

## FINISHED BOVINE LEATHER

PRODUCT CATEGORY CLASSIFICATION: UN CPC 2912

2011:13

VERSION 3.0.5

VALID UNTIL: 2025-11-22





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# 1 INTRODUCTION

This document constitutes Product Category Rules (PCR) developed in the framework of the International EPD® System: a programme for type III environmental declarations<sup>1</sup> according to ISO 14025:2006. Environmental Product Declarations (EPD) are voluntary documents for a company or organisation to present transparent information about the life cycle environmental impact for their goods or services.

The rules for the overall administration and operation of the programme are the General Programme Instructions, publically available at [www.environdec.com](http://www.environdec.com). A PCR complements the General Programme Instructions and the standards by providing specific rules, requirements and guidelines for developing an EPD for one or more specific product categories (see Figure 1). A PCR should enable different practitioners using the PCR to generate consistent results when assessing products of the same product category.

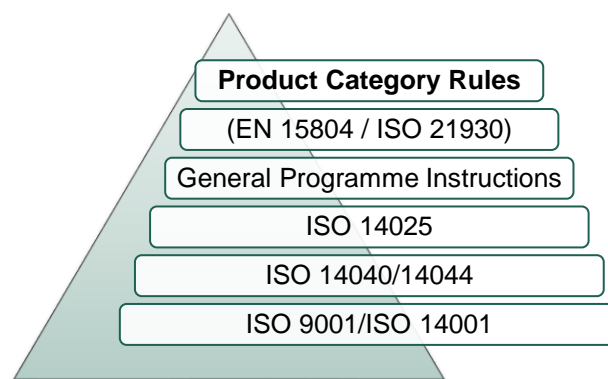


Figure 1. Illustration PCR in relation to the hierarchy of standards and other documents.

Within the present PCR, the following terminology is adopted:

- The term “shall” is used to indicate what is obligatory.
- The term “should” is used to indicate a recommendation, rather than a requirement.
- The term “may” or “can” is used to indicate an option that is permissible

For the definition of terms used in the document, see the normative standards.

A PCR is valid for a pre-determined period of time to ensure that it is updated at regular intervals. The latest version of the PCR is available via [www.environdec.com](http://www.environdec.com). Stakeholder feedback on PCRs is very much encouraged. Any comments on this PCR document may be given via the PCR Forum at [www.environdec.com](http://www.environdec.com) or sent directly to the PCR moderator during its development or during the period of validity.


Any references to this document should include the PCR registration number, name and version.

The programme operator maintains the copyright of the document to ensure that it is possible to publish, update when necessary, and available to all organisations to develop and register EPDs. Stakeholders participating in PCR development should be acknowledged in the final document and on the website.

<sup>1</sup> Type III environmental declarations in the International EPD® System are referred to as EPD, Environmental Product Declarations.

## 2 GENERAL INFORMATION

### 2.1 ADMINISTRATIVE INFORMATION

Name:	Finished bovine leather
Registration number and version:	2011:13, Version 3.0.5
Programme:	 The International EPD® System
Programme operator:	EPD International AB, Box 210 60, SE-100 31 Stockholm, Sweden. Website: <a href="http://www.environdec.com">www.environdec.com</a> E-mail: <a href="mailto:info@environdec.com">info@environdec.com</a>
PCR moderator:	Daniele Pernigotti, Aequilibria S.r.l., <a href="mailto:dpernigotti@aequilibria.com">dpernigotti@aequilibria.com</a>
PCR Committee:	Aequilibria S.r.l.
Date of publication and last revision:	2025-05-19 (Version 3.0.5)  A version history is available in Section 8.
Valid until:	2025-11-22
Schedule for renewal:	<p>A PCR is valid for a pre-determined period of time to ensure that it is updated at regular intervals. When the PCR is about to expire the PCR moderator shall initiate a discussion with the Secretariat how to proceed with updating the document and renewing its validity.</p> <p>A PCR document may be revised during its period of validity provided significant and well-justified proposals for changes or amendments are presented. See <a href="http://www.environdec.com">www.environdec.com</a> for up-to-date information and the latest version.</p>
Standards conformance:	<ul style="list-style-type: none"><li>General Programme Instructions of the International EPD® System, version 3.01, based on ISO 14025 and ISO 14040/14044</li><li>PCR Basic Module, CPC Division 29 Leather and leather products; footwear, version 3.01, dated 2018-11-06</li></ul>
PCR language(s):	This PCR was developed and is available in English. In case of translated versions the English version takes precedence in case of any discrepancies.

