PLANT BASED STANDARD

issue 2.1, 2023

PlantBasedStandard.com

INTRODUCTION

The purpose of this standard is to make it easier for consumers 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 it in a clear and efficient way.

There is a growing demand for plant-based foods that, according to forecasts, will continue in the coming decades. Through available research results and reports, consumers have become more informed about the benefits of reducing the consumption of animal products and what positive effects it can have both for their own health and for the earth's climate.

The standard is designed with basic requirements as well as specific requirements for each user group such as producers, operators without physical handling of unpackaged foods, grocery stores, restaurants, cafes and hotels.

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

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TERMS & DEFINITIONS

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

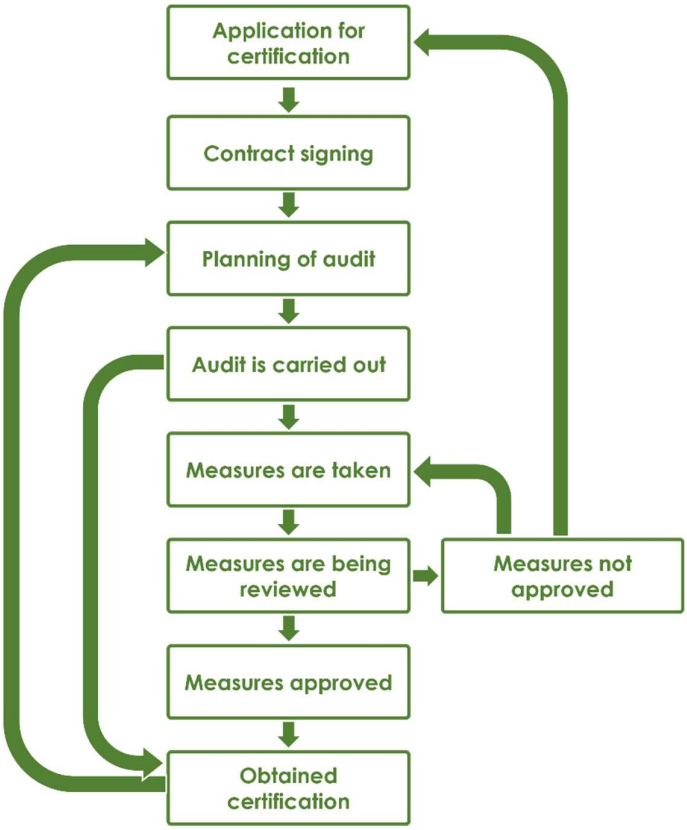
Term or abbreviation	Definition
Animal products	Products derived from animal bodies, including eggs and dairy products.
Brand user	The legal person who uses the label, i.e., the trademark owner.
BRC – Global Standard for Food Safety	A global certification for food safety.
FSSC 22000	*Food Safety System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

THE CERTIFICATION PROCESS

The first step in the certification process is to apply for certification at www.plantbasedstandard.com. An agreement is then signed between the brand user and the standard owner. After that an audit is performed by a certification body. If there are deviations during the audit, the business must send in evidence of measures taken. These are evaluated by the certification body after which a decision is made on certification or if the measures are not sufficient. In cases where measures need to be evaluated 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 evidence received of measures is deemed insufficient, the result of the audit will be rejected, and a new audit needs to be carried out.

When the measures taken have been approved, certification is obtained. Thereafter, regular audits/self-assessment take place at 1–2-year intervals.

The certification process is presented in the following flow chart:



For operators without physical handling of unpackaged foods, connection is made to already certified producer where the current products are manufactured. Except that the producer is checked according to the certification process described above, the current business is also checked through annual self-audits to ensure that the standard requirements is fulfilled.

1. TERMS AND CONDITIONS FOR JOINING

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

An agreement must be signed between the brand user and the standard owner before review is initiated.

The operator must be registered with the associated food safety control authority. Reports from inspections and controls must be available on request. Registration certificate or equivalent must be available.

1.1 CERTIFICATION FOR FOOD SAFETY

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

- ISO 22000
- FSSC 22000
- IFS Food
- BRC - Global Standard for Food Safety
- Another standard that includes HACCP

Certificates for existing certification must be attached to the application together with requested information of the operator.

