

# Snack Bars for Sport, Fitness and Wellness.



**GELITA® Gelatine-Hydrolysate**  
for healthy products.



THE GELATINE GROUP

## GELITA – One Company, One Brand.

### **More than 125 years of experience in the manufacture of high-quality gelatine.**

As far back as 1929, the company was a leader in its branch in Europe; today, with subsidiaries on every continent, it is world market leader – in all relevant gelatine application areas.

### **The GELITA Group benefits.**

The special strength of the GELITA Group, apart from its top-quality products, is its ability to provide a comprehensive service for its customers. It monitors the market closely and is thus in a position to react quickly and flexibly to changes. Its customers benefit from this by obtaining valuable competitive advantages. This is an important precondition for expanding market leadership even further. GELITA customers benefit from the high innovative power of the GELITA Group in research and development, production technology, logistics and communication. They also profit from cooperation in health-relevant clinical studies. For success means not just being satisfied with what is good but striving for excellence.

### **Future orientation and international cooperation.**

With over 2,500 employees on all continents and activities on all relevant markets, a great deal of synergy is created. Ultimately, the customers of the GELITA Group participate in them to a substantial extent.

### **Optimal supply through continental structures.**

The operative organizational units GELITA, GELITA North America, GELITA South America, GELITA Asia Pacific Africa and GELITA Photo are essentially autonomous in their respective areas.

This continental responsibility is the logical result of the regionally different raw materials purchasing markets on the one hand and international customer orientation on the other. In this way, the strategic goals can take into account the central aspects of the world market.

### *Competence and commitment*

*Understanding nature is a precondition  
advance our cause; they are the  
for the development of products  
growth factors of the economy.  
attuned to the needs of consumers.*

### **Competition is global.**

The GELITA Group is master of this situation.

A reliable and rapid delivery of top-quality gelatine and worldwide and competent applications service are fully geared to the needs of the customer.

The all-embracing understanding of the GELITA Group as a partner of its customers and suppliers extends from qualitative raw materials handling to the production of standard-, premium- and special gelatine types for a wide range of applications.

### **Prototyping for the customer's customer.**

The GELITA Group develops solutions to meet customer's special requirements and, as a result, customers are provided with an opportunity to market new products. Research into the many and various health-promotion aspects of gelatine also plays an important role in providing additional benefits e.g. for the functional food industry.

### **Natural multitalent GELITA® Gelatine.**

Just as the element water is an essential component of nature, the protein collagen, the principal constituent of gelatine, is the most frequently occurring protein in mammals. Multitalent GELITA® Gelatine is – often practically invisible – contained in countless products that we use in our everyday lives.

Whether in foodstuffs, health products, special applications, as a first aid or subsequent product in medical or in technical applications: gelatine is irreplaceable.

**GELITA® Gelatine – An Element of Our Life**



**THE GELATINE GROUP**



## Healthy Nutrition: Well in Trend.



### **Snack bars contribute importantly to a balanced diet, particularly when they offer additional health benefits.**

The demand for snack bars and other bar products is still a substantial one and essentially fulfills consumer requirements in terms of convenience and taste. However, most snack bars still lack one element – **the health aspect.**

There are still many possibilities that are not being taken into account in producing such bars: vitamins and minerals e.g. are often missing from the diets of children and adolescents.

### **Snack bars for healthy nutrition.**

Today, snack bars are available in the most varied of forms and with different ingredients.

They enable consumers to select those products that fulfill their individual requirements and wishes.

Cereal bars containing valuable fiber are on offer, as are wellness products, including bars with a balanced content of vitamins and minerals for athletes, bars for special diets and bars containing low levels of fat or carbohydrate. These are all part of the current trend and fully justify expectations of further market growth. The compact form of the snack bar alone makes it important to select the ingredients carefully and meaningfully so as not to “waste” calories unnecessarily.

Sweets that produce no feelings of guilt, healthy snacks and convenience products containing balanced nutrients are the current trend and will play an even more important nutritional role in the future. Healthy nutrition and good taste are of course essential elements. However, if the requirements made of new product development are to be fulfilled, the right ingredients must be selected:

### **GELITA® Gelatine-Hydrolysates – important ingredients in the production of healthy snack bars.**

GELITA® Gelatine-Hydrolysates are used as ingredients in foodstuffs not only due to their excellent technological properties but also because of their positive effect on joints, skin, hair and nails. In addition, they supply important proteins and amino acids.