### 2.2 SCOPE OF PCR

#### 2.2.1 PRODUCT CATEGORY DEFINITION AND DESCRIPTION

This document provides Product Category Rules (PCR) for the assessment of the environmental performance of “Finished bovine leather” and the declaration of this performance by an EPD. The product category corresponds to UN CPC 2912 “Other leather, of bovine or equine animals, without hair on”.

This PCR excludes the UN CPC product class 2911 “Chamois leather, patent leather and patent laminated leather; metalized leather”.

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This PCR complies with the General Programme Instruction of the International EPD® System, Version 3.01, dated 2019-09-18. It is based on the requirements and guidelines given in "PCR Basic Module, CPC Division 29: Leather and leather products; footwear", version 2.0, dated 2018-11-06.

The product group under study in this PCR document is "Finished bovine leather", which is part of the product group "Tanned or dressed leather; composition leather" and of the product class "Other leather, of bovine or equine animals, furless". This PCR is applicable for finished bovine leather which is produced from rawhides coming from both adult bovines and calves.

This is defined in the UN CPC classification as class 2912:

- Division: 29 - Leather and leather products; footwear
  - Group: 291 - Tanned or dressed leather; composition leather
    - **Class: 2912 - Other leather, of bovine or equine animals, furless**

More information about the product group and the United Nation Statistics Division - Classification Registry CPC codes can be found at <http://unstats.un.org/unsd/cr/registry/regcs.asp?Cl=25&Lg=1&Co=2912>.

This PCR excludes the following related UN CPC classes:

- Class 2911 -- "Chamois leather, patent leather and patent laminated leather; metalized leather";
- Class 2913 - Other leather, furless (including sheep, lamb, goat or kid skin leather); composition leather with a basis of leather or leather fibre.

The product group and UN CPC code shall be specified in the EPD.

The type of product under study in this PCR is "Finished bovine leather", intended as a finished product of the tanning sector and ready to become an input as an intermediate product for further transformation in various manufacturing sectors.

The leather can be used as an intermediate product for different kinds of goods such as furniture, clothing, automotive, footwear etc. Since the application of "Finished bovine leather" in final consumer products varies substantially, no specific function has been defined for the product.

This PCR can be used for all kinds of finished bovine leather types from a single manufacturing facility in any one of the following ways:

A) For an EPD of a single product (i.e. finished bovine leather constituting a specific article).

B) For an EPD of a family of similar and homogeneous products that are part of the same production category (automotive, footwear, etc.). In this case the LCA study shall be based on the average finished bovine leather production for the family (e.g. all types of finished bovine leather for the footwear manufacturing sector produced by the tannery in one year). In that case it shall be clearly stated in the EPD that the result does not refer to a specific product of finished leather but to the average production of a leather category.

C) For an EPD of the average production of all kinds of finished bovine leather products produced in a tannery in a defined time period. In that case it shall be clearly stated in the EPD that the result does not refer to a specific product or product category of finished leather but to the average production of the tannery.

In the LCA study underlying the EPD shall be specified which of the three above approaches is used.

This PCR is compatible with different tanning methodologies such as wet blue, wet white, vegetable tanning, etc. In the LCA study underlying the EPD shall be specified which tanning method is used for the finished bovine leather analysed, and the finished bovine leather shall be treated in homogeneous groups, depending on the tanning methodology applied.

In the following chapters, for editorial simplification, the tanned hide is called tanned wet blue. Though in the case of the LCA study it is applied to leather tanned with other methodologies such as wet white or vegetable tanning, the descriptor shall be changed accordingly (for example in the process flow diagram).

The trade name (if relevant) of the product shall be declared. Relevant Type I and Type II environmental labels awarded to the product may be stated. Any claims made about the product must be verifiable.

In case the EPD is done for the average leather production of the tannery (case C, see clause 2), inside the different finished bovine leather categories changes in product quality (as thickness, colour, suppleness, stretch....) are possible as a function of specific customer requirements.

A single EPD is allowed if these changes do not cause differences of more than 10% from the normalized impacts of the referenced average product. If differences are more than 10%, a single EPD may still be allowed, if the result tables are divided into several columns, each corresponding to a product group for which the differences are lower than 10%.

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Analysis with respect to this threshold shall be reported in the LCA study.

## 2.2.2 GEOGRAPHICAL REGION

This PCR is applicable to be used globally.

## 2.2.3 EPD VALIDITY

An EPD based on this PCR shall be valid from its registration and publication at [www.environdec.com](http://www.environdec.com) and for a five year period starting from the date of the verification report ("approval date"), or until the EPD has been de-registered from the International EPD® System.

An EPD shall be updated and re-verified during its validity if changes in technology or other circumstances have led to:

- an increase of 10% or more of any of the indicators listed in Section 5.4.5.1,
- errors in the declared information, or
- significant changes to the declared product information, content declaration, or additional environmental information.

