

# PLANT BASED STANDARD

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Version 2.2, 2024



[PlantBasedStandard.com](https://PlantBasedStandard.com)

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## INTRODUCTION

The purpose of this standard is to make it easier for the consumer to choose plant-based foods that are regularly controlled. At the same time, it is a tool for operators who manufacture and market this type of food and who want to inform the consumer about plant-based food in a clear and effective way.

The standard is designed with general basic requirements as well as specific requirements for each user group such as producers, brand owners without open handling, restaurants, cafés and hotels.

In addition to the fact that products labelled according to this standard must not contain any animal products, there are additional requirements relating to GMOs and processing aids.

Plant Based Standard, issue 2.2

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[info@plantbasedstandard.com](mailto:info@plantbasedstandard.com)

Phone +46 (0)10-788 20 50

### **Plant Based Standard Sweden AB**

Box 2

614 21 Söderköping

Sweden

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## TERMS AND DEFINITIONS

The following is a list of explanations of certain terms used in the standard.

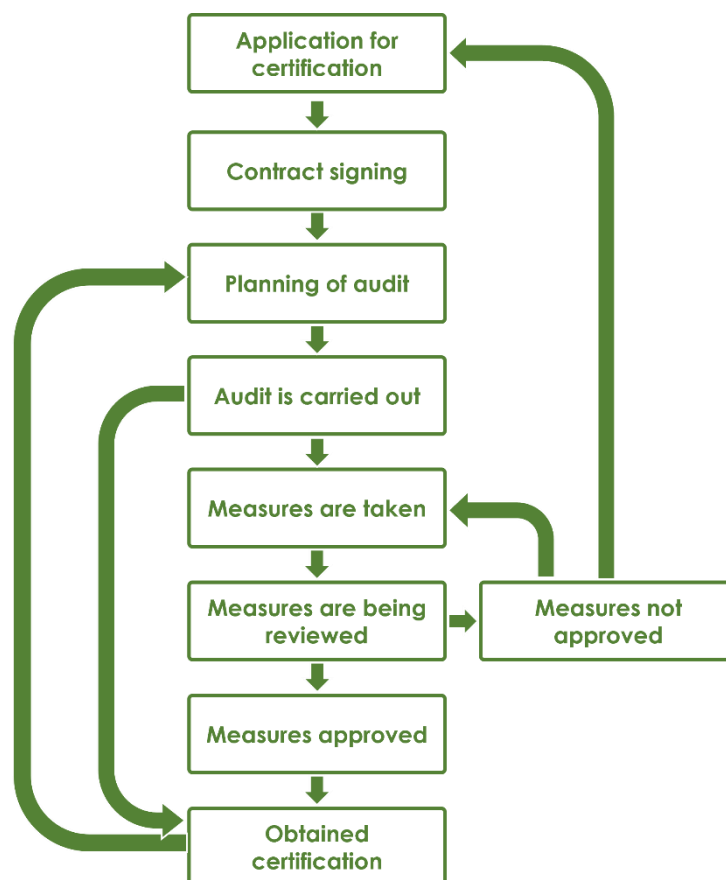
<b>Term or abbreviation</b>	<b>Definition</b>
<b><i>Animal products</i></b>	Products derived from animal bodies including eggs, dairy products, and honey.
<b><i>Brand user</i></b>	The legal person who uses the label, i.e., the brand owner.
<b><i>BRC – Global Standard for Food Safety</i></b>	A global certification for food safety.
<b><i>FSSC 22000</i></b>	<i>Food Safety System Certification 22000</i> is a global certification for food safety management systems based on ISO 22000.
<b><i>GMO</i></b>	<i>Genetically Modified Organism</i> . An organism where the genetic material has changed in a way that does not occur naturally through mating or natural recombination.
<b><i>HACCP</i></b>	<i>Hazard Analysis Critical Control Point</i> is an internationally recognized method used to systematically evaluate, sort and control potential health hazards in food handling.
<b><i>IFS Food</i></b>	<i>International Featured Standards' own standard for food safety</i> .
<b><i>ISO 22000</i></b>	The <i>International Organization for Standardization</i> has developed the ISO 22000 standard, which contains requirements for management systems for food safety.
<b><i>Mass balance</i></b>	Conformity in weight or volume of raw materials and finished product.
<b><i>Operator</i></b>	The company or organization where products that are PBS-labeled are handled. An operator may also include the brand owner in applicable cases.
<b><i>Operators without physical handling of unpackaged foods</i></b>	Company or organization that only sells packaged foods. Can also have their own warehouse, but no handling of unpackaged food.
<b><i>PBS</i></b>	Plant Based Standard
<b><i>Plant-based food</i></b>	Food that does not contain any animal products.
<b><i>Producer</i></b>	The business that produces/manufactures food, including companies that repackage food, cafes, and restaurants that manufactures products are also considered as producers.
<b><i>The PBS-label</i></b>	The symbol used to indicate that products, dishes, and operators are certified according to this standard.
<b><i>The Scheme owner</i></b>	Plant Based Standard Sweden AB. The legal person who leads the development of the standard and holds the right to decide who may use the label and refer to the certification with associated conditions.

