

## CERTIFICATE OF ANALYSIS HYDROLYZED COLLAGEN

<b>Product:</b>	<b>Peptan B 5000 HD</b>	<b>Date :</b>	<b>24 January 2022</b>
<b>Batch:</b>	<b>3085933</b>	<b>Customer:</b>	<b>Firmalis</b>
<b>Production date:</b>	<b>January 2022</b>	<b>Order:</b>	<b>21002942</b>
<b>Best Before date:</b>	<b>January 2027</b>		

This product meets the requirements of the European Regulations (EC) N°853/2004 and N°2073/2005 and all latest modifications.

This product meets the requirements of the European Regulation (EC) n°629/2008 on contaminants (dietary supplements) and all latest modifications.

PARAMETERS	METHODS	UNITS	SPECIFICATIONS	VALUES
<b>Physico-chemical properties</b>				
Molecular Weight (Mw) (*)	Ext Lab	Da	5000	COMPLIANT
Protein (*)	Ext Lab	%	≥ 90	COMPLIANT
Viscosity (20%, 25°C)	W-ANGL-FR-10149	mPa.s	5.5 - 7.5	6.3
pH	W-ANGL-FR-10097		5.0 - 6.5	6.3
Loss on drying	W-ANGL-FR-10147	%	≤ 10.0	7.5
Residue on ignition	W-ANGL-FR-10092	%	≤ 2.0	0.7
Color	W-ANGL-FR-10100		≤ 3.00	3.00
Turbidity	W-ANGL-FR-10101	NTU	≤ 10.0	1.4
Below 425 µm (mesh #40) (*)	W-ANGL-FR-10170		≥ 95	≥ 95
Below 75 µm (mesh #200) (*)	W-ANGL-FR-10170		≤ 15	≤ 15
Density	W-ANGL-FR-10172	g/cm <sup>3</sup>	0.40 - 0.55	0.44
Sulfites (SO <sub>2</sub> ) (*)	Ext Lab	mg/kg	≤ 10	≤ 10
Peroxides	W-ANGL-FR-10681	mg/kg	≤ 10	≤ 10
<b>Heavy Metals</b>				
Arsenic (As) (*)	Ext Lab	mg/kg	≤ 1.0	≤ 1.0
Cadmium (Cd) (*)	Ext Lab	mg/kg	≤ 0.5	≤ 0.5
Chromium (Cr) (*)	Ext Lab	mg/kg	≤ 10	≤ 10
Copper (Cu) (*)	Ext Lab	mg/kg	≤ 30	≤ 30
Mercury (Hg) (*)	Ext Lab	mg/kg	≤ 0.10	≤ 0.10
Lead (Pb) (*)	Ext Lab	mg/kg	≤ 3.0	≤ 3.0
Zinc (Zn) (*)	Ext Lab	mg/kg	≤ 50	≤ 50
<b>Microbiological properties</b>				
Total Aerobic Microbial Count	W-ANGL-FR-10039	cfu/g	≤ 1000	≤ 1000
Escherichia coli	W-ANGL-FR-10059	10g	Absent	Absent
Salmonella	W-ANGL-FR-10042	25g	Absent	Absent
Anaerobic sulfite-reducing spores	W-ANGL-FR-10044	cfu/g	≤ 10	≤ 10

(\*) Part of monitoring plan.

Quality validation	DocuSigned by: <i>Charlotte Lepape</i> E5BC9AF0920044E...
24 janvier 2022	

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## MATERIAL SAFETY DATA SHEET

According to ISO 11014-1 ; R 1907/2006/EC (and further amendments) & ANSI Z 400.1-2004

### 1. SUPPLIER AND PRODUCT :

**COMMERCIAL NAME OF PRODUCT :** *PEPTAN™ B all grades*

**SUPPLIER :** **Rousselot NV** **Tel +31 (0)499 364 100**  
**Kanaaldijk Noord 20-21** **Fax +31(0)499 364 972**  
**5691 SON**  
**The Netherlands**

**EMERGENCY PHONE NUMBER – PLEASE CONTACT ONE OF OUR SALES OFFICES :**

<b>For South America and Central America</b>	<b>+54 11 44 89 81 09</b>
<b>For Brazil</b>	<b>+55 (19) 3907 9000</b>
<b>For North america</b>	<b>+1 (888) 455 3556</b>
<b>For France, Southern Europe, Middle East, Africa</b>	<b>+33(0)1 46 67 87 00</b>
<b>For Northern, Central and Eastern Europe, UK, Ireland</b>	<b>+32(0)9 255 18 60</b>
<b>For China</b>	<b>+86 21 6427 7337</b>
<b>For South-East Asia, New-Zealand, Australia</b>	<b>+6(03) 6201 8282</b>
<b>For Japan</b>	<b>+81 3 3239 2800</b>

