

SOLUGEL®  
PEPTEIN®  
the collagen  
hydrolysates



# SOLUGEL® – the collagen hydrolysate

PB Gelatins' collagen hydrolysates with brand name **SOLUGEL®** are natural products, obtained by enzymatic hydrolysis of collagen rich materials.

**SOLUGEL®** collagen hydrolysates are, just like gelatins, **food ingredients** with GRAS status<sup>(1)</sup>.

As a result of the enzymatic hydrolysis, collagen hydrolysates (Mw: 1000-15000 Dalton) have a substantial lower molecular weight in respect to regular gelatins (Mw > 100 000 Dalton and higher).

Some types of **SOLUGEL®** are available in both powder and liquid form.



## All **SOLUGEL®** collagen hydrolysates are:

- natural and healthy products
- neutral in flavour/odour
- non allergenic<sup>(2)</sup>
- clear in solution, and the clarity in water is not affected by pH, temperature or the presence of salts
- low in viscosity even at high concentration
- non gelling
- cost efficient

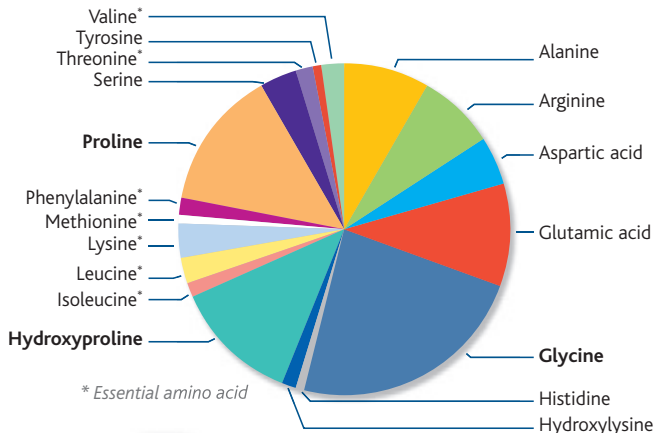
## In addition to the above, all powder **SOLUGEL®** collagen hydrolysates are:

- high protein level (>97% on d.s.)
- not hygroscopic
- soluble in cold water

## **SOLUGEL®** collagen hydrolysates have an interesting nutritional profile:

- free from fat and cholesterol
- free from sugar
- free from additives and preservatives
- free from gluten

## Amino acids in **SOLUGEL®**:



## > Collagen hydrolysates in nutraceutical - and food applications

Today's consumers are increasingly aware of the benefits of nutritionally enhanced foods. **SOLUGEL®** collagen hydrolysates can help provide the nutraceutical and/or functional properties necessary to create new, innovative and healthy food products.

The low molecular weight of the **SOLUGEL®** collagen hydrolysates makes them easy to digest and **quick to absorb by the body**. **SOLUGEL®** is a valuable source of amino acids, essential to the performance of active adults. For example **SOLUGEL®** contains the amino acids glycine and proline in a concentration that is about 10 to 20 times higher than in any other protein: these amino acids perform an important function in the **building up of connective tissue**.

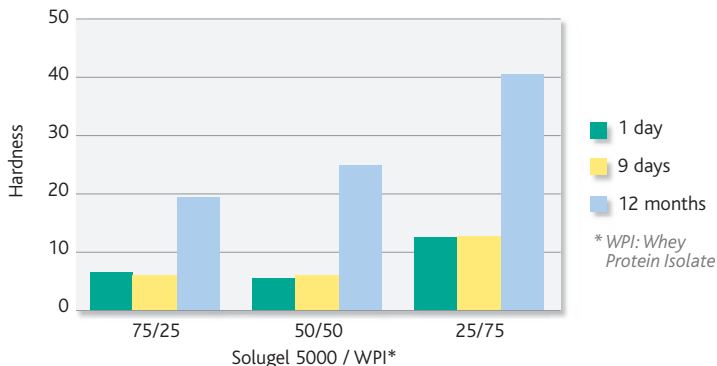
The **SOLUGEL®** peptides are also easier for the body to absorb and utilise than both free amino acids and whole proteins. Due to its health enhancing effects (see our brochure "Collagen hydrolysate is good for your health"), collagen hydrolysates are in fact **bio-peptides** and they have functional characteristics that are key to new product development.