## CERTIFICATION PROCESS

The first step in the certification process is to apply for certification from a certification body that has an agreement with PBS, see [www.plantbasedstandard.com](http://www.plantbasedstandard.com) for relevant certification bodies. An agreement is signed between the brand user and the certification body. Audits are booked and carried out by a contracted certification body. If deviations are noted during the audit, the operator/brand user must submit evidence of measures taken. These are reviewed by the certification body and then a decision is made on certification or that the measures are not sufficient. In cases where measures need to be reviewed on site, a follow-up visit is made. If the brand user does not submit evidence of measures taken within a given time frame or if the evidence received of measures is deemed insufficient, the audit will be rejected and a new audit will need to be carried out.

Once the measures taken have been approved, certification is obtained. Thereafter, regular audits take place annually.

The certification process is also presented in the following flow chart:



## 1. TERMS AND CONDITIONS FOR JOINING

When joining the label standard scheme, the brand user accepts the requirements under the chapter "Terms and Conditions".

An agreement must be signed between the brand user and the certification body before inspection begins.

The operator/brand user must be registered with the associated food safety control authority. Reports of such inspections and controls shall be available upon request. A registration certificate or equivalent must be available.

### 1.1 FOOD SAFETY CERTIFICATION

Producers must be certified against one of the following food safety standards.

- ISO 22000
- FSSC 22000
- IFS Food
- BRCGS
- SQF
- Other standard that includes HACCP

Certificates of existing certification must be available upon request.

### 1.2 IN CASE OF NO CERTIFICATION FOR RESTAURANTS, CAFES AND HOTELS

If food safety certification is not available for the operator according to 1.1 above, the following applies:

A HACCP system must be implemented. Functioning procedures must be in place and applied for the following basic conditions as a minimum:

- Competence
- Personal hygiene
- Cleaning
- Temperature monitoring
- Water
- Waste management
- Maintenance of premises and equipment
- Pest control
- Labeling/Product Information
- Traceability

The existence of these procedures is checked during audit.

### 1.3 FOOD SAFETY CERTIFICATION FOR BRAND OWNERS WITHOUT OPEN HANDLING

If food safety certification is not available for the operator/brand user according to 1.1 above, the following applies:

Functioning procedures must be in place and implemented for the following basic conditions as a minimum:

- Competence in labelling
- Labelling practices
- Traceability
- Withdrawal
- Deviation management

## 2. BASIC REQUIREMENTS

### 2.1 PROCEDURES AND DOCUMENTATION

The procedures that are in place to meet the requirements in this standard must be documented.



This symbol means that, where it appears, there must be documented information showing that the requirement is met.

The documented information shall be reviewed at least annually and in the event of changes to the following where applicable:

- Raw materials
- Recipe
- Methods
- Production order
- Suppliers
- The requirements of the standard

### 2.2 COMPETENCE

All personnel who in any way can influence the plant-based products must be familiar with this standard and its purpose.



After the training in the standard, the obtained knowledge must be confirmed with a signature by the personnel who have received the knowledge.






The standard must be available digitally or in another format to all staff.



## 2.3 PURCHASE


*This requirement applies only to producers.*

-  There must be a list of suppliers from which raw materials are purchased for food production and preparation of own dishes, and which raw materials/groups of raw materials are purchased from each supplier.
-  A risk assessment shall be carried out for all raw materials/groups used in manufacturing and cooking. The risk assessment shall take into account the following:
  - Origin of the raw material
  - Known cases where animal products or by-products are present in the raw material
  - The possibility of detecting animals
  - The relationship with the supplier
  - Existing certifications with the supplier
  - Continuous purchases or "wholesale purchases"
  - Financial aspects
  - A summary of the risk of fraud with the raw material with regard to the presence of animals, GMOs.
-  Where the risk is summarized as high, the measures taken must be described.

ANNEX III or equivalent document shall be used for the documentation of this risk assessment.

