

# PRODUCT SPECIFICATION

DATE OF ISSUE  
19-07-2021

## ORGANIC LOCUST BEAN GUM (E410)

NATUURLIJK NATUURLIJK PRODUCT CODE:  
X1619, X1620, X1621, X1622

PRODUCTION:  
26292401



## 1. PRODUCT IDENTIFICATION

### 1.1 Supplier product information

|              |                         |               |                                                                                                                                                                                                                                         |
|--------------|-------------------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product name | Organic Locust bean gum |               |                                                                                                                                                                                                                                         |
| Production   | 26292401                |               |                                                                                                                                                                                                                                         |
| Product code | Content                 | EAN           | Packaging                                                                                                                                                                                                                               |
| X1619        | 60g                     | 8718309831400 | Plastic jar and screw lock cap with warranty seal.<br>Jar =  Cap =  |
| X1620        | 150g                    | 8718309831417 |                                                                                                                                                                                                                                         |
| X1621        | 700g                    | 8718309831431 |                                                                                                                                                                                                                                         |
| X1622        | 10kg                    | 8718309831448 | Blue bag =  in box                                                                                                                                    |

### 1.2 Scientific product information

#### Single ingredient

|                   |                                                                                                                          |
|-------------------|--------------------------------------------------------------------------------------------------------------------------|
| Main use          | Thickening agent                                                                                                         |
| Chemical name     | Ceratonia siliqua                                                                                                        |
| Chemical formula  | -                                                                                                                        |
| Production method | Remove the peel and the germ by thermo-mechanical process (not by chemical common process), milling, sieving and drying. |

### 1.3 Legislative product information

|                   |           |                      |        |
|-------------------|-----------|----------------------|--------|
| CAS number        | 9000-40-2 |                      |        |
| EU food additive  | E410      |                      |        |
| Country of Origin | Italy     |                      |        |
| Certification     | Organic   | Certification number | 103446 |
|                   | Institute | Skal NL-BIO-01       |        |

## 2. PRODUCT INFORMATION

### 2.1 Physical and Chemical properties

|              | Unit              | Specification | Method |
|--------------|-------------------|---------------|--------|
| Appearance   |                   | Powder        |        |
| Colour       |                   | White cream   |        |
| Odour/taste  |                   | Neutral       |        |
| Bulk density | g/cm <sup>3</sup> | 590           |        |
| Dry matter   | %                 | >85           |        |
| Ash          | %                 | <1,2          |        |

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|                          |      |           |             |
|--------------------------|------|-----------|-------------|
| Autoignition temperature | °C   | 430       |             |
| pH                       |      | 5,0-7,5   |             |
| Viscosity, dynamic       | cps  | 2400-3500 | 1% solution |
| Particle size            | mesh | 100       | >95%        |

### 2.2 Microbiological data

|                   |         |        |  |
|-------------------|---------|--------|--|
| Total plate count | Cfu/g   | <5.000 |  |
| Moulds            | Cfu/g   | <500   |  |
| Yeasts            | Cfu/g   | <500   |  |
| E Coli            | Cfu/g   | <10    |  |
| B Cereus          | Cfu/g   | <20    |  |
| Salmonella        | Cfu/25g | absent |  |

### 2.4 Nutritional Information

#### 2.4.1 Nutritional Values

|                    |           |      |  |
|--------------------|-----------|------|--|
| Energy             | kJ/100g   | 143  |  |
| Energy             | kcal/100g | 34   |  |
| Protein            | g/100g    | <7   |  |
| Carbohydrate:      | g/100g    |      |  |
| Of which Sugars    | g/100g    |      |  |
| Polyols            | g/100g    |      |  |
| Starches           | g/100g    |      |  |
| Dietary fiber:     | g/100g    | 80   |  |
| Soluble fiber      | g/100g    | 79   |  |
| Insoluble fiber    | g/100g    | 1    |  |
| Others             | g/100g    |      |  |
| Fat:               | g/100g    | 1    |  |
| Of which Saturated | g/100g    | <0,1 |  |
| Mono-unsaturated   | g/100g    |      |  |
| Poly-unsaturated   | g/100g    |      |  |
| Transfatty acids   | g/100g    |      |  |
| Cholesterol        | mg/100g   |      |  |
| Water              | g/100g    | <15  |  |

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|              |        |  |  |
|--------------|--------|--|--|
| Organic acid | g/100g |  |  |
|--------------|--------|--|--|

