

PRODUCT DATA SHEET

GELLAN GUM HD

Gellan gum is a fermentation-derived hydrocolloid produced by the microorganism *Pseudomonas elodea* (ATCC 31461). The product Gellan Gum HD from DSM Zhongken is a high acyl (HA) type gellan gum recommended for use as a gelling or suspension agent in a wide variety of applications including juice and vegetable protein beverages, fruit preparations, dysphagia foods, and fermented dairy products. Gellan Gum HD is not compatible with neutral pH dairy applications. We recommend Gellan Gum ND-103 for neutral dairy applications. Gellan Gum HD can be used in combination with other hydrocolloids to give different textures and mouthfeel. Typical use levels of Gellan Gum HD range from 0.02% to 0.15%.

HD Features and Benefits

Key feature	Benefits
Highly pseudoplastic	Excellent suspension, low mouthfeel viscosity
High gel set temperature	Tolerate high fill temperatures; good suspension before filling
Low ion sensitivity	Hydration not affected by ions or acid
Gels at low dosages	Low formulation cost, excellent flavor release

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

HA gellan gum swells in deionized water to a starch-like consistency (when the concentration is high enough). The presence of cations in water can reduce the extent of swelling and thus is useful in aiding the dispersion of the product and reducing the viscosity of the dispersion before hydration. Heat is required to fully hydrate HA gellan gum. The hydration of HA gellan is not very calcium sensitive and the gum can usually hydrate at about 80-85°C. The use of chelating agents is not recommended for HA gellan gum hydration.

Gel Formation

The gelation of HA gellan gum does not require the presence of gelling ions and the gel usually sets between 70-80°C. HA gellan gels are considered thermal reversible gels, melting at about the same temperature as the setting temperature around 70-80°C.

Regulation

This product conforms to 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 20 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 (1%)	450-750 g/cm ²
Particle size (Pass 60 mesh with 280 µm aperture)	≥96%
Loss on drying	≤15%
Ash	≤15%
pH value	4.5-6.0
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:

www.dsm.com

www.dsm.com/hydrocolloids

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