If such changes have occurred, but the EPD is not updated, the EPD owner shall contact the Secretariat to de-register the EPD.

### 3 PCR REVIEW AND BACKGROUND INFORMATION

This PCR was developed in accordance with the process described in the General Programme Instructions of the International EPD® System, including PCR review and open consultation.

#### 3.1 PCR REVIEW

##### 3.1.1 VERSION 1.0

Version 1.0 of the PCR was reviewed by the Technical Committee of the International EPD System.

##### 3.1.2 VERSION 2.0

Version 2.0 of the PCR was reviewed by the Technical Committee of the International EPD System.

##### 3.1.3 VERSION 3.0

PCR review panel:	The Technical Committee of the International EPD® System. A full list of members available on <a href="http://www.environdec.com">www.environdec.com</a> . The review panel may be contacted via <a href="mailto:info@environdec.com">info@environdec.com</a> .  Members of the Technical Committee were requested to state any potential conflict of interest with the PCR moderator or PCR committee, and were excused from the review.
Chair of the PCR review:	Maurizio Fieschi
Review dates:	2020-04-22 until 2020-05-11

#### 3.2 OPEN CONSULTATION

##### 3.2.1 VERSION 1.0

This PCR was available for open consultation from 2011-05-30 until 2011-06-30.

##### 3.2.2 VERSION 2.0

This PCR was available for open consultation from 2014-11-01 until 2015-02-25

##### 3.2.3 VERSION 3.0

This draft PCR was available for open consultation from 2019-12-02 until 2020-02-02, during which any stakeholder was able to provide comments by posting on the PCR forum on [www.environdec.com](http://www.environdec.com) or by contacting the PCR moderator.

Stakeholders were invited via e-mail or other means to take part in the open consultation, and were encouraged to forward the invitation to other relevant stakeholders. The following stakeholders provided comments during the open consultation, and agreed to be listed as contributors to the PCR and at [www.environdec.com](http://www.environdec.com):

- Primiano De Rosa-Giglio, UNIC Italian Tanneries
- Gustavo Gonzalez-Quijano, Cotance
- Carlo Brondi, CNR - National Research Council

### 3.3 EXISTING PCRS FOR THE PRODUCT CATEGORY

As part of the development of this PCR, existing PCRs were considered in order to avoid overlaps in scope. The existence of such documents was checked in the public PCR listings of the following programmes based on ISO 14025 or similar:

- International EPD® System. [www.environdec.com](http://www.environdec.com).

No existing PCRs with overlapping scope were identified.

### 3.4 REASONING FOR DEVELOPMENT OF PCR

This PCR was developed in order to enable publication of Environmental Product Declarations (EPD) for this product category based on ISO 14025, ISO 14040/14044 and other relevant standards to be used in different applications and target audiences, as well as for the quantification of Carbon footprint of product according to ISO 14067.

### 3.5 UNDERLYING STUDIES

The methodological choices made during the development of this PCR (functional unit/declared unit, system boundary, allocation methods, impact categories, data quality rules, etc.) were primarily based on the following underlying studies:

- PCR UN CPC 2111 AND 2113 MEAT OF MAMMALS, 2012:11, VERSION 3.1
- PCR UN CPC 022 RAW MILK, 2013:16, VERSION 2.1
- PCR UN CPC 2912 FINISHED BOVINE LEATHER, 2011:13, VERSION 2.1
- Product Environmental Footprint Category Rules Guidance - Version 6.3 – May 2018
- PEFCR Leather – Final Version 25 April 2018
- ISO 14067:2018; Greenhouse gases - Carbon footprint of products - Requirements and guidelines for quantification;
- Gruppo Dani Spa, 2012. EPD Environmental Product Declaration - Leather for clothing, upholstery, footwear, leather goods, accessories and interior design. THE INTERNATIONAL EPD®SYSTEM
- Conceria Montebello S.p.A., 2012. EPD Dichiarazione Ambientale di Prodotto - Pelli per abbigliamento, arredamento, calzatura, pelletteria, accessori ed interior design. THE INTERNATIONAL EPD®SYSTEM
- Pelletier, N., Pirog, R., & Rasmussen, R. (2010). Comparative life cycle environmental impacts of three beef production strategies in the Upper Midwestern United States. *Agricultural Systems*, 103(6), 380–389. doi:10.1016/j.agsy.2010.03.009
- European Commission Joint Research Centre – Institute for Environment and Sustainability, 2015. JRC Technical Report - Default Approaches for Cross-Cutting Issues for the Cattle Related Product Environmental Footprint Pilots; Final draft version.
- Dani SpA, 2017. EPD Environmental Product Declaration - Leather for furniture, footwear and leather goods. THE INTERNATIONAL EPD®SYSTEM
- Dani SpA, 2018. EPD Environmental Product Declaration – Box land. THE INTERNATIONAL EPD®SYSTEM



## 4 GOAL AND SCOPE, LIFE CYCLE INVENTORY AND LIFE CYCLE IMPACT ASSESSMENT

The goal of this section is to provide specific rules, requirements and guidelines for developing an EPD for the product category as defined in Section 2.2.1.