### 2.4.2 Minerals

|                |         |     |  |
|----------------|---------|-----|--|
| Sodium (Na)    | mg/100g | 13  |  |
| Calcium (Ca)   | mg/100g | 70  |  |
| Iron (Fe)      | mg/100g | 1   |  |
| Magnesium (Mg) | mg/100g | 60  |  |
| Potassium (K)  | mg/100g | 300 |  |

## 3. FOOD INTOLERANCE

### 3.1 Allergens

| Yes = ✓ / No = ✗                                                                             | Contains |  |  |
|----------------------------------------------------------------------------------------------|----------|--|--|
| Barley                                                                                       | ✗        |  |  |
| Beef                                                                                         | ✗        |  |  |
| Cacao                                                                                        | ✗        |  |  |
| Carrot                                                                                       | ✗        |  |  |
| Celery and celery products                                                                   | ✗        |  |  |
| Cereals containing gluten and products produced with these (wheat, rye, oats, spelt, barley) | ✗        |  |  |
| Chicken                                                                                      | ✗        |  |  |
| Coriander                                                                                    | ✗        |  |  |
| Crustaceans and Shellfish                                                                    | ✗        |  |  |
| Eggs and egg products                                                                        | ✗        |  |  |
| Fish and fish products                                                                       | ✗        |  |  |
| Glutamate                                                                                    | ✗        |  |  |
| Lupin and products thereof                                                                   | ✗        |  |  |
| Milk and milk products (including Lactose)                                                   | ✗        |  |  |
| Molluscs and products thereof                                                                | ✗        |  |  |
| Mustard and mustard products                                                                 | ✗        |  |  |

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|                                                     |   |  |  |
|-----------------------------------------------------|---|--|--|
| Nuts and nut products (almonds, hazelnuts, walnuts) | X |  |  |
| Peanuts and peanut products                         | X |  |  |
| Pork                                                | X |  |  |
| Sesame and sesame products                          | X |  |  |
| Soybean and soybean products                        | X |  |  |
| Sulphite (E221 – E228)                              | X |  |  |
| Sulphur dioxide (>10mg/kg)                          | X |  |  |

### 3.2 Suitability for other diets:

|          |   |                    |   |
|----------|---|--------------------|---|
| Coeliacs | ✓ | Lactose intolerant | ✓ |
| Halal    | X | Vegans             | ✓ |
| Kosher   | ✓ | Vegetarian         | ✓ |

### 3.3 GMO Declaration:

Organic locust bean gum does not contain genetically modified organisms and is not produced using raw materials of a genetically modified origin. At no stage during production does the product come into contact with genetically modified organisms.

### 3.4 Irradiation:

Organic locust bean gum is not treated with ionizing radiation.

## 4. STORAGE CONDITIONS

|                    |                                                                                     |
|--------------------|-------------------------------------------------------------------------------------|
| Storage conditions | In closed original packaging. Must be kept cool and dry in a well-ventilated place. |
| Shelf life         | 24 months after production, under the above mentioned conditions.                   |

## 5. FOOD SAFETY

### 5.1 Hygiene:

This product is produced in a facility with an on HACCP based food safety system.

### 5.2 Identifications of dangers:

|                                                                |                                 |
|----------------------------------------------------------------|---------------------------------|
| Classification of the substance (Regulation (EC) No 1272/2008) | Not classified. (non-hazardous) |
|                                                                |                                 |
|                                                                |                                 |

## 6. EXTENDED PRODUCT INFORMATION

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### 6.1 Usage

Locust bean gum is used as natural thickening agent, emulsifier and stabilizer.

Locust bean gum (LBG) is the ground endosperm from the seed of the locust bean tree (carob tree). LBG is the preferred texturizer for various food applications due to its natural image, the neutral taste and the very creamy texture it provides.

The powder partially hydrates in cold water, but the full viscosity can be obtained only by heating the solution (85°C). LBG is widely used as a thickening agent in hot-prepared fabricated foods, such as; sauces, soups, ketchups and mayonnaises.

It is non-digestible and may be classified as soluble fiber. In appropriate dosages, it is known to increase intestinal tract mobility and reduce blood serum cholesterol levels.

LBG is an efficient thickening and gelling agent. It is an ideal additive in applications where good stabilizing, thickening and emulsifying properties are required. LBG forms thermoreversible elastic gels when mixed with xanthan gum (ideally in the ratio 1:1).