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

If the certification described in point 1.1 above does not exist for the operator, the following applies:

A HACCP system must be implemented. Functional routines must exist and be implemented for the following basic conditions as a minimum:

- Competence
- Personal hygiene
- Cleaning
- Water quality
- Waste management
- Maintenance of premises and equipment
- Pest control

The existence of these routines must be assured in connection with the joining to the label standard scheme and will be checked during the audits.

1.3 IN CASE OF NO CERTIFICATION FOR OPERATORS WITHOUT PHYSICAL HANDLING OF UNPACKAGED FOODS

If the certification described in point 1.1 above does not exist for the operator, the following applies:

Functional routines must exist and be implemented for the following basic conditions as a minimum.

- Competence in labeling
- Labeling routines
- Traceability
- Revocation
- Deviation management

2. BASIC REQUIREMENTS

2.1 ROUTINES AND DOCUMENTATION

The routines that exist to meet the requirements in this standard must be documented.

This symbol means that, where it appears, must be documented information which shows that the rule is met.

The routines must be reviewed at least annually and in the event of changes to the following:

- Raw materials
- Recipe
- Production methods
- Production order
- Suppliers
- Changes in the standard requirements

2.2 COMPETENCE

All staff who can in any way affect the plant-based products must be aware of this standard and its purpose and had a review of the standard.

After reviewing the standard, the knowledge obtained must be confirmed with a signature of the staff who have received the knowledge.

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

2.3 PURCHASE

This checkpoint only applies to businesses with their own production of plant-based products to be certified.

A list must be available of from which suppliers purchases are made regarding raw materials for food production and preparation of own dishes and which raw materials/raw material groups are purchased from each supplier.

A risk assessment must be carried out for all raw materials/raw material groups used in production and preparation. The risk assessment shall at least consider 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 products of animal origin
- The relationship with the supplier
- The supplier's existing certifications
- Continuous purchases or spot purchasing
- Financial incentives
- A summary of the risk of fraud with the raw material with regard to, among other things, the presence of products of animal origin, GMOs, financial incentives etc.

Where the risk is summarized as high, the measures taken must be described.

ANNEX III or equivalent document shall be used to document this risk assessment.

2.4 TRACEABILITY

This checkpoint only applies to businesses with their own production of plant-based products to be certified.

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

The traceability documentation must be available at least 12 months from the date of production or the shelf life 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 available only one step backwards to the supplier, not forwards.

2.5 SEPARATION

This checkpoint only applies to businesses with their own production of plant-based products to be certified.

Production and food handling must be planned, controlled and separated so that contamination does not occur from animal products or process aids. 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 routines to avoid accidental contamination of the product.

2.6 INGREDIENTS AND CONTENT OF THE PRODUCT

This checkpoint only applies to businesses with their own production of plant-based products to be certified.

2.6.1 General requirements

No type of animal content may be used in PBS-labeled products. This includes:

- Parts and substances from animals and products thereof, including marine animals
- Egg from egg-laying animals and products thereof
- Animal dairy products
- Honey, Propolis and Royal Jelly

PBS-certified products must not be labeled with "traces of" for any animal ingredient or additive.

2.6.2 Additives and ingredients

The food producer and operator who manufacture their own dishes must ensure that no additives or ingredients are used if they are of animal origin.
See examples in ANNEX I and ANNEX II.

2.6.3 GMO

No genetically modified food can be used in PBS-labeled 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-labeled products.

2.6.4 Process aids

No processing aids of animal origin can be used.

2.6.5 Specifications of raw materials for manufacturing

Specifications/certificates must be available for all composite ingredients, processed raw materials and those raw materials where there is a risk of animal content or GMO.

3. ADDITIONAL REQUIREMENTS FOR PRODUCERS AND OPERATORS WITHOUT PHYSICAL HANDLING OF UNPACKAGED FOODS

In addition to the basic requirements, producers and operators without physical handling of unpackaged foods must also apply the requirements in this chapter.

3.1 PRODUCTS THAT CAN BE LABELED

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

3.2 PRODUCT INFORMATION

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

3.3 LABELING AND LABELING CONTROL

Products may only be PBS-labeled after registration and approval by the standard owner.

- There must be designated personnel who are responsible for labeling 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. Change also includes change of supplier and change of brand on existing ingredients.
- Monitoring that the list of ingredients and recipes match must take place at least once a year. The check must be documented.

