION IV - FIRE PHYSICAL HAZARD DATA

Flash Point: N/A
Flammable Limits: N/A
Fire Extinguishing Media: Water
Hazardous Decomposition Products: None
Hazardous Polymerization: Will Not Occur
Conditions to Avoid: Fire and Flame
Unusual Fire/Explosion Hazard: Dust explosion may occur if suspended in air with ignition source
Incompatibility: Powerful oxidizing agents such as perchloric acid

SECTION V - HEALTH HAZARD

Effects of Overexposure: Inhalation - None known
Ingestion - No health hazard, can be used as human food
Signs and Symptoms of Overexposure: Unknown
Primary Route(s) of Entry: Ingestion
Exposure Limits: None known

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BAKESMART® POWDER
MATERIAL SAFETY DATA SHEET (cont.)

SECTION VI - LISTING AS A CARCINOGEN

National Toxicology Program Annual Report on Carcinogens: Not Listed

International Agency for Research on Cancer Monographs: Not Listed

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

Hygienic Practices: Normal housekeeping measures, water cleanup

Protective Measures During Repair/Maintenance: Dust Masks

Waste Disposal Method: Landfill - Material is biodegradable and not harmful

Special Fire Fighting Procedures: None

Extinguishing Media: Water or CO₂

SECTION VIII - CONTROL MEASURES

Engineering Controls:	None
Ventilation:	Usual GMP ventilation should be adequate
Work Practices:	No smoking in work area
Respiratory Protection:	Not required
Eye Protection:	Not required
Other Protective Equipment:	Not needed

SECTION IX - EMERGENCY AND FIRST AID PROCEDURES

None

SECTION X - PRODUCT STORAGE

Storage: ALL PALLETS SHOULD BE SLIPSHEETED AND SHRINKWRAPPED.

In Use: Use partial bags immediately or seal thoroughly from air and moisture.

Stability: Properly shipped and stored at temperatures below 85° F (29° C), the shelf life of this ingredient is 12 months. Opened bags should be resealed immediately to avoid exposure to air and moisture. It is best to use the remaining product as soon as possible, even though when properly resealed and stored, this ingredient should remain functionally viable for the balance of its 12-month shelf life.

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ESTABLISHED APPLICATIONS

Advanced Ingredients provides technical assistance in formulation development using BakeSmart®. Some of the established BakeSmart® applications are:

Bagels

Bars (Energy, Meal
Replacement & Nutrition)

Biscuits

Breads

Brownies

Cake (Crème Cake)

Cinnamon Rolls

Cookies

Croissants

Danish

Donuts

Fillings (Pastries, Pies,
Donuts & Custard Cups)

Filo Dough

Jelly Rolls

Mixes

Muffins (Crème Cake)

Pretzels

Rolls

Scones

Sweet Dough

Tortillas

Dough (Frozen & Refrigerated)

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