### 4.1 DECLARED UNIT

The declared unit is 1 m<sup>2</sup> "Finished bovine leather", measured according to ISO 11646.

The reference flow is the amount of product needed to fulfil the defined function and shall be measured in kg of raw hide or skin/m<sup>2</sup>. All quantitative input and output data collected in the study shall be calculated in relation to this reference flow.

The declared unit shall be stated in the EPD. The environmental impact shall be given per declared unit. A description of the function of the product should be included in the EPD, if relevant.

### 4.2 REFERENCE SERVICE LIFE (RSL)

Not applicable for this product category.

### 4.3 SYSTEM BOUNDARY

The International EPD® System uses an approach where all attributional processes from "cradle to grave" should be included using the principle of "limited loss of information at the final product". This is especially important in the case of business-to-consumer communication.

The scope of this PCR and EPDs based on it is from cradle to grave.

#### 4.3.1 LIFE CYCLE STAGES

For the purpose of different data quality rules and for the presentation of results, the life cycle of products is divided into three different life cycle stages:

- Upstream processes (from cradle-to-gate)
- Core processes (from gate-to-gate)
- Downstream processes (from gate-to-grave)

In the EPD, the environmental performance associated with each of the three life-cycle stages above shall be reported separately. The processes included in the scope of the PCR and belonging to each life cycle stage are described in Sections 4.3.2–4.3.4.

#### 4.3.2 UPSTREAM PROCESSES

The following attributional processes are part of the product system and classified as upstream processes:

- Animal breeding, agriculture, etc.
- Slaughterhouse
- Production of chemical and auxiliary products used for leather preparation, etc.
- Production of electricity and fuels used in the upstream module
- Manufacturing of primary and secondary packaging

Upstream processes not listed may also be included. All elementary flows at resource extraction shall be included, except for the flows that fall under the general cut-off rule in Section 4.5.

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### 4.3.3 CORE PROCESSES

The following attributional processes are part of the product system and classified as core processes:

- External transportation to the core processes
- Preparation of the material e.g. liming, beaming, tanning, dyeing and finishing
- Production of the product
- Maintenance (e.g. of the machines) activities more frequent than once every three years
- Waste treatment of waste generated during manufacturing
- Production of electricity and fuels used in the core module

Manufacturing processes not listed may also be included. The production of the raw materials used for production of all product parts shall be included. A minimum of 99% of the total weight of the declared product including packaging shall be included.

The technical system shall not include:

- Manufacturing of production equipment, buildings and other capital goods
- Business travel of personnel
- Travel to and from work by personnel
- Research and development activities

### 4.3.4 DOWNSTREAM PROCESSES

The following attributional processes are part of the product system and classified as downstream processes:

- end-of-life of the finished product packaging.

The use phase and end-of-life of the finished product are excluded because the final use of the product is not always known.

### 4.3.5 OTHER BOUNDARY SETTING

#### 4.3.5.1. Boundary towards nature

Boundaries to nature are defined as flows of material and energy resources from nature into the system. Emissions to air, water and soil cross the system boundary when they are emitted from or leaving the product system.

#### 4.3.5.2. Boundaries in the life cycle

See Section 4.3.1. The EPD may present the information divided into additional sub-divisions.

#### 4.3.5.3. Boundaries towards other technical systems

See Section 4.6.2.

#### 4.3.5.4. Boundaries in time

The life cycle inventory (LCI) data shall be representative of the time period for which the EPD® is valid (maximum three years).

#### 4.3.5.5. Boundaries towards geography

The data for the core module shall be representative for the actual production processes and representative of the site/region where the respective process is taking place.