3.4 LABELING CONTROL OF PACKAGED PRODUCTS

This checkpoint only applies to businesses with their own production of plant-based products to be certified.

Labeling control must be done on packaged products before leaving the operator who packs them. During this control, it must as a minimum be checked that the correct label/packaging is used.

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

4. ADDITIONAL REQUIREMENTS FOR OPERATORS WITHOUT PHYSICAL HANDLING OF UNPACKAGED FOODS

In addition to the basic requirements and the requirements in point 3, operators without physical handling of unpackaged foods must also apply the requirements in this chapter.

4.1 VALID SUPPLIER CERTIFICATE

The operator must be able to present a valid PBS certificate from the manufacturer as well as an appendix with products to which the certification applies.

4.2 ADDITIONAL CERTIFIED PRODUCTS

For new plant-based products that are labeled with the PBS logo, and that have been added after the last audit, documentation is required according to point 8.1.1 that shows approval from the standard owner.

5. ADDITIONAL REQUIREMENTS FOR RESTAURANTS, CAFES AND HOTELS

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

5.1 MINIMUM SUPPLY

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

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

Café - two different kinds of pastries. two simpler cold or hot dishes, for example salads and sandwiches of various kinds.

Hotel – two main courses for both lunch and dinner.

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 yoghurt
- Müsli
- Two hot dishes

For self-made dishes, the requirements for producers must also be applied. If a dish is not home-made, it must be PBS-certified by the manufacturer in order to be included in the list above.

5.2 CONSUMER INFORMATION

The consumer must be informed about which products are PBS-labeled by the label being on menus or other signage belonging to the products.

When serving buffet, the PBS-label must be nearby the home-made dishes/food.

6. ADDITIONAL REQUIREMENTS FOR GROCERY STORES

In addition to the basic requirements, grocery stores must also apply the requirements in this chapter. The stores that have their own production of plant-based products must also follow the requirements in Chapter 2 and Chapter 3.

6.1 ASSORTMENT MANAGERS

At least two people must be assigned responsibility for the assortment of plant-based foods. Assortment managers must ensure that items under Category 5 "Whole and semi-finished products" in the list under checkpoint 5.2 do not contain any ingredients of animal origin to be included in the assortment. Items that are PBS-labeled do not need to be checked by the store.

6.2 MINIMUM ASSORTMENT

In addition to a full range of fruit and vegetables, the assortment in this chapter must be available as a minimum in the store. The assortment described below must always be available in the store, except for special circumstances which the store does not control that do not make it possible.

It is always permitted that a total of three items (☐cross) are not in the store's assortment under ordinary circumstances.

For stores that only have e-commerce, the same assortment requirements apply and the minimum assortment must be available to order on the web.

Category 1 - Legumes

Beans - three different varieties dry and three different varieties canned beans. (eg soy, brown, white, black, kidney, etc.)

- ☐ dry
- ☐ canned

Lentils - three different varieties dry and three different varieties preserved. (red, green or yellow)

- ☐ dry
- ☐ canned

Peas - three different varieties dry and three different varieties canned. (chickpeas, yellow peas green peas)

- ☐ dry
- ☐ canned

Category 2 - Groats, seeds and flour

☐ Buckwheat
☐ Bulgur
☐ Chia seeds
☐ Couscous
☐ Hemp seeds
☐ Hirs
☐ Chickpea flour
☐ Coconut flour
☐ Barley groats
☐ Flaxseed
☐ Cornmeal
☐ Polenta (corn grits)
☐ Pumpkin seeds
☐ Quinoa
☐ Brown rice
☐ Sesame seeds
☐ Sunflower seeds

Category 3 - Nuts

☐ Cashews
☐ Hazelnuts
☐ Almonds
☐ Pecans
☐ Pine nuts
☐ Pistachios
☐ Walnuts

Category 4 - Syrups and oils

☐ Agave syrup
☐ Maple syrup
☐ Cold pressed rapeseed oil
☐ Coconut oil
☐ Sesame oil

Category 5 - Whole and semi-finished products

Plant-based foods:

- ☐ Bread - two varieties
- ☐ Ice cream
- ☐ Confectionery
- ☐ Snacks

Plant-based alternatives to:

