

Gum Karaya

[technical paper]



ALLAND & ROBERT

A Proud United States Partnership

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GUM KARAYA

TECHNICAL INFORMATION



Gum Karaya is a natural gum exudation obtained by the incision of the stems and branches of Sterculia trees. It is a non starch polysaccharide, vegetal and 100% natural Gum. Harvest regions are mainly located in Africa (especially in Senegal and Mali) and India, on dry and rocky areas. Gum Karaya, also commonly named “Sterculia” or E416, is collected, cleaned and dried before being processed in Alland & Robert facilities.

ALLAND & ROBERT INNOVATION IN GUM KARAYA

Leader in the natural vegetal gum business and world leader in Gum Karaya, Alland & Robert has developed a method of physical treatment that reduces the total plate count of hydrocolloids while preserving all their functional properties. This major innovation is based on a currently unique concept of flash heating which gives Gum Karaya great microbiological quality. Associated to a specific preparation and an original transfer of the products, this unique process assures a remarkable homogeneity of the temperature within the treated gums.

This process has opened new horizons to Gum Karaya. It may now be used alone or in association with other hydrocolloids. Ultimately, for the formulation of coatings, fillings, dressings, desserts and emulsified sauces, Gum Karaya can answer to new needs regarding texture improvement (according to the current legislation of each country).

PRODUCT APPLICATIONS

Gum Karaya has been used for many centuries in traditional African and Indian cooking. Nowadays, Gum Karaya is used in many pharmaceutical and food applications, mainly for its properties of adhesive compound, bulking agent, thickening agent.

Cosmetic and pharmaceutical industries

- Bulk laxatives, regulator of intestinal transit (granules)
- Gastric dressing
- Adhesive compound (colostomy rings, dental adhesives)
- Powerful thickening agent
- Viscosity control agent (INCI name: Sterculia urens)

Food and Dietetic industries

- Functional additive used as a bulking agent, emulsifier, texturing agent, stabilizer, thickener in flavors, ice creams, ready-to-eat sauces and other food products
- Ingredient in slimming diets, soluble fiber (feeling and satiety)

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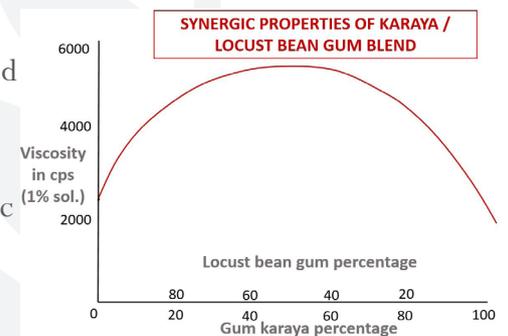
USING A POWDER FORM TO MANUFACTURE A GEL

First, make a Gum Karaya premix with a small amount of ethanol (1: 1) to disperse the grains.

Pour out gradually the volume of water under strong mechanical stirring (maximum concentration advised = 2% p/p). Gum Karaya is a mucilage which is perfectly dispersed at room temperature (better dispersed than dissolved). Wait at least 2 hours for complete hydration of the gum (indicative timing).

FUNCTIONAL AND PHYSICAL PROPERTIES

- High viscosity at a very low concentration (significant effect on textures for concentrations below 0.3%)
- Flowing properties (excellent agent for dressings and fillings for example)
- Water retention (avoids syneresis phenomenon)
- Stability at a low PH (suitable for sauces and salad dressings)
- Freezing-thawing stability (suitable for the formulation of chilled ready-to-eat meals warmed up by microwaves)
- Cold solubility (simplifies industrial processing, is useful for powdered mixes)
- High soluble fiber status (can be used in dietary food)
- Synergy with other hydrocolloids (chart on the right showing synergic effect by mixing Gum Karaya and locust bean gum)



LEGAL STATUS

- *Declaration: Gum Karaya
- Synonyms: Kadaya, Kullo, Kuterra
- Identification: E416
- INCI name: Sterculia URENS (viscosity control agent)
- CAS: 9000-36-6
- EINECS: 232-539-4
- G.R.A.S. status: CFR 184.1349
- No Acceptable Daily Intake (A.D.I.) specified (FAO / WHO JECFA, 1988)
- Kosher and Halal certified products available
- Customs Code: 1301.20.00.0.00.3.C

* To be confirmed with the regulation of each country

ALLAND & ROBERT SERVICES

- A strong expertise on Gum Karaya thanks to a dedicated R&D team.
- Production and laboratory that reach the highest quality standards through international certifications.
- A commitment to develop the quality of products through sustainable development, social investment and environmental awareness.
- Solid partnerships with an extensive network of suppliers to ensure security of supply.

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