## 4.4 SYSTEM DIAGRAM

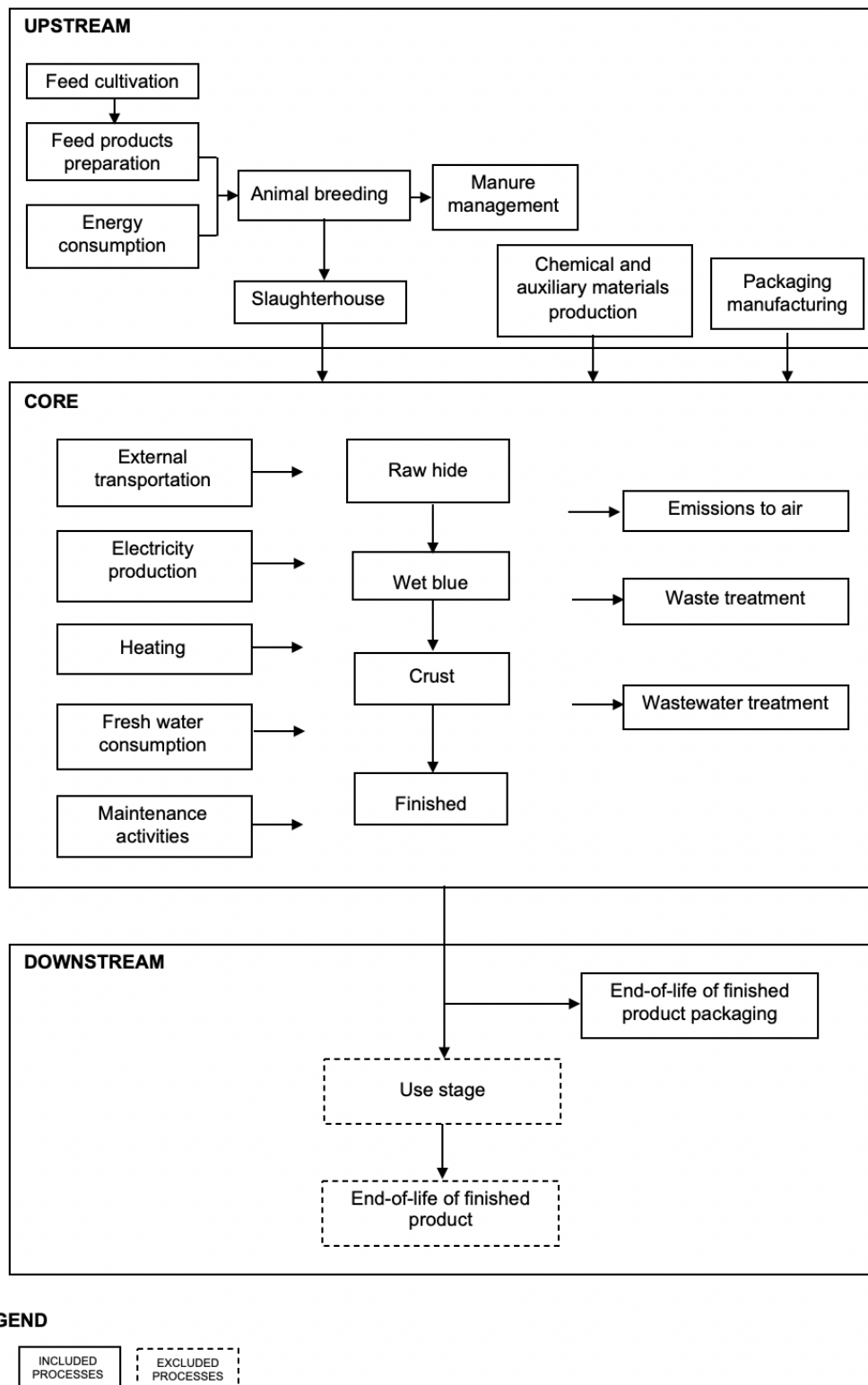


Figure 2. System diagram illustrating the processes of the product system, divided into upstream, core and downstream processes.

## 4.5 CUT-OFF RULES

All chemical products shall be included in the inventory, if the total weight of the product (as commercial presentation) is  $\geq 0.002\%$  respect to the mass of all chemical product inputs. As only exception of this rule, for the average leather production it is allowed a cut-off of 0.1% of the total weight of the product (as commercial presentation) respect to the mass of all chemical product inputs

The concept of "all chemical product inputs" has to be deflected depending on whether the EPD is made for a single product, for a family of similar products or for the average leather production (see clause 2). In the case of a single product (A) and a family of similar products (B) the mass of all chemical products has to be intended as the total amount of chemical products used to produce the specific category of products which are the subject of the study at the time of reference. In case the EPD is made for the average leather production (C) the mass of all chemical product inputs refers to the sum of all chemical products used in the tannery at the time of reference.

In order to guarantee a conservative approach, all chemical products excluded from the previous cut-off rules shall be considered by aggregating the masses consumed of their commercial presentations. For every manufacturing phase the products excluded shall be aggregated and shall be considered as the most consumed product in that phase.

When more alternative compounds are available, a conservative choice regarding the environmental impact should be adopted.