- ☐ Milk
- ☐ Margarine
- ☐ Yogurt
- ☐ Cream
- ☐ Creme fraiche

Plant-based sandwich toppings - at least three different options

- ☐ Option 1
- ☐ Option 2
- ☐ Option 3

Plant-based alternatives to:

- ☐ Sausage
- ☐ Minced meat
- ☐ Meatballs
- ☐ Hamburgers

Category 6 - Miscellaneous

☐ Agar
☐ Peanut butter
☐ Iron supplements
☐ Coconut milk
☐ Coconut cream
☐ Nutritional yeast
☐ Panko bread crumbs
☐ Pectin
☐ Rice vinegar
☐ Vitamin supplement B12
☐ Vitamin supplement D
☐ Plant-based broth
☐ Zinc supplement

6.3 UNPACKAGED PRODUCTS SOLD BY WEIGHT

Unpackaged products sold by weight may be PBS-labeled on exposure if the products sold are PBS-certified.

6.4 CONSUMER INFORMATION

The consumer must be informed at the store entrance that the store is PBS-certified by the label being clearly visible at the entrance.

Information must be available so that the customer can read about what the Plant Based Standard certification is about.

For stores that only have e-commerce, the PBS-label must be on the website.

7. USE OF THE PBS-LABEL

The label can be downloaded in various digital formats at www.plantbasedstandard.com

7.1 AREA OF USE

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

- **Food products** - On certified and reviewed food products. Labeling may be used on:
  - Consumer packaging
  - Outer packaging
  - Shelf edge labels
  - Signs and display materials
- **Advertising and marketing**
- **Websites** – On certified operators' websites either as part of a presentation of certified products or in an overall context about the operator.
- **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 manner which means that products that are not certified may be perceived as such.

7.2 COLOR AND LAYOUT

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

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

The color codes to be used are:

Color	RGB	CMYK	Pantone	Web
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 appear in printed format is 13 mm in diameter. The shape of the label must be a circle and must not be distorted. On packaging where the smallest surface is less than 50 cm^2, the mark may be 10 mm in diameter.

7.3 INCORRECT LABELING

The label may not be used on packaging and packaging materials or in other places unless the product is PBS-certified.

8. REQUIREMENTS AND TERMS

8.1 COMMUNICATION

The brand user is obliged to inform the standard owner in the following events:

- New contact information
  - Contact person
  - Email address
  - Telephone number
  - Visiting address
  - Postal address
  - Invoice address
- Labeling 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 standard owner within one day after the recall and other events described above must be notified within five working days.

8.1.1 New products and dishes

If on-site audit has taken place and new PBS products/dishes are added, the standard owner must be notified before these can be PBS-labeled. Information about the ingredients of the products/dishes must be sent to the standard owner for review. Producers must also submit the process description if it differs from previous manufacturing processes.

8.1.2 Publication and register

Certified operators and products are listed at www.plantbasedstandard.com

8.2 CONTROL

Compliance checks of the standard requirements are performed through on-site audits at the operator, self-assessments and through sampling. The audits are performed current by the certification bodies accredited to ISO 17065 that have an agreement with the standard owner.

Audits take place as notified or unannounced visits. During the unannounced visits, the auditor must be allowed to enter the premises.

For the first two years, an audit takes place on-site at the site of the operator. After that an on-site audit is carried out every two years and a self-assessment of the company is carried out the years when an on-site audit is not carried out. This is submitted to PBS for review and feedback.

For companies without physical handling of unpackaged food, self-assessment usually take place every year. This is because the manufacturer of the certified products is already checked on site through on-site audits, carried out by certification bodies. Random on-site audits can also occur for these operators.

Sampling is done by the standard owner or on behalf of the standard owner, on products that are sold and/or marketed as plant-based, with the aim of ensuring that no products of animal origin are present in the products.

8.2.1 Deviations

Deviations during the first audit must be rectified and approved before label use is permitted and no later than within eight weeks from the audit date.

In surveillance audits and controls, deviations must be rectified within 20 working days.

For deviations that can be approved on remote, the operator can send proof of implemented corrections and corrective actions. For deviations that cannot be approved on remote, follow-up visits are made.