### 2. COMPOSITION :

**HYDROLYZED COLLAGEN :** Animal protein produced by hydrolysis of collagen.

**Content (%) :** 100

**N° CAS :** 92113 – 31 – 0

**N° EINECS :** 295 – 635 – 5

**Hazard symbol :** none

**Risk phrases :** none

**REACH Registration Number :**

**Not Applicable** (exempted as a biopolymer.)

Reach helpdesk. –April 1<sup>st</sup>, 2009 - Ref : 5.0-720 34/04/2008.4565 ; also refer to ECHA guidance on polymers – FAQ 6.3.10 and 6.3.11)

### 3. HAZARD IDENTIFICATION :

<b>Human health hazard</b>	: Non-hazardous.
<b>Environmental hazard</b>	: Non-hazardous
<b>Fire/explosion hazards</b>	: Fine powdered material may form explosive dust-air mixtures (cf. § 9)
<b>Recommendation</b>	: - In presence of water, the product makes a slippery surface - Contact with skin, eyes or inhalation can be irritant for sensitive persons due to the product hydrophilic properties

### 4. FIRST AID :

<b>Inhalation</b>	: If symptomatic, move to fresh air Treat symptomatically Get medical attention if symptoms persist
<b>Eyes</b>	: Any material that contacts the eye should be washed out immediately with water Get medical attention if symptoms occur
<b>Skin</b>	: Wash with soap and water Get medical attention if symptoms occur
<b>Ingestion</b>	: Drink 1-2 glasses of water Get medical attention if symptoms occur No risk if small quantity ingested

#### Headquarter

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### 5. IN CASE OF FIRE :

<b>Treat as "CLASS A" fire</b>	
<b>Extinguishing Media</b>	Water spray, carbon dioxide (CO <sub>2</sub> ); dry chemical
:	
<b>Special fire fighting Procedures</b>	Wear self-contained breathing apparatus and decomposition products
:	
<b>Hazardous Combustion Products</b>	Carbon dioxide, carbon monoxide, oxides of nitrogen
:	
<b>Unusual fire and Explosion Hazards</b>	Powdered material may form explosive dust-air mixtures (cf. § 9)
:	

### 6. SPILLAGES / Accidental Release

**The product is not described as a hazardous waste**

<b>Cleaning measures</b>	:	Collect up and put in a suitable container in order to recycle or destroy it as per point 13 Avoid generation of dust Clean surface thoroughly and with water where appropriate
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### 7. HANDLING AND STORAGE :

<b>Personal Handling Precautionary Measures</b>	:	Avoid prolonged or repeated breathing of dust  Avoid contact with eyes and prolonged or repeated contact with skin Use with adequate ventilation Wash after handling
<b>Prevention of Fire and Explosion</b>	:	Powdered material may form explosive dust-air mixtures. Minimize dust generation and accumulation Use with adequate ventilation
<b>Storage</b>	:	Store in closed containers, away from heat sources and protected from extremes of temperature, light and humidity Store separately from any flavour or chemical products

### 8. EXPOSURE CONTROLS / PERSONAL & ENVIRONMENTAL PROTECTIONS :

<b>Exposure Limits</b>	:	Not established. It is recommended to use the limit of dust as a reference value: 10 mg/m <sup>3</sup> (TWA – 8 hours)
<b>Personal Protections</b>	:	
- <b>Ventilation</b>	:	Good general ventilation should be used Ventilation rates should be matched to conditions
- <b>Respiratory Protection</b>	:	Use an approved respirator if a good general ventilation cannot be sustained
- <b>Hand Protection</b>	:	For operations where prolonged or repeated hand contact may occur, impervious gloves should be worn. No specific material recommended for gloves
- <b>Eye Protection</b>	:	It is a good industrial hygiene and occupational safety practise to minimize eye contact Wear safety glasses with side shields (or goggles)
- <b>Skin Protections</b>	:	It is a good industrial hygiene practice to minimize skin contact Use protective clothing according to GMP standards
<b>Environment protection</b>	:	- Keep the product in closed adapted containers and in a closed facility - Avoid spillage of dust in the environment (dust-catcher equipment)