## 4.6 ALLOCATION RULES

These allocation rules are developed according to the following ISO 14040 stepwise procedure for multifunctional products and multiproduct processes:

1. Allocation shall be avoided, if possible, by dividing the unit process into two or more sub-processes and collecting the environmental data related to these sub-processes.
2. If allocation cannot be avoided, the inputs and outputs of the system shall be partitioned between its different products or functions in a way that reflects the underlying physical relationships between them; i.e. they should reflect the way in which the inputs and outputs are changed by quantitative changes in the products or functions delivered by the system.
3. Where physical relationships alone cannot be established or used as the basis for allocation (or they are too time consuming), the most suitable allocation procedure shall be used and documented.

### 4.6.1 CO-PRODUCT ALLOCATION

As in PCR 2012:11 Meat of mammals (version 3.1), animals that yield rawhide shall be divided in two categories:

- Mammal: non-reproducing mammal destined to meat production (ex. calf in cow meat farming);
- Reproductive mammal: mammal of female gender that has reproduced and that at end of career (when no longer destined to reproduction and/or milk production) is destined to meat production (ex. reproductive cow in cow meat farming).

The leather life cycle, as it results from the allocation rules specifically set up for this product category in the PEFCR of leather (final Version, 25 April 2018), includes upstream phases of livestock breeding and slaughter. Therefore, in the leather life cycle, multi-functionality occurs at different life cycle stages:

- At the farming level, where meat and milk are produced;
- At the slaughterhouse level, where fresh meat and edible offal, raw hides and skins and other co-products are produced;
- At the tannery level, where finished grain split leather and other co-products (i.e. flesh splits, wool, etc.) are produced

To manage multi-functionality, the approaches reported below shall be applied. Approaches for farming and slaughtering are taken from the PEFCR of leather (final Version, 25 April 2018)<sup>2</sup>.

<sup>2</sup> The PEFCR Leather adopts for all bovine, both dairy cattle and beef cattle, the allocation proposed in the PEFCR of the dairy products and in the IDF (2015) for the dairy sector. For this reason, the present PCR introduces on this point a deviation from the PEFCR Leather adopting this approach only for dairy cattle (reproductive mammals) and an 100% allocation of the cattle for the beef cattle (non-reproductive mammals). As a consequence, on this specific point there is not 100% consistency with the PEFCR Leather.



PROCESS	MAIN PRODUCT AND CO-PRODUCTS	ALLOCATION INSTRUCTION
Bovine farming	Biophysical	<p>Subdivision shall be used for processes that can be directly attributed to certain outputs (e.g. energy use and emissions related to milking processes). When the processes cannot be subdivided due to the lack of separate data or because technically impossible, the upstream burden, e.g. feed production, shall be allocated to farm outputs using a biophysical allocation method.</p> <p>Default values shall be used by PEF studies unless company-specific data are collected. The change of allocation factors is allowed only when company-specific data are collected and used for the farm module. In case generic data are used for the farm module, no change of allocation factors is allowed and the ones listed below shall be used for reproductive mammals:</p> <ul style="list-style-type: none"> <li>▪ Milk: 88.0%</li> <li>▪ Live animal to slaughter: 12.0%</li> </ul> <p>For non-reproducing mammal 100% of the impact should be allocated to the "live animal to slaughter".</p>
Bovine slaughtering	Economic	<p>Subdivision shall be used for processes that can be directly attributed to certain outputs. When the processes cannot be subdivided, the remaining (e.g. excluding that already allocated to milk for milk producing system and/or to wool for wool producing system) upstream burden shall be allocated to slaughterhouse and rendering outputs using the economic allocation method.</p> <p>The default values that shall be used for economic allocation are reported below:</p> <ul style="list-style-type: none"> <li>▪ Fresh meat and edible offal: 92.9%</li> <li>▪ Hides and skins: 3.5%</li> <li>▪ Food grade fat: 1.8%</li> <li>▪ Food grade bones: 1.0%</li> <li>▪ Cat. 3 slaug. co-products: 0.8%</li> <li>▪ Cat 1/2 material &amp; waste: 0.0% No change of allocation factors is allowed.</li> </ul>
Bovine raw hides tanning	Hide substance content	Allocation in leather tanning processes between full grain leather and its co-products shall be based on the hide substance content. See Table 2

Table 1. Allocation procedure for key processes in the product system.

The use of allocation factors deviating from the default ones provided in the present document shall be subject to strict review by the verifier, since it greatly influences the results of the study. Indeed, if it can be demonstrated that the hides or skins are obtained from animals that have been killed for eradicating a disease or that died at the farm or that were stillborn, then such animal co-products are legally treated as waste and they shall carry a 0% allocation.