### **Consumers wish to and must know which ingredients have a positive effect on health so that they can decide on a particular product.**

Positioning a product as a functional food targets a consumer group with certain predetermined requirements. The increasing turnover in the functional food segment confirms the trend towards more health and convenience in foodstuffs.



## Fitness for an Active Life.

**From a nutritional and physiological point of view the use of GELITA® Gelatine-Hydrolysates is meaningful.**

Fitness, wellness and maintenance of health are becoming increasingly important. These can only be achieved if there is a good balance between physical activity and nutrition. Recent nutritional recommendations justifiably indicate the importance of dietary protein.

This is reflected in the current popularity of so-called "low-carb" diets and in the importance of the glycemic index\* of particular foodstuffs. Gelatine hydrolysate finds particular use in such diets and hence makes an important contribution towards the development of suitable products.

**GELITA® Gelatine-Hydrolysate ...** is **pure collagenous protein** and contains **neither carbohydrate nor fat**. It has practically **no allergenic potential** and is **readily digested** by the body. Thanks to its **excellent sensory and functional properties**, gelatine hydrolysate can be used as an ingredient in numerous types of snack bar.

### Proteins ...

... are important for the **renewal of cells** and the **formation of the body's own proteins**. This function cannot be taken on by any other nutrient. Thus, if inadequate amounts of nutrient protein is taken in, the body's own reserves of protein are used. Different proteins are required for the renewal of different types of cell. For the **formation and strengthening of cartilage, bones and ligaments**, **gelatine hydrolysate** can be selectively taken in with food.

### Nutritional values for gelatine hydrolysate:

Calories	kcal/100g	350
	kJ/100g	1,500
Protein content		80–90%
Moisture		max. 9%
Carbohydrate		0
Fat		0
Cholesterol		0

### \*Glycemic index:

The glycemic index indicates the efficacy of the blood sugar of carbohydrates on a percentage basis. It describes the increase in blood sugar subsequent to the ingestion of certain foodstuffs compared with glucose.



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## **Gelatine Hydrolysate in Snack Bars ... a Combination of Advantages.**

### **Gelatine hydrolysate – for the skeletal system.**

A further important aspect is e.g. special nutrition for athletes. Here, the prophylactic effect of regular gelatine hydrolysate intake on joint cartilage and the stability of ligaments and tendons is important. Athletes, particularly high-performance athletes, are thus recommended to take regular doses of gelatine hydrolysate. Generally, gelatine hydrolysate should be an ingredient of every form of nutrition, including that for children and the elderly. This is because it makes cartilage fit for the stresses of daily routine and keeps it in good condition for the rigors of old age.

Today, even in balanced diets, hardly any collagenous protein is included. However, the body requires a certain amount of this substance. This deficiency can be compensated with the help of appropriate products.

### **Gelatine hydrolysate – a sugar substitute as binding agent.**

By using gelatine hydrolysate in snack bar recipes, the sugar content can be reduced or even eliminated. In cereal bars in particular, gelatine hydrolysate is meaningful as a binding agent. Gelatine hydrolysate is an excellent adhesive; even in low concentrations it adequately binds dry substances.

To achieve a similar degree of binding with sugar, very much higher concentrations have to be used. Too much sugar of course can have a negative effect on health from the nutritional and physiological points of view.

### **The use of gelatine hydrolysate facilitates the upgrading of food- stuffs to nutraceuticals as a result of its health-giving properties.**

Product developers place particular value on gelatine hydrolysates as raw materials because they **combine** both technological and health-promoting properties in the one substance.

Successful products must be simple to eat, taste good, offer additional health benefits and provide the special ingredients required by certain target groups.

*What is more practical than, e.g. during a tennis match, opening up a snack bar and not only enjoying it but also promoting your health?*

The GELITA Group produces a wide range of gelatine hydrolysates for numerous applications.