A typical example of its functionality can be found in the production of protein-, nutritional- and sports bars. It's indeed a well known problem that as milk and/or soy protein levels increase, the texture becomes deteriorated as the bar tends to become hard and dry shortly after production. However, the addition of **SOLUGEL®** helps keep the bars soft and pliable thus extending the shelf life.

### Examples of benefits by application of **SOLUGEL®** in protein-, nutritional- and sports bars:

- 1 substantially improved shelf life of the bar due to better water household and moisturising effect
- 2 helps to maintain healthy joints and bones
- 3 high purity protein source that is non allergenic
- 4 economical interesting protein

### Evolution of hardness of cookies :



### Labelling of **SOLUGEL®** collagen hydrolysate:

- gelatin
- gelatin hydrolysate
- collagen hydrolysate
- (collagen) protein hydrolysate
- collagen peptides

## SOME APPLICATIONS:

Application	Functionality
Protein-, sports- & nutritional bars Sports- and recovery drinks Nutritional drinks	Protein source Healthy joints / joints protection Muscle building Muscle recovery Shelf life (bars)
Dairy drinks	Mouthfeel enhancer
Dietary supplements for joints & bones (powders – RTU liquids – tablets & capsules)	Arthritis & osteoporosis cure Healthy joints / joints protection
Dietary supplements for hair, nails & skin (powders – RTU liquids – tablets & capsules)	Improve the manageability, shine and body of hair Healthy nails and skin Beauty from within
Sugar & fat replacement in low carb & low fat applications	Weight loss programs Products for diabetes type II
Dietetic food & drinks	Protein source
Tabletting	Binder
Micro-encapsulation	Encapsulating vitamins, flavours
Wine & fruit juice	Clarification
Meat products	Protein source Binder, stabiliser

Our **SOLUGEL®** collagen hydrolysates can be supplied as **acid or alkaline types**.

### Daily administration of SOLUGEL® when used as bio-peptides:

In order to get its beneficial effects on the joints/bones a dosage of **10 gram/day is advised**. See also our brochure "Collagen hydrolysate is good for your health".

At the same time, collagen hydrolysate stimulates the growth of hair and nails. It also improves skin elasticity and structure.

## > Main SOLUGEL® range of products

Product	Description	Typical uses
SOLUGEL 15000	Spray dried powder with an average Mw of 15000 Dalton <sup>(3)</sup>	High(er) viscosity drinks Micro-encapsulation Wine & juice clarification
SOLUGEL 5000	Powder and concentrated liquid <sup>(4)</sup> products with an average Mw of 4000 Dalton <sup>(3)</sup>	Protein drinks & bars Dietary supplements Sports nutrition Beauty from within Sugar & fat replacement
SOLUGEL 2000	Concentrated solution <sup>(4)</sup> with an average Mw of 2000 Dalton <sup>(3)</sup>	Low viscosity sport drinks

SOLUGEL 5000 is also available in granulated form, which gives an even faster dispersion and dissolution. Please contact your local PB Gelatins' representative for help in identifying the right **SOLUGEL®** type that will meet your product development needs.

# PEPTEIN® – the collagen hydrolysate for cosmetics



PEPTEIN® is PB Gelatins' brand name for collagen hydrolysates used in cosmetic applications (skin, hair and nails care).

PB Gelatins' **PEPTEIN®** cosmetic proteins are produced using high quality raw materials and special processing techniques, which result in a collagen hydrolysate with high substantivity to the hair and excellent humectancy properties.

These collagen hydrolysates improve the manageability, shine and body of the hair and they are also excellent skin moisturisers.



**PEPTEIN 2000** (available as liquid<sup>(4)</sup> and powder product) is ideally suited for hair care products: it not only coats and smoothes the outer layer of the hair (cuticle) to provide shine, combability and volume, it will also penetrate into the cortex, actually building itself into the hair.

**PEPTEIN CAA** (liquid<sup>(4)</sup>) has a lower molecular weight (1000 Dalton) and is used in moisturising creams and shampoos for dry, damaged hair.

<sup>1</sup> GRAS: Generally Recognized As Safe

<sup>2</sup> Derived from type 1 collagen, the same collagen that our bones and skins are made from

<sup>3</sup> Figure depends on method applied

<sup>4</sup> Liquid hydrolysates only available in North America