## 2.4. TRACEABILITY

The operator must be able to report all purchased and sold quantities of products, food raw materials and processing aids. The traceability documentation must contain information about the goods purchased, the quantities and suppliers from whom the goods have been purchased, as well as the customers who have received the goods. One step back and one step forward is enough.

-  The traceability documentation shall be available at least 12 months from the date of production or to the best before date of the product if it exceeds 12 months, so that the mass balance can be presented.

When selling directly to consumers, traceability documentation needs to be only one step back to the supplier.

## 2.5 SEPARATION

*This requirement does not apply to brand owners without open handling*

Production and food handling must be planned, controlled and separated to avoid contamination from animal products or processing aids of animal origin. Separation can take place either by controlled production order and/or physical separation.

-  In cases where there is a risk of contamination of animal products, there must be documented procedures to avoid contamination of the product.

## 2.6 INGREDIENTS AND CONTENT OF PRODUCT

*This requirement does not apply to brand owners without open handling*

### 2.6.1. General requirements

No form of animal products may be used in PBS-labelled products. This includes:

- Animal parts and products thereof, including marine animals
- Eggs from egg-laying animals and products thereof
- Animal dairy products
- Honey, Propolis and Royal jelly

PBS-certified products may be labelled with "traces of" animal allergens, if there is a risk that contamination may occur and this needs to be clarified for food safety reasons.

The "traces of" label on a product does not mean that the operator is exempt from the requirement to document sufficient cleaning procedures and other procedures applied to avoid contamination of the product.

### 2.6.2. Additives and ingredients

Manufacturers of products must ensure that no animal additives or ingredients are used. See examples in [ANNEX I](#) and [ANNEX II](#).

### 2.6.3 GMO


No genetically modified foods may be used in PBS-labelled products.

-  In cases where ingredients containing GMOs are handled in the same premises, there must be documented procedures to avoid contamination of GMOs in PBS-labelled products.

### 2.6.4. Processing aids

No processing aids of animal origin can be used.

### 2.6.5. Specifications of raw materials for manufacturing




-  Specifications, certificates or list of ingredients must be available for all ingredients where there is a risk of animal content or GMOs.

## 2.7 LABELLING AND PRODUCT INFORMATION

### 2.7.1. PRODUCTS THAT CAN BE LABELLED

Products that can be labelled are all types of food but not food additives.



### 2.7.2 PRODUCT INFORMATION

-  A register must be provided by the operator of the products that are PBS-labeled.
-  For the products that are manufactured, a list of all the ingredients included must be available.
-  A flow chart with an associated process description must be available of the manufacturing process, which also shows which process aids are used.

### 2.7.3. LABELLING AND LABELLING CONTROL

Products may only be PBS-marked after obtaining certification.


There must be designated staff responsible for labelling products.

-  When new products are developed or when existing products are changed, the label regarding the content of the product must be reviewed against the recipe by at least two people. This review must be documented for all products, and it must be clear who has reviewed the label.
-  Documented checks that the list of ingredients and recipes match must take place at least once a year.

### 2.7.4. LABELING CONTROL OF PACKAGED PRODUCTS

*This requirement applies only to producers*


Labeling checks must be carried out on packaged products before they leave the operator where they are packed. During this control, it must be checked as a minimum that the correct label/packaging is used for the correct product.

-  Continuous labeling control must take place for each batch or at least once a day in cases where a batch extends over several days. The labeling control must be documented.

### 3. ADDITIONAL REQUIREMENTS FOR THE BRAND OWNER WITHOUT OPEN HANDLING

In addition to the basic requirements, brand owners without open handling shall also apply the requirements in this chapter.

#### 3.1 VALID SUPPLIER CERTIFICATE

-  Brand owners without open handling of food must be able to present a valid PBS certificate from the manufacturer and an appendix with the products to which the certification applies.

### 4. ADDITIONAL REQUIREMENTS FOR RESTAURANTS, CAFÉS AND HOTELS

In addition to the basic requirements, Restaurants, Cafés and Hotels shall also apply the requirements in this chapter.

#### 4.1 MINIMUM SUPPLY

A minimum supply of plant-based foods must always be available according to the following.

**Restaurant** - A selection of at least two main courses and two desserts.

**Café** - Two different kinds of pastries. Two simpler cold or hot dishes, such as salads and sandwiches of various kinds.

**Hotel** - Two main courses for both lunch, dinner and two desserts (if lunch and dinner are offered).

Breakfast containing at least the following plant-based products:

- Table margarine
- Bread
- Two different types of toppings in addition to sliced vegetables
- Alternatives to milk and yogurt
- Müsli
- Two hot dishes

#### 4.2 CONSUMER INFORMATION

The consumer must be informed about which products/dishes are PBS-labelled by the label being on menus or other signage that belongs to the products/dishes.