The calculation of simplified sets of average and approximate allocation factors was carried out on the basis of the mass balance of the biogenic and bio-based Protein-Nitrogen content (g-N or %) Hide Substance) in the co-products (grain and flesh/middle splits), as well as co-products (hair or wool recovered) and residues (bio-solids and solid waste) generated during the transformation of input processing materials to finished leather and Tannery effluent treatment, respectively.

The quantities of products, co-products and waste can vary significantly as a function of specific input material, output leather article and tannery. The thickness of the output pelts and leathers can result in significant variations of allocated hide substance content.

Allocation factors are reported in the following tables.

From	Raw				Semi-processed products	Raw		
To	Semi-processed products, split, hair burn	Semi-processed products, split, hair save	Semi-processed products, full substance, hair burn	Semi-processed products, full substance, hair save	Crust or Finished Grain Split Leathers	Finished leather, split, hair save	Finished leather, split, hair burn	Finished Sole Leather
<b>Grain Splits</b>	64%	60%	100%	91%	100%	60%	63%	100%
<b>Flesh Splits</b>	36%	31%	-	-	-	31%	37%	-
<b>Hair</b>	-	9%	-	9%	-	9%	-	-

Table 2. Allocation factors for bovine leather (from PEFCR Leather).

The allocation factors proposed represent the percentages of total tanning impact that go to finished grain split leather and to recoverable losses.

Splitting in the beam house and splitting wet blue (WB) shall be evaluated separately.

All calculations related to the reference flows in the core module shall be referred to the hide mass per declared unit. During these phases there is a weight variation due to the loss of material or variation in the water content. These variations shall be considered in the allocation of inflows and outflows of the specific manufacturing phases.

For the economic allocation, a sensitivity analysis is required, comparing the impacts if the percentages of the economic allocation chosen for the analysis are varied. The sensitivity analysis performed should be described in the LCA report.

#### Weight variations along the process

For a single product or family of products EPDs (see Section 2.2.1, category A and B), specific weight variation factors shall be used. In the LCA study report, these specific weight variation factors shall be justified.

For an EPD of the average production of all kinds of finished bovine leather products produced in a tannery, the weight variations that have to be applied are specified in Table 3.

Y is the weight of the representative rawhide ready for soaking/liming of the tannery, calculated as specified in Section 4.10.

Manufacturing process	Weight variation average hide
Rawhide ready for soaking/liming	Y
Pelt (limed and dehaired hide)	Y + 12%
Grain split ready for tanning	Y - 50%
Shammied, tanned and shaved grain ready for dyeing	Y - 75%
Crust (dyed and dried)	Y - 86%
Finished leather	Y - 86%

Table 3. Weight variations during the manufacturing processes<sup>3</sup>.

<sup>3</sup> Data origin: Tanneries involved in the PCR elaboration; these variations have to be used as fixed specific data for the representative raw hide with weight Y.

## 4.6.2 REUSE, RECYCLING, AND RECOVERY

In the framework of the International EPD® System, the methodological choices for allocation for reuse, recycling and recovery have been set according to the polluter pays principle (PPP). This means that the generator of the waste shall carry the full environmental impact until the point in the product's life cycle at which the waste is transported to a scrapyard or the gate of a waste processing plant (collection site). The subsequent user of the waste shall carry the environmental impact from the processing and refinement of the waste but not the environmental impact caused in the "earlier" life cycles. See General Programme Instruction for further information and examples.

## 4.7 DATA QUALITY REQUIREMENTS

An LCA calculation requires two different kinds of information:

- data related to the **environmental aspects** of the considered system (such materials or energy flows that enter the production system). These data usually come from the company that is performing the LCA calculation.
- data related to the **life cycle impacts** of the material or energy flows that enter the production system. These data usually come from databases.

Data on environmental aspects shall be as specific as possible and shall be representative of the studied process.

Data on the life cycle of materials or energy inputs are classified into three categories – specific data, selected generic data, and proxy data, defined as follows:

- **specific data** (also referred to as "primary data" or "site-specific data") – data gathered from the actual manufacturing plant where product-specific processes are carried out, and data from other parts of the life cycle traced to the specific product system under study, e.g. materials or electricity provided by a contracted supplier that is able to provide data for the actual delivered services, transportation that takes place based on actual fuel consumption, and related emissions, etc.,
- **generic data** (sometimes referred to as "secondary data"), divided into:
  - **selected generic data** – data from commonly available data sources (e.g. commercial databases and free databases) that fulfil prescribed data quality characteristics for precision, completeness, and,
  - **proxy data** – data from commonly available data sources (e.g. commercial databases and free databases) that do not fulfil all of the data quality characteristics of "selected generic data".

