PRODUCT DATA SHEET

GELLAN GUM WJ

Gellan gum is a fermentation-derived hydrocolloid produced by the microorganism Pseudomonas elodea (ATCC 31461). The product Gellan Gum WJ from DSM Zhongken is a low acyl (LA) type gellan gum tailored for use in water jelly applications. Gellan Gum WJ has a delicate, brittle texture with a pleasant mouthfeel and excellent flavor release. Gellan Gum WJ can also impart heat stability to multi-layered water jellies during pasteurization. Gellan gum WJ can be used alone or in combination with other hydrocolloids such as carrageenan, konjac glucomannan, locust bean gum and xanthan gum to give a wide range of textures. Typical use levels of Gellan Gum WJ range from 0.06% to 0.40%.

WJ Features and Benefits

Key feature	Benefits
Brittle gels	Provide pleasant texture when combined with elastic gelling agents
Heat stable gels	Provides heat stability during pasteurization and storage
Acid stable	Minimal degradation at low pH and high temperature
Gels at low dosages	Low formulation cost, excellent flavor release
Clarified	Appealing product appearance

Dispersion

To disperse the product without lumps:

- Premix the powder with other dry ingredients, and add the dry mix slowly into the liquid under sufficient stirring to obtain a complete dispersion;
- Or disperse the product in a non-solvent medium such as oil or alcohol before adding to water.

Hydration

LA gellan gum is very calcium sensitive and therefore the hydration of LA gellan gum depends strongly on the ion content (especially divalent ions) in the water. In general LA gellan gum can be fully hydrated by heating to 90-95°C, but the hydration temperature can be significantly reduced by the use of chelating agents such as sodium citrate and sodium hexametaphosphate. It is possible to hydrate LA gellan gum in 25°C DI water in the presence of chelating agents.

Gel Formation

LA gellan gum gels upon cooling. The gelation of LA gellan requires the addition of cations, preferably calcium ions. LA gellan can also set at low pH without calcium ions through the formation of acid gels. The setting temperature of LA gellan typically varies between 20-40°C depending on gum and ion levels and pH. LA gellan gels melt at a much higher temperature than the gelling temperature, with calcium mediated gels melting at over 100°C.

Regulation

This product conforms many legislative standards. However, we recommend that the user ensures that this product is in compliance with the local regulations in force, particularly in the country where the product is to be consumed.

Quality Assurance

Zhejiang DSM Zhongken Biotechnology is certified with ISO 9001 and FSSC 22000. It is also approved for Kosher and Halal.

Packaging, Storage and Shelf Life

The product is packed in 25 kg/carton with a PE inner bag. Store product in ambient temperature and away from direct sunlight. The product, when stored in these conditions and in its original unopened packaging, will maintain its initial properties for 24 months.

Specifications

(Testing done on every lot)

Property	Requirement
Appearance	Off-white powder
Purity (gellan gum content)	85-108%
Gel strength (0.2%)	380-520 g/cm^2
Heat stability	≥45%
Transmittance	≥83%
Particle size (Pass 60 mesh with 280 µm aperture)	≥96%
Loss on drying	≤15%
Ash	≤15%
pH value	6.0-8.0
Total bacterial count	≤10000 cfu/g
Mold & yeast	≤400 cfu/g
Coliform	≤30 MPN/100g

Other Specifications

(Periodic inspection)

Property	Requirement
Salmonella	Negative in 25g
E. coli	Negative in 25g
Lead	≤2 mg/kg
Heavy metals	≤20 mg/kg
Total arsenic	≤3 mg/kg
Mercury	≤1 mg/kg
Cadmium	≤1 mg/kg
Nitrogen	≤3 g/100g

DSM Hydrocolloids

For further information, please see:
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