When serving buffets, the label must be in close nearby the certified products/dishes.

### 5. BRAND USE

The label can be downloaded in various digital formats on [www.plantbasedstandard.com](http://www.plantbasedstandard.com)

#### 5.1 AREA OF USE

The label may be used by certified businesses in the following ways:

- **Food products** - On certified and reviewed food products. Labelling may take place at:
  - Consumer packaging
  - Outer packaging
  - Signs and display materials
- **Advertising and marketing**
- **Websites** - On certified operators websites either in connection with the presentation of certified products or in the overall context of the business.
- **Menus** – In printed or digital menus in connection with certified plant-based dishes in restaurants and cafés

The PBS-label must not be used in a misleading way which means that products that are not certified may be perceived as such.

## 5.2 COLOR AND LAYOUT

The PBS - label must always be used so that the entire label is visible in the same field of vision. The color combinations that are allowed are the following:



Transparent or any other color on the background inside the badge is not allowed.

The color codes to be used are:

Färg	RGB	CMYK	Pantone	Webb
Green	134-195-32	60-0-99-0	376C	#89c700
Black	0-0-0	0-0-0-100	-	#000000
White	255-255-255	0-0-0-0	-	#FFFFFF

The minimum size that the label may be in printed format is 13 mm in diameter. The shape of the label must be a circle and must not be distorted. On packages where the minimum surface area is less than 50 cm<sup>2</sup>, the label may be 10 mm in diameter.

## 6. TERMS AND CONDITIONS

### 6.1 COMMUNICATION

The brand user is obliged to inform their certification body in the event of the following events:

- New contact information
  - Contact person

- E-mail address
- Telephone number
- Visiting address
- Postal address
- Invoice address
- Labelling of new products
- Removal of labeling
- Injunction on fine from a control authority
- Recall that includes PBS-labeled products

Recalls must be notified to the certification body within three days of the recall.

### 6.1.1 Publication and records

Certified operators/brand users are listed on [www.plantbasedstandard.com](http://www.plantbasedstandard.com)

## 6.2 CONTROL

Compliance with the standard requirements is done through on-site audits at the operators/brand users site(s). The audits are carried out annually by certification bodies accredited to ISO 17065 and/or ISO 17021 that have an agreement with the scheme owner.

Audits take place as announced or unannounced visits. In the event of unannounced visits, the auditor shall be allowed to enter the premises.

For the brand owner without open handling, the audits are allowed to be done remotely.

### 6.2.1 Multiple sites

For organizations that have several sites, audits take place at the head office every year. In addition to the head office audit, sample audits are carried out on a selection of all sites. The sample is calculated using the formula  $y = \sqrt{x}$ , where  $y$  = the number of samples to be made and  $x$  is the total number of sites.  $x$  is rounded to the nearest number.

When multiple site certification is applied, it is mandatory that all sites are audited annually within the organization's internal audit.

### 6.2.2 Deviations

In this context, the concept of deviation means that compliance with the Plant Based Standard cannot be demonstrated.

Deviations raised at the first audit must be closed and approved before the use of the brand is permitted and no later than 8 weeks from the date of the audit.

In the case of surveillance audits, deviations must be closed within 20 working days.

For deviations that can be approved remotely, the operator can send proof of completed corrections and corrective actions. For deviations that cannot be closed remotely, follow-up visits must be made.

## **6.3 SANCTIONS**

### **6.3.1. Reasons for sanctions**

If necessary, the certification body or scheme owner can issue sanctions against the operator/brand user. Examples of cases that can lead to sanctions include:

- Announced or unannounced audits where access to the premises or the opportunity to carry out the audit is denied.
- Deviations that are not closed within given time frames.
- Incorrect labelling on products on the market that are not promptly closed after discovery.

Other circumstances that within the responsibility of the brand user may affect the reputation of the standard or undermine its credibility may also result in sanctions.

### **6.3.2 Types of sanctions**

The sanctions that can be applied are as follows:

- Labeling – Labeled products must remove the PBS labeling. Recall of products on the market may be relevant.
- Suspension – The right to use the label or refer to the label or certification in any way is lost. Suspension applies until the certification body or scheme owner notifies the operator/ brand owner in writing that it is ceased.

Both the operator/brand owner as a legal person as well as representatives of the legal entity may be subject to suspension.

