

# PRODUCT DATA SHEET

# GELLAN GUM

Gellan gum is a fermentation-derived hydrocolloid produced by the microorganism *Pseudomonas elodea* (ATCC 31461). The product Gellan Gum from DSM Zhongken is a low acyl (LA) type gellan gum recommended for use as a gelling or suspension agent in a wide variety of applications including beverages, jams, fruit preparations, baked goods, water jellies, and dairy products. Gellan Gum can be used in combination with other hydrocolloids to give different textures and mouthfeel.

## Gellan Gum Features and Benefits

Key feature	Benefits
Highly pseudoplastic	Excellent suspension, low viscosity, low mouthfeel
Heat stable gels	Provides heat stability at high temperature
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 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 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%)	320-460 g/cm <sup>2</sup>
Transmittance	≥80%
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:

[www.dsm.com](http://www.dsm.com)

[www.dsm.com/hydrocolloids](http://www.dsm.com/hydrocolloids)

or contact:

[Info.DSM-Hydrocolloids@dsm.com](mailto:Info.DSM-Hydrocolloids@dsm.com)

DSM China Limited  
No. 476 Li Bing Road  
Shanghai China  
Phone: +86 21 6141 8188

Zhejiang DSM Zhongken Biotechnology Co., Ltd.  
Gao Qiao Economic Zone  
Tongxiang City  
Zhejiang China  
Phone: +86 573 8896 7777  
Fax: +86 573 8896 0789

### DISCLAIMER

Although diligent care has been used to ensure that the information provided herein is accurate, nothing contained herein can be construed to imply any representation or warranty for which we assume legal responsibility, including without limitation any warranties as to the accuracy, currency or completeness of this information or of non-infringement of third party intellectual property rights. The content of this document is subject to change without further notice. This document is non-controlled and will not be automatically replaced when changed. Please contact us for the latest version of this document or for further information. Since the user's product formulations, specific use applications and conditions of use are beyond our control, we make no warranty or representation regarding the results which may be obtained by the user. It shall be the responsibility of the user to determine the suitability of our products for the user's specific purposes and the legal status for the user's intended use of our products.

Version 11.02 (2018).