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### 9. PHYSICAL & CHEMICAL PROPERTIES :

<b>Physical form</b>	:	Powder
<b>Color</b>	:	White to pale amber-coloured
<b>Odor</b>	:	none
<b>pH</b>	:	5.0 – 6.5 (in water)
<b>Melting Point</b>	:	Decomposition from 100°C
<b>Boiling Point</b>	:	Decomposition before ebullition
<b>Flash Point</b>	:	Not Applicable, combustible solid
<b>Flammability</b>	:	Not Available
<b>Explosive properties</b>	:	Peptan™ delivered by Rousselot can be classified between low explosive (ST1 class according to VDI 3673 classification and recommendation/November 2002) for finest mesh and non explosive for the largest mesh
<b>Oxidising properties</b>	:	Not Applicable
<b>Vapour pressure</b>	:	Not Applicable
<b>Relative Density (25°C)</b>	:	0.25 – 0.60 g/cm <sup>3</sup>
<b>Solubility</b>	:	Cold soluble in water
<b>Water Solubility</b>	:	Completely soluble
<b>Partition coefficient : n-octanol/water</b>	:	Not Available
<b>Viscosity</b>	:	Below 10 mPa.s (25°C- 20% in water)
<b>Vapour density</b>	:	Not Available
<b>Evaporation rate</b>	:	Not Available
<b>Other information</b>	:	

### 10. STABILITY AND REACTIVITY :

<b>Stability</b>	:	Stable Fine powder material form explosive dust-air mixtures (cf. § 9)
<b>Conditions to avoid</b>	:	None
<b>Incompatibility</b>	:	None
<b>Hazardous decomposition products</b>	:	None, except in case of fire (see § 5)

### 11. TOXICOLOGICAL INFORMATION :

**This product is a food ingredient**

<b>Inhalation</b>	:	Low hazard for recommended handling
<b>Eye</b>	:	No specific hazard known. May cause transient irritation
<b>Skin</b>	:	Low hazard for recommended handling
<b>Ingestion</b>	:	Expected to be a low ingestion hazard

### 12. ECOLOGICAL INFORMATION :

<b>Ecotoxicity</b>	:	No hazardous effect known No data available
<b>Mobility</b>	:	Water miscible
<b>Bio-degradability</b>	:	Peptan™ is a protein completely biodegradable
<b>Potential bioaccumulation</b>	:	No data available
<b>PBT evaluation</b>	:	Not Applicable
<b>Other</b>	:	None

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### 13. DISPOSAL CONSIDERATIONS :

Discharge, treatment, or disposal is subject to national, state, provincial, or municipal laws. Since emptied containers retain product residue, follow label warning even after container is emptied and the same rules as for the product

### 14. TRANSPORT INFORMATION :

<b>UN NUMBER</b>	:	None
<b>Road Transport/ ADR</b>	:	None
<b>Sea Transport/ IMDG</b>	:	None
<b>Air Transport/ OACI / IATA</b>	:	None
<b>Rail Transport RID</b>	:	Not Applicable
<b>Specificity</b>	:	Avoid humidity

### 15. REGULATORY INFORMATION :

<b>Evaluation of Chemical Security</b>	:	None
<b>Labelling information</b>	:	Expiry date
<b>Carcinogenicity</b> (components present at 0.1% or more according to International Agency for Research on Cancer (IARC))	:	None

**Reach regulation compliance:** EC 1907/2006 of the European Parliament and of the Council of December 18, 2006 concerning the Registration, Evaluation Authorization and Restriction of Chemicals (REACH) does not apply to Gelatin / Collagen and their hydrolysates as they are natural polymers and/or chemically modified natural polymers. The aminoacids are regarded as non-isolated intermediates and therefore do not have to be registered. The exemption of the registration of Gelatin / Collagen, their hydrolysates and their monomers is confirmed by ECHA and the German REACH helpdesk.

**The Edible Quality of this product complies with usual international regulations and particularly with European and US regulations regarding edible gelatin.**

The user of the product is nevertheless due to verify the conformity based on the regulation of its own country

**The product has GRAS status**

### 16. OTHER INFORMATION :

***The information contained herein is furnished without warranty of any kind. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers and the protection of the environment.***

***The latest version of this Material Safety Data Sheet can at any time be downloaded from the rousselot website : [www.peptan.com](http://www.peptan.com). We advise you to regularly check this website for the updates.***

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