## **6.4 REVISION OF THE STANDARD**

The standard is revised continuously, and the operator is obliged to adapt its procedures and working methods to the new requirement.

The scheme owner informs about changes to the standard at least six months before changes take effect. When the requirements enter into force, the operator must comply with them without delay.

## **6.5 CONFIDENTIALITY**

The scheme owner and the certification bodies carrying out the audits are subject to the confidentiality of the information obtained by the brand user and associated operators that may be harmful to them.

## APPENDIX I – FOOD ADDITIVES WITH E-NUMBERS WHICH HAVE OR MAY HAVE ANIMAL ORIGIN

E-number	Name	Area of use	Production/origin
E 120	<b>Carmine, Cochineal</b>	color, Red	The pigment is produced from carminic acid, which is extracted from the scale insect cochineal scale ( <i>Dactylopius coccus</i> costa).
E 304	<b>Fatty acid esters of ascorbic acid</b>	Antioxidant	Includes both ascorbyl palmitate and ascorbyl stearate. Prepared from L-ascorbic acid and palmitic acid or stearic acid (common constituents in fat, see E 471 and E 570).
E 322	<b>Lecithine</b>	Antioxidants, emulsifiers	Occurs naturally in all cells, abundant in for example egg yolk. Extracted mainly from soybeans, rapeseed, and sunflower seeds.
E 422	<b>Glycerol</b>	Emulsifiers, stabilizers, thickeners, and gelling agents	Occurs naturally, for instance chemically bound in fat, from which it is purified. The fat can come from both plants and animals, such as pigs. Can also be produced synthetically.
E 431	<b>Polyoxyethylene (40) stearate</b>	Emulsifiers, stabilizers, thickeners, and gelling agents	Produced synthetically by reaction between ethylene oxide and stearic acid. Since fat is included, it cannot be excluded that this comes from animals, such as pigs.
E 432	<b>Polyoxyethylene-20-sorbitan monolaurate</b>	Emulsifiers, stabilizers, thickeners, and gelling agents	Produced synthetically by reaction between sorbitol (E 420), fatty acids (E 570) and ethylene oxide. Since fat is included, it cannot be excluded that this comes from animals, such as pigs. Stabilizers and emulsifiers.
E 433	<b>Polyoxyethylene-20-sorbitan mono-oleate</b>	Emulsifiers, stabilizers, thickeners, and gelling agents	Produced synthetically by reaction between sorbitol (E 420), fatty acids (E 570) and ethylene oxide. Since fat is included, it cannot be excluded that this comes from animals, such as pigs.
E 434	<b>Polyoxyethylene-20-sorbitan monopalmitate</b>	Emulsifiers, stabilizers, thickeners, and gelling agents	Produced synthetically by reaction between sorbitol (E 420), fatty acids (E 570) and ethylene oxide. Since fat is included, it cannot be excluded that this comes from animals, such as pigs.
E 435	<b>Polyoxyethylene-20-sorbitan monostearate</b>	Emulsifiers, stabilizers, thickeners, and gelling agents	Produced synthetically by reaction between sorbitol (E 420), fatty acids (E 570) and ethylene oxide. Since fat is included, it cannot be excluded that this comes from animals, such as pigs.
E 436	<b>Polyoxyethylene-20-sorbitan tristearate</b>	Emulsifiers, stabilizers, thickeners, and gelling agents	Produced synthetically by reaction between sorbitol (E 420), fatty acids (E 570) and ethylene oxide. Since fat is included, it cannot be excluded that this comes from animals, such as pigs.
E 442	<b>Ammonium phosphatide</b>	Emulsifiers, stabilizers, thickeners, and gelling agents	Made from edible fats and oils and phosphorus compounds. May be of animal origin.
E 445	<b>Glycerol ester of wood rosin</b>	Emulsifiers, stabilizers, thickeners, and gelling agents	Made synthetically of resin from conifers, stumps, and glycerol. Glycerol can be made from animal fats, such as pork.



