Product application data sheet

GPI 2425

Meatball is a popular and versatile dish. It is made with ground meat, such as pork, beef, chicken or lamb and seasoning, which are then rolled into a small ball. Chopped vegetables maybe added in some recipes. Breadcrumbs, starches or eggs are often added as binding ingredients. Meatballs can be cooked by frying, baking, steaming or braising in sauce. They can be enjoyed on their own or as great addition in soups or as a main dish with pastas, rice or potatoes or in soup.

Today's consumers are increasingly health conscious and seek healthier and environmental friendly alternatives to traditional meatballs without sacrificing on appearance, taste and texture. This is often achieved by replacing animal-based protein with plant-based proteins, such as soy and wheat-gluten. Due to structural differences between protein types and lack of fat in plant-based proteins, plant-based meatballs often have softer and crumblier texture and lack desirable meaty flavor and bite.

Hydrocolloids, such as carrageenan, and konjac gum are excellent solutions from natural sources to stabilize meat analogues, such as plant-based meatballs by improving binding and as an extender to enhance desirable texture resembling traditional analogues. Cooking losses are minimized as carrageenan and konjac hydrate during up cycle and gels during down cycle, further locking in free moisture; resulting in juicier and tenderer texture.

Suggested Application Recipe: ***Plant-Based Meatballs (15% Protein)***

Recommended Dosage Level: **1.00% to 3.00%** by total weight in the finished product

Ingredients	Composition (%)
Water	66.80
Textured Vegetable Protein (TVP) Shredded (65% Protein)	19.40
Vegetable Oil	5.00
TVP Granules (80% Protein)	3.00
Methyl Cellulose	2.00
Vegan Meat Flavour *	1.50
Salt	1.00
GPI 2425	***1.00***
Natural Colour *	0.30
Total	**100**

** Natural colour and flavor can be adjusted to Desired levels.*

Procedure

1. Combine TVP and natural colour and hydrate the mix with half of the total water.
2. Allow TVP to hydrate for 1 to 2 hours or overnight for full hydration.
3. Combine all other dry ingredients and sprinkle into hydrated TVP.
4. Mix using a mechanical mixer while adding all the remaining water.
5. Add oil and mix for another 3 to 5 minutes at low to medium speed.
6. Form batter into meatballs.
7. Cook meatballs in the oven with moisture at 95^0C (203^0F) for 30 to 45 minutes to induce hardening prior to using them as meat substitute in other food preparations.
8. Uncooked meatballs can also be chilled or frozen for later cooking and consumption.

For more information, please contact your local GPI distributor or send a fax to GPI R&D / QC and Innovation Centre,
1255 Journey's End Circle, Ontario, Canada L3Y 8T7. Tel: (905) 853-8828 Fax: (905) 853-8886 E-mail: info@gpiglobal.com

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Description

GPI 2425 is a food grade blend of Carrageenan and Konjac gum designed for optimum binding in meat analogues.

Benefits of GPI 2425

Functional	Impart hardness or firmness in plant-based meat analogues.
	Enhance texture or bite
	As a stabilizer, to control purge or syneresis
Nutritional	Suitable for plant-based diets
Economic	Formulation cost reduction

Food Safety and Quality System Information

GPI is certified Grade AA in BRC Global Standard for Food Safety Issue 8.

Recommended Regulatory Information

- Canada's Food and Drugs Act and Regulations
- Health Canada
- Kashruth Council of Canada (COR)
- IFANCC: Islamic Food and Nutrition Council of Canada
- US Code of Federal Regulations (21CFR)
- European Economic Community Directives
- Food Chemicals Codex
- JECFA Specifications issued by FAO/WHO

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