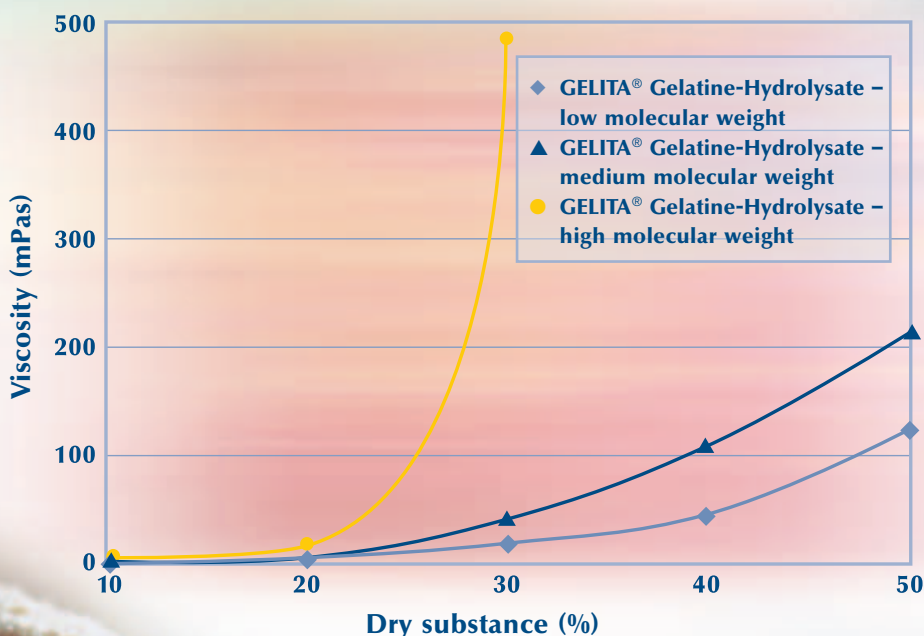
Use them and their inherent performance provide your snack bars with even more power.

## Gelatine-Hydrolysate: Advantages in Cereal Snack Bars.

Because of its **neutral taste**, GELITA® Gelatine-Hydrolysate can also be used in higher concentrations. Due to its **special technological properties**, GELITA® Gelatine-Hydrolysate can be used in the production of health-promoting cereal snack bars. The hydrolysate, due to its high binding ability, can replace most of the sugar used, thus enabling the **proportion of valuable fiber-containing cereals** to be increased.

GELITA® Gelatine-Hydrolysate, just like gelatine, is produced from **raw materials rich in collagen**. In contrast to gelatine, however, it does not gel. Its advantage is its low viscosity, which makes it **easy to process**. Even when standing for long periods at high temperature and low pH, its viscosity hardly changes. This is what makes GELITA® Gelatine-Hydrolysate so **reliable** as a processing component. It can easily be mixed with other components and **dissolves readily in cold water**. Depending on the type of gelatine hydrolysate used, it can be ideally used as a **foaming agent** to increase volume.

### Viskosität (25 °C).



*GELITA® Gelatine-Hydrolysate has a relatively low viscosity and can thus be easily added to cereal bar mixes even in high concentrations.*





## Ready for Production.

### GELITA® Gelatine-Hydrolysate in cereal snack bars.

When gelatine hydrolysate is used in cereal snack bars, its technological properties are the ones most appreciated.

The GELITA Group supplies suitable gelatine hydrolysates for cereal bar production. These have **excellent adhesive properties** and are ideal for binding dry substances.

The **gelatine hydrolysate** is added to the dry substance as a **50 % aqueous solution**. Adequate adhesion can also be obtained even with a low concentration of **hydrolysate**. Much higher concentrations of saccharose would be required to obtain the same effect.

By using GELITA® Gelatine-Hydrolysate on its own as a binding agent, **firm and crispy textures** can be created.

If **softer, more chewy structures** are required, further additives are required. Sugar substitutes such as sorbitol or "Lycasin" and fats are primarily used for this purpose. Experience has shown that dry substance mixtures bound with **10% sugar substitute** and **GELITA® Collagel** produce optimal soft but chewy textures.

In such a case, the sugar substitutes and the gelatine hydrolysate should be added to the dry mixture as an aqueous solution; however, the **minimum necessary amount of water** should be used.

Solutions for the future. Gelatine hydrolysates from the GELITA Group.