E 470a	<b>Sodium/potassium and calcium salts of fatty acids</b>	Emulsifiers, stabilizers, thickeners, and gelling agents	Salts of fatty acids. Can be made of fat from animals, such as pigs.
E 470b	<b>Magnesium salts of fatty acids</b>	Emulsifiers, stabilizers, thickeners, and gelling agents	Salts of fatty acids. Can be made of fat from animals, such as pigs.
E 471	<b>Mono- and di-glycerides of fatty acids</b>	Emulsifiers, stabilizers, thickeners, and gelling agents	Made from edible fats and oils or glycerol and fatty acids. The fats which will be used can come from animals, such as pigs.
E 472a	<b>Acetic Acid Esters of Mono and Diglycerides</b>	Emulsifiers, stabilizers, thickeners, and gelling agents	Made from mono- and diglycerides and acetic acid. The fat which will be used to make mono- and diglycerides can come from animals, such as pigs.
E 472b	<b>Lactic Acid Esters of Mono and Diglycerides</b>	Emulsifiers, stabilizers, thickeners, and gelling agents	Made from mono- and diglycerides and lactic acid. The fat which will be used to make mono- and diglycerides can come from animals, such as pigs.
E 472c	<b>Citric Acid Esters of Mono and Diglycerides</b>	Emulsifiers, stabilizers, thickeners, and gelling agents	Made from mono- and diglycerides and citric acid. The fat which will be used to make mono- and diglycerides can come from animals, such as pigs.
E 472d	<b>Tartaric Acid Esters of Mono and Diglycerides</b>	Emulsifiers, stabilizers, thickeners, and gelling agents	Made from mono- and diglycerides and acetic acid, lactic acid, citric acid, or tartaric acid. The fat which will be used to make mono- and diglycerides can come from animals, such as pigs.
E 472e	<b>Di-acetyl Tartaric Acid Esters of Mono and Diglycerides</b>	Emulsifiers, stabilizers, thickeners, and gelling agents	Made from mono- and diglycerides, acetic acid, and tartaric acid. The fat which will be used to make mono- and diglycerides can come from animals, such as pigs.
E 472f	<b>Mixed acedic and tartaric esters of mono and diglyceride of fatty acids</b>	Emulsifiers, stabilizers, thickeners, and gelling agents	Made from mono- and diglycerides, acetic acid, and tartaric acid. The fat which will be used to make mono- and diglycerides can come from animals, such as pigs.
E 473	<b>Sugar esters of fatty acids</b>	Emulsifiers, stabilizers, thickeners, and gelling agents	Produced synthetically by combining sugar with fatty acids. The fatty acids can come from animals, such as pigs.
E 474	<b>Sugarglycerides</b>	Emulsifiers, stabilizers, thickeners, and gelling agents	Produced synthetically by combining sugar with fatty acids. The fatty acids can come from animals, such as pigs.
E 475	<b>Polyglycerol esters of fatty acids</b>	Emulsifiers, stabilizers, thickeners, and gelling agents	Produced synthetically from glycerol and fatty acids from edible fats. The fats can come from animals, such as pigs.
E 476	<b>Polyglycerolpolyricinoleat</b>	Emulsifiers, stabilizers, thickeners, and gelling agents	Made synthetically from castor oil and glycerol. Glycerol can come from animal fats, such as pig.
E 477	<b>Propyleneglycol esters of fatty acids</b>	Emulsifiers, stabilizers, thickeners, and gelling agents	Produced synthetically from propane-1,2-diol (propylene glycol) and fatty acids from edible fats. The fats can come from animals, such as pigs.
E 479b	<b>Esterified soy oil</b>	Emulsifiers, stabilizers, thickeners, and gelling agents	Made synthetically from soybean oil and glycerides. The glycerides can come from animal fats, such as pigs.
E 481	<b>Natrium -stearoyllactylate</b>	Emulsifiers, stabilizers, thickeners, and gelling agents	Made synthetically from lactic acid and stearic acid. The stearic acid may possibly come from animal fat, such as pig.