Control or sampling that shows that certified products contain animal products or GMOs is seen as a deviation and must be remedied within five working days.

8.3 SANCTIONS

8.3.1 Reasons for sanctions

If necessary, the standard owner can issue sanctions against the brand user. Examples of phenomena that can lead to sanctions are the following:

- Notified or unannounced audits/inspections where access to the premises or the opportunity to carry out the inspection is denied.
- Deviations that are not remedied within given time frames.
- Incorrectly labeled products on the market that are not promptly remedied after detection.

Other circumstances which, within the reach of the brand user's responsibility, may adversely affect the standard's reputation or undermine its credibility may also lead to sanctions.

8.3.2 Types of sanctions

The sanctions that can be applied are as follows:

- Removal of labeling – Labeled products must remove the PBS label. Withdrawal of products on the market may be relevant.
- Suspension – The right to use the label or in any way refer to the label or certification is lost. Suspension applies until the standard owner notifies in writing that it will cease.

Both the operator as a legal entity as well as a representative of the legal entity may be subject to suspension.

8.4 REVISION OF THE STANDARD

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

The standard owner informs about changes in the standard at least six months before the changes take effect. When the new issue come into force, the operator must follow them without delay.

8.5 PAYMENT

The PBS-label may be used under the condition that payment is received by the standard owner according to the current price list for license fee.

8.6 CONFIDENTIALITY

The standard owner and the certification bodies that carry out the control are subject to confidentiality regarding the information obtained by the brand user and associated businesses and which 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	**Carmine, Cochineal**	color, Red	The pigment is produced from carminic acid, which is extracted from the scale insect cochineal scale (Dactylopius coccus costa).
E 304	**Fatty acid esters of ascorbic acid**	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	**Lecithine**	Antioxidants, emulsifiers	Occurs naturally in all cells, abundant in for example egg yolk. Extracted mainly from soybeans, rapeseed and sunflower seeds.
E 422	**Glycerol**	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	**Polyoxyethylene (40) stearate**	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	**Polyoxyethylene-20-sorbitan monolaurate**	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	**Polyoxyethylene-20-sorbitan mono-oleate**	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	**Polyoxyethylene-20-sorbitan monopalmitate**	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	**Polyoxyethylene-20-sorbitan monostearate**	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	**Polyoxyethylene-20-sorbitan tristearate**	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	**Ammonium phosphatide**	Emulsifiers, stabilizers, thickeners and gelling agents	Made from edible fats and oils and phosphorus compounds. May be of animal origin.
E 445	**Glycerol ester of wood rosin**	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	**Sodium/potassium and calcium salts of fatty acids**	Emulsifiers, stabilizers, thickeners and gelling agents	Salts of fatty acids. Can be made of fat from animals, such as pigs.
E 470b	**Magnesium salts of fatty acids**	Emulsifiers, stabilizers, thickeners and gelling agents	Salts of fatty acids. Can be made of fat from animals, such as pigs.
E 471	**Mono- and di-glycerides of fatty acids**	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	**Acetic Acid Esters of Mono and Diglycerides**	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	**Lactic Acid Esters of Mono and Diglycerides**	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	**Citric Acid Esters of Mono and Diglycerides**	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	**Tartaric Acid Esters of Mono and Diglycerides**	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	**Di-acetyl Tartaric Acid Esters of Mono and Diglycerides**	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	**Mixed acedic and tartaric esters of mono and diglyceride of fatty acids**	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	**Sugar esters of fatty acids**	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	**Sugarglycerides**	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	**Polyglycerol esters of fatty acids**	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	**Polyglycerolpolyricinoleat**	Emulsifiers, stabilizers, thickeners and gelling agents	Made synthetically from castor oil and glycerol. Glycerol can come from animal fats, such as pig.
E 477	**Propyleneglycol esters of fatty acids**	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	**Esterified soy oil**	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	**Natrium -stearoyllactylate**	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	**Calcium-stearoyllactylate**	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	**Stearyltartrate**	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	**Sorbitan monostearate**	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	**Sorbitan tristearate**	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	**Sorbitan monolaurate**	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	**Sorbitan monooleate**	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	**Sorbitan monopalmitate**	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	**Stearic acid and stearates**	Lump prevention, stabilizer	The fatty acids can be produced from animal fats, such as pig.
E 626	**Guanylic acid**	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	**Disodium guanylate**	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	**Dipotassium guanylate**	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	**Calcium guanylate**	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	**Inosinic acid**	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	**Disodium inosinate**	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	**Dipotassium inosinate**	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	**Calcium inosinate**	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	**Calcium 5 'ribonucleotides**	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	**Disodium-5'-ribonucleotide**	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	**Bees wax**	Surface treatment agents	Natural wax extracted from beeswax cakes. Bees produce wax through their ceriparous glands located in the abdomen.
E 904	**Shellac**	Surface treatment agents	Resin secreted by the female lac bug, Laccifer lacca Kerr.
E 920	**L-cysteine**	Flour treatment agent	It is found in high concentration in hair and horns.
E 966	**Lactitol**	Sweetener	Sugar alcohol. Made from the natural sugar lactose (milk sugar).
E 1105	**Lysozyme**	Preservative	Enzyme made from egg white.
E 1517	**Glyceryl diacetate**	Other additives	Also applies to Diacetin. Synthetically made from glycerol and acetic acid.
E 1518	**Glyceryl triacetate**	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
Alanine	Amino acid from animals or plants. Vegetable and synthetic alternatives are available.
Albumen	The albumen is usually made of egg whites, but also of milk, blood and vegetable tissues and fluids.
Aminosuccinate acid	May come from animals or plants. Synthetic alternatives are available.
Amino acids	Made from animals or plants. Vegetable and synthetic alternatives are available.
Amylase	Enzyme from the pig's pancreas. Synthetic alternative available.
Animal fats/oils	Animal fat can come from slaughterhouses, and the fats can be, for example, tallow, lard and marine fat.
Arachidonic acid	A liquid fatty acid found in the liver, brain and glands of all animals. Most often extracted from the liver of animals.
Arachidyl proprionate	A liquid fatty acid found in the liver, brain and glands of all animals. Most often extracted from the liver of animals.
Aspartic acid	May come from animals or plants. Synthetic alternative available.
Biotin	Vitamin H. Included in the B vitamin complex. Can be extracted from yeast, egg yolk, milk and liver.
Blood	From animals.
Bone char	Made from animal bones from slaughtered animals.
Bone meal	Powdered animal bones.
Calciferol / vitamin D3	Produced from lanolin or fish oil.
Casein	An acid that occurs in cow's milk as calcium salt and can be precipitated by acidification.
Caviar	Fish eggs, taken from fish.
Cholesterin	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.