Type of bar	GELITA® Collagel A	GELITA® Sol DA	GELITA® Sol LDA aggl.	GELITA® Sol D
Cereal bars	+++	+++	+	++
Protein-enriched cereal bars	++	+++	++	++
Protein bars	+	++	+++	+++

+ suitable    ++ very suitable    +++ excellent





## Gelatine Hydrolysate: Advantages for Protein Snack Bars.



When gelatine hydrolysate is used as an ingredient in protein snack bars, the **nutritional/physiological** and **organoleptic properties** in particular are the decisive factors. These can be achieved especially due to the **low-molecular properties of the hydrolysate**.

Protein snack bars are normally targeted at certain groups of consumers. Athletes and nutrition-conscious consumers in particular are preferred users.

**Sports and power snack bars, but also low-calorie and high-fiber bars all have high contents of protein.**

GELITA® Gelatine-Hydrolysate is particularly valuable here as it has **no bitter taste, is purine-free** and, in **combination with its excellent functional properties**, contributes to the production of optimal products.

**Most of these products are coated with chocolate or the like.** They have a soft, marzipan-like or loose, foamy texture. The homogeneous, more or less loose basic mass usually comprises **protein, different forms of sugar, dextrins** and

**glucose syrup.** Depending on the application, **fats, fiber**, dried fruits, nuts etc. may also be used.

There are thus numerous possibilities for taking into account the various individual requirements of modern consumers with respect to taste and nutritional/physiological factors.

Technological properties	Type of bar
Improvement of texture	High-concentration protein bar
Easy to process as readily soluble, also in combination with other proteins	Power and energy bars with high concentrations of protein
Foam formation and stabilization	Protein bars, light foamy bars, foamed diet bars
Cohesion and adhesion	Cereal bars, protein bars

*Power bars with chocolate coating and tasty nuts combine taste and health-promoting factors – a simple snack that can even replace a meal.*



Health benefits of gelatine hydrolysate in various types of snack bar

		Protein enrichment	Carbohydrate reduction	Weight reduction	Muscle build-up
Confectionery					
	Chocolate bars	-	-	-	-
	Cereal bars	+	++	+	-
Dietetic products					
	Protein bars	++	++	-	++
	Energy bars	++	+	-	-
Snack bars for special nutrition purposes					
	Joint protection bars	++	+	+	+
	Low-carb diet bars	++	++	+	-
	Beauty bars	++	+	+	-
Snacks and refreshments					
	Spicy bars	+	++	-	-
	Sweet bars	+	++	-	-

++ recommended    + suitable    - not recommended

Technological functions of gelatine hydrolysate in various types of snack bar

		Foam formation	Cohesion/adhesion	Texture improvement	Taste improvement
Confectionery					
	Schoko-Riegel	++	-	+	++
	Cerealien-Riegel	-	++	+	+
Dietetic products					
	Protein bars	++	+	++	++
	Energy bars	++	+	++	++
Snack bars for special nutrition purposes					
	Joint protection bars	+	+	+	
	Low-carb diet bars	+	+	+	+
	Beauty bars	+	+	+	
Snacks and refreshments					
	Spicy bars	-	++	+	+
	Sweet bars	-	++	+	+

++ recommended    + suitable    - not recommended

# Worldwide Excellence in Gelatine



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The GELITA Group, comprising the operating continental units GELITA Europe, GELITA North America, GELITA South America, GELITA Asia Pacific Africa and GELITA Photo, is the world's leading gelatine producer with activities in all major markets. Our customers benefit from the synergies generated by this global presence, and from the important developments in research, production, technology, logistics and special knowledge of the local subsidiaries in the respective continents.

The GELITA Group headquarters in Eberbach, Germany, is the coordination center for research and development, sales, production, communication and all other corporate activities.

An extensive product range – encompassing more than 250 GELITA® Gelatine types and Gelatine/ Collagen-Hydrolysates – satisfies all the requirements of our global customers. Our tailor-made solutions fulfill all customer requirements.

The use of our products in the very different markets of food, pharmaceuticals, photography and a large range of specialized applications underlines the versatility of gelatine. The size and spread of the Group and the application of stringent ISO 9000-certified systems and HACCP procedures in our production facilities, enable us to provide our customers throughout the world with the highest and most consistent quality of product and service.

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