E 482	<b>Calcium-stearoyllactylate</b>	Emulsifiers, stabilizers, thickeners, and gelling agents	Made synthetically from lactic acid and stearic acid. The stearic acid may possibly come from animal fat, such as pig.
E 483	<b>Stearyltartrate</b>	Emulsifiers, stabilizers, thickeners, and gelling agents	Made synthetically from stearic acid and tartaric acid. Stearic acid may possibly come from animal fats, such as pig.
E 491	<b>Sorbitan monostearate</b>	Emulsifiers, stabilizers, thickeners, and gelling agents	Made synthetically from sorbitol and stearic acid. The fatty acids can come from animal fats, such as pig.
E 492	<b>Sorbitan tristearate</b>	Emulsifiers, stabilizers, thickeners, and gelling agents	Made synthetically from sorbitol and stearic acid. The fatty acids can come from animal fats, such as pig.
E 493	<b>Sorbitan monolaurate</b>	Emulsifiers, stabilizers, thickeners, and gelling agents	Made synthetically from sorbitol and stearic acid. The fatty acids can come from animal fats, such as pig.
E 494	<b>Sorbitan monooleate</b>	Emulsifiers, stabilizers, thickeners, and gelling agents	Made synthetically from sorbitol and stearic acid. The fatty acids can come from animal fats, such as pig.
E 495	<b>Sorbitan monopalmitate</b>	Emulsifiers, stabilizers, thickeners, and gelling agents	Made synthetically from sorbitol and stearic acid. The fatty acids can come from animal fats, such as pig.
E 570	<b>Stearic acid and stearates</b>	Lump prevention, stabilizer	The fatty acids can be produced from animal fats, such as pig.
E 626	<b>Guanylic acid</b>	Flavour enhancer	Guanylic acid is found naturally in many foods, such as meat. Also called nucleic acids. The acid is also produced from yeast extract or synthetically.
E 627	<b>Disodium guanylate</b>	Flavour enhancer	Salt of Guanylic acid (E 626). Guanylic acid is found naturally in many foods, such as meat. The acid is also produced from yeast extract or synthetically.
E 628	<b>Dipotassium guanylate</b>	Flavour enhancer	Salt of Guanylic acid (E 626). Guanylic acid is found naturally in many foods, such as meat. The acid is also produced from yeast extract or synthetically.
E 629	<b>Calcium guanylate</b>	Flavour enhancer	Salt of Guanylic acid (E 626). Guanylic acid is found naturally in many foods, such as meat. The acid is also produced from yeast extract or synthetically.
E 630	<b>Inosinic acid</b>	Flavour enhancer	Inosinic acid is found naturally in many foods, such as meat. Also called nucleic acids. The acids are also produced from yeast extract or synthetically.
E 631	<b>Disodium inosinate</b>	Flavour enhancer	Salt of Inosinic acid (E 630). Inosinic acid is found naturally in many foods, such as meat. The acids are also produced from yeast extracts or synthetic.
E 632	<b>Dipotassium inosinate</b>	Flavour enhancer	Salt of Inosinic acid (E 630). Inosinic acid is found naturally in many foods, such as meat. The acids are also produced from yeast extracts or synthetic.
E 633	<b>Calcium inosinate</b>	Flavour enhancer	Salt of Inosinic acid (E 630). Inosinic acid is found naturally in many foods, such as meat. The acids are also produced from yeast extracts or synthetic.

E 634	<b>Calcium 5 'ribonucleotides</b>	Flavour enhancer	Guanylic acid and Inosinic acid are found naturally in many foods, for example meat. Also called nucleic acids. The acids are produced by yeast extract or synthetic. The salts are made from the acids.
E 635	<b>Disodium-5'-ribonucleotide</b>	Flavour enhancer	Guanylic acid and Inosinic acid are found naturally in many foods, for example meat. Also called nucleic acids. The acids are produced by yeast extract or synthetic. The salts are made from the acids.
E 901	<b>Bees wax</b>	Surface treatment agents	Natural wax extracted from beeswax cakes. Bees produce wax through their ceriparous glands located in the abdomen.
E 904	<b>Shellac</b>	Surface treatment agents	Resin secreted by the female lac bug, <i>Laccifer lacca</i> Kerr.
E 920	<b>L-cysteine</b>	Flour treatment agent	It is found in high concentration in hair and horns.
E 966	<b>Lactitol</b>	Sweetener	Sugar alcohol. Made from the natural sugar lactose (milk sugar).
E 1105	<b>Lysozyme</b>	Preservative	Enzyme made from egg white.
E 1517	<b>Glyceryl diacetate</b>	Other additives	Also applies to Diacetin. Synthetically made from glycerol and acetic acid.
E 1518	<b>Glyceryl triacetate</b>	Other additives	Also applies to Triacetin. Synthetically made from glycerol and acetic acid.

APPENDIX I is based on information obtained from *Regulation (EC) No 1333/2008 of the European Parliament and of the Council*.