Cystin	An amino acid found in urine and horsehair.
Fish liver oil	Extracted from fish liver.
Gelatine	Obtained when cooking animal skins or cleaned animal bones.
Glutamic acid	An amino acid in plant and animal tissues. Vegetable alternative available.
Honey	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.
Isinglass	From the gallbladder of some tropical fish.
Lactose	Milk sugar.
Lanolin	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.
Lard	Fat obtained from pig intestines, ribs and tissues around the kidneys.
Linoleic acid	An essential fatty acid. Vegetable alternative available.
Lipase	Enzyme from lamb and calf stomachs.
Lipids	Fats and fatty substances from animals or plants. Vegetable alternative available.
Marine oil	Fat from fish and sea mammals.
Milk protein	Extracted from milk, mainly cow's milk.
Nucleic acid	From cell nuclei, both animal and vegetable. Vegetable alternative available.
Pepsin	From stomachs of pigs.
Polypeptides	Extracted from slaughterhouse remains. Alternatives are vegetable proteins and enzymes.
Propolis	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.

Renin	Enzyme from calf stomachs.
Rennet	Enzyme that is traditionally extracted from calf stomach (renin) and pig stomach (pepsin).
Royal Jelly	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.
Tallow	Animal tallow: Obtained from bulls, oxen, cows, calves, sheep, goats, etc. Consists mainly of glycerol ester of stearic, palmitic and oleic acid. Vegetable plant tallow: Extracted from tropical plant species, such as oil palm, coconut palm, cocoa tree and nutmeg.
Tran	Extracted from whales, seals and fish.
Vitamin A	Kan tillverkas av fiskleverolja, äggulor, smör m.m. Can be made from fish liver oil, egg yolks, butter etc. Vegetable and synthetic alternatives are available.
Whey	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