Because it readily absorbs water and swells, it should not be ingested as a dry powder.

LBG is an essential component in dairy applications and other foods, including frozen desserts (ice cream), cultured dairy products, and cream cheese.

In ice cream, LBG serves to slow the rate of melt-down and improve storage properties, due to its positive influence of the ice crystal growth. Its texturizing properties are excellent, as are its freeze-thaw and water binding characteristics.

Bakery products also benefit from the addition of locust bean gum. When added to wheat flours, the result is a softer, tastier product with an extended shelf life. It retards staleness and "crumbliness," and reduces the quantity of eggs required in products like biscuits, rolls and cakes.

LBG has a positive impact on the protein stability and does not interact with other ingredients in food due to its neutral behavior.

Agar-agar gels have a brittle, crumbly-type texture. The addition of LBG to agar enhances the gel's elasticity and reduces its brittleness.

LBG is used at ~0,6% in cheese spreads to obtain a highly homogeneous, fine product with a spreadable texture.

Maximum interaction and maximal peak rupture strength occur at a Xanthan gum to LBG ratio of 60:40. Xanthan gum – LBG gels set and melt thermoreversibly at ~55-60°C

#### Dosage suggestions, as a percentage of the total weight:

|            |               |                                            |
|------------|---------------|--------------------------------------------|
| 0,15-0,25% | Ice cream     | Heat shock resistant, smooth meltdown      |
| 0,10-0,30% | Milk products | Contribute body mouthfeel                  |
| 0,25-0,35% | Cheese        | Fine texture, excellent body and structure |
| 0,20-0,40% | Confectionary | Minimize syneresis                         |

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|            |                |                                        |
|------------|----------------|----------------------------------------|
| 0,20-0,40% | Fish products  | Avoiding breakage                      |
| 0,10-0,40% | Beverages      | Improve body                           |
| 0,30-1,00% | Sauces         | Stabilize oil and non-oil sauces       |
| 0,30-0,60% | Canned meat    | Maximize gel strength                  |
| 0,10-0,50% | Cereal product | Better texture, less crumbling         |
| 0,20-0,50% | Frozen food    | Improve freeze-thaw stability          |
| 0,30-1,00% | Dietary food   | Replace gluten, low calorie ingredient |

### 6.2 Dictionary

|    |                    |                                                                   |
|----|--------------------|-------------------------------------------------------------------|
| NL | The Netherlands    | Johannesbroodpitmeel                                              |
| GB | Great Britain (UK) | Locust bean gum, LBG, St. John's bread, carob gum, carob bean gum |
| DE | Germany            | Johannisbrotkernmehl                                              |
| FR | France             | Gomme de caroube, Gomme de caroubier                              |
| ES | Spain              | La goma garrofín, goma de semillas de algarrobo                   |
| PT | Portugal           | Alfarrobeira                                                      |
| IT | Italy              | Farina di carrube                                                 |
| DK | Denmark            | Johannesbrødmel, Johannesbrødkjernemel                            |
| NO | Norway             | Fruktkjernemel, Johannesbrødkjernemel                             |
| SE | Sweden             | Fruktkärnmjöl, Johannesbrödkärnmjöl.                              |
| FI | Finland            | Johanneksenleipäpuujauhe, Johanneksenleipäpuu                     |
| IS | Iceland            | Engisprettugraut                                                  |
| CZ | Czech Republic     | Svatojánská guma                                                  |
| SK | Slovak Republic    | Svätojánska guma                                                  |
| HU | Hungary            | szentjánoskenyér-liszt                                            |
| HR | Croatia (Hrvatska) | Guma od rogača                                                    |
| GR | Greece             | Κόμμα χαρουπιών                                                   |
| SI | Slovenia           | Rožičev gumi                                                      |
| PL | Poland             | Mączka chleba świętojańskiego                                     |
| RO | Romania            | Roșcov                                                            |
| BG | Bulgaria           | Дъвка от рожков                                                   |
| RU | Russian Federation | Камедь бобов рожкового дерева                                     |
| TR | Turkey             | Keciboynuzu Zamkı                                                 |

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## 7. DISCLAIMER

Although we take great care in setting up this product specification, we cannot accept any liability for the completeness and fully accurateness of the information provided. The content of this Product Specification is completed to the best of our knowledge.

This document does not dismiss the user of his legal obligations with respect to food safety.

This product specification replaces any previously issued specifications.