## APPENDIX II – EXAMPLES OF INGREDIENTS WHICH HAVE OR MAY HAVE ANIMAL ORIGIN

Name	Production/origin
<b>Alanine</b>	Amino acid from animals or plants. Vegetable and synthetic alternatives are available.
<b>Albumen</b>	The albumen is usually made of egg whites, but also of milk, blood and vegetable tissues and fluids.
<b>Aminosuccinate acid</b>	May come from animals or plants. Synthetic alternatives are available.
<b>Amino acids</b>	Made from animals or plants. Vegetable and synthetic alternatives are available.
<b>Amylase</b>	Enzyme from the pig's pancreas. Synthetic alternative available.
<b>Animal fats/oils</b>	Animal fat can come from slaughterhouses, and the fats can be, for example, tallow, lard, and marine fat.
<b>Arachidonic acid</b>	A liquid fatty acid found in the liver, brain, and glands of all animals. Most often extracted from the liver of animals.
<b>Arachidyl proprionate</b>	A liquid fatty acid found in the liver, brain, and glands of all animals. Most often extracted from the liver of animals.
<b>Aspartic acid</b>	May come from animals or plants. Synthetic alternative available.
<b>Biotin</b>	Vitamin H. Included in the B vitamin complex. Can be extracted from yeast, egg yolk, milk, and liver.
<b>Blood</b>	From animals.
<b>Bone char</b>	Made from animal bones from slaughtered animals.
<b>Bone meal</b>	Powdered animal bones.
<b>Calciferol / vitamin D3</b>	Produced from lanolin or fish oil.
<b>Casein</b>	An acid that occurs in cow's milk as calcium salt and can be precipitated by acidification.
<b>Caviar</b>	Fish eggs, taken from fish.
<b>Cholesterin</b>	Fat excreted from the sebaceous glands of sheep. It is a mixture of many different esters, which are made up of fatty acids or similar acids as well as water-soluble alcohols. Vegetable alternatives are vegetable fats.

<b>Cystin</b>	An amino acid found in urine and horsehair.
<b>Fish liver oil</b>	Extracted from fish liver.
<b>Gelatine</b>	Obtained when cooking animal skins or cleaned animal bones.
<b>Glutamic acid</b>	An amino acid in plant and animal tissues. Vegetable alternative available.
<b>Honey</b>	Bees make honey from flower nectar and other plant juices. In that process, enzymes from the bees' saliva are mixed into the nectar and the sugars are broken down into the sugars, fructose and dextrose, of which the honey is mostly composed.
<b>Isinglass</b>	From the gallbladder of some tropical fish.
<b>Lactose</b>	Milk sugar.
<b>Lanolin</b>	Fat excreted from the sebaceous glands of sheep. It is a mixture of many different esters, which are made up of fatty acids or similar acids as well as water-soluble alcohols.
<b>Lard</b>	Fat obtained from pig intestines, ribs and tissues around the kidneys.
<b>Linoleic acid</b>	An essential fatty acid. Vegetable alternative available.
<b>Lipase</b>	Enzyme from lamb and calf stomachs.
<b>Lipids</b>	Fats and fatty substances from animals or plants. Vegetable alternative available.
<b>Marine oil</b>	Fat from fish and sea mammals.
<b>Milk protein</b>	Extracted from milk, mainly cow's milk.
<b>Nucleic acid</b>	From cell nuclei, both animal and vegetable. Vegetable alternative available.
<b>Pepsin</b>	From stomachs of pigs.
<b>Polypeptides</b>	Extracted from slaughterhouse remains. Alternatives are vegetable proteins and enzymes.
<b>Propolis</b>	A kind of antibacterial glue produced by bees. Propolis is also called bikitt and is produced by honeybees using their saliva to chew together a mixture of resin from trees and plants, with seeds and pollen to prepare the hive.

<b>Renin</b>	Enzyme from calf stomachs.
<b>Rennet</b>	Enzyme that is traditionally extracted from calf stomach (renin) and pig stomach (pepsin).
<b>Royal Jelly</b>	Nutritious protein mixture that worker bees feed the bee larvae with, especially the one that will become the new queen. The bees produce the royal jelly from nectar, honey, and pollen.
<b>Tallow</b>	<u>Animal tallow</u> : Obtained from bulls, oxen, cows, calves, sheep, goats, etc. Consists mainly of glycerol ester of stearic, palmitic, and oleic acid. <u>Vegetable plant tallow</u> : Extracted from tropical plant species, such as oil palm, coconut palm, cocoa tree, and nutmeg.
<b>Tran</b>	Extracted from whales, seals, and fish.
<b>Vitamin A</b>	Can be made from fish liver oil, egg yolks, butter etc. Vegetable and synthetic alternatives are available.
<b>Whey</b>	When making cheese, you first let the milk coagulate (solidify) by adding rennet or acid (curdling). Most of the milk's egg whites and fat then pass into the formed curd. The aqueous residue that remains is called whey and contains most of the barley (calf stomach).

### ANNEX III – RISK ASSESSMENT OF RAW MATERIALS AND SUPPLIERS

Supplier	Raw material	Origin of the raw material	Known cases of presence of animal content, GMOs	Detectability of animal products	The relationship with the supplier	Existing certifications for the supplier	Continuous purchases or spot purchasing	Financial incentives	Overall risk assessment Low Medium High	Actions taken