As a general rule, specific data shall always be used, if available, after performing a data quality assessment. It is mandatory to use specific data for the core processes as defined above. For the upstream processes, downstream processes, and infrastructure, generic data may also be used if specific data are not available.

Generic data should be used in cases in which they are representative for the purpose of the EPD, e.g. for bulk and raw materials on a spot market, if there is a lack of specific data on the final product or if a product consists of many components.

Any data used should preferably represent average values for a specific reference year. However, the way these data are generated could vary, e.g. over time, and in such cases they should have the form of a representative annual average value for a specified reference period. Such deviations should be declared.

If specific data, selected generic data – or other data that meet the requirements of the International EPD® System as necessary input data – are not available, other generic data may be used and documented. The environmental impacts associated to other generic data must not exceed 10% of the overall environmental impact from the product system. **For chemical products**

In order to ensure a further alignment with PEFCR rules, the PEFCR rules for chemicals modelling shall be used (see Tables 14 and 36 in the PEFCR of leather).

In terms of data quality of chemical products, the following criteria shall be applied:

- Specific data quality: the specific chemical compound is present in the used databases or available in additional LCA studies (Data quality rating (DQR) equals to 1 or 2 of modelling accuracy, if it is used the composition of chemical of the PEFCR);
- Selected generic data quality: the exact formulation of the chemical compound is not present in the database (DQR equals to 3 or 4 of modelling accuracy, if it is used the composition of chemical of the PEFCR), however a very similar formulation or the precursors of a common industrial process for the production of the chemical substance are present in the database. In this scenario the substance has to be represented by the similar formulation or by its precursors, which shall be used with a ratio commensurate with their molar weight contribution in the common industrial production process of the compound.

- Generic data quality: the exact formulation of the chemical compound is not present in the database, however an alternative compound can be identified in the database (DQR equals to 5 of modelling accuracy, if it is used the composition of chemical of the PEFCR).

#### 4.7.1 RULES FOR USING GENERIC DATA

The attributional LCA approach in the International EPD® System forms the basic prerequisites for selecting generic data. To allow the classification of generic data as “selected generic data”, they shall fulfil selected prescribed characteristics for precision, completeness, and representativeness (temporal, geographical, and technological), such as:

- the reference year must be as current as possible and preferably assessed to be representative for at least the validity period of the EPD,
- the cut-off criteria to be met on the level of the modelled product system are the qualitative coverage of at least 99% of energy, mass, and overall environmental relevance of the flows,
- completeness in which the inventory data set should, in principle, cover all elementary flows that contribute to a relevant degree of the impact categories, and
- the representativeness of the resulting inventory in the given temporal, technological, and geographical reference should, as a general principle, be better than  $\pm 5\%$  of the environmental impact of fully representative data.

As selected generic data for animal production processes the use of Agrifootprint database is recommended, using data of Beef cattle for Mammals (non-reproducing mammals destined to meat production) and data of Dairy cows for Reproductive mammals (mammals of female gender that have reproduced and that at end of career are destined to meat production).

The Agrifootprint database present also the version “PEF compliant” of the two datasets (see Table 3) which present different allocation percentages. In particular, the dataset for reproductive mammal (“Cows for slaughter”) of the version “PEF compliant” must report the same allocation percentages indicated above:

- Milk: 88.0%
- Live animal to slaughter: 12.0%

On the contrary the dataset for non-reproducing mammals (“Beef cattle for slaughter”) does not present any allocation for the (farm) since the animal does not produce any milk and the other co-products during its life and the entire impact is allocated at the slaughterhouse on the base of the economic allocation.

Rawhides may come from different bovine types with differentiated agriculture and cattle raising practices as well as differentiated slaughtering processes on a global level. Rawhide lots are normally delivered to the tannery as a rawhide mix. Furthermore, rawhide batches may be provided to the tannery without previous tracking or with limited tracking. The limited tracking can include information on bovine geographic provenience and/or on rawhide transport, but the rawhide's origin remains fundamentally unknown up to the tannery gate.

For this reason, this PCR advises LCA practitioners to pay particular attention to the data quality of the upstream phase, as this life cycle phase has a very significant contribution to the environmental impact of leather. To improve the data quality of the LCA study it is important to check if there are available updated data regarding cattle raising related to the different geographical contexts. This may include knowledge about bovine provenience, animal transportation to the slaughterhouse and rawhide transport to the tannery.

Every choice regarding the modelling of the provenience and the transport of the animals and the rawhides has to be justified.

Regarding the cattle's raising process, the use of Agrifootprint data is recommended, unless there are more specific data available on geographic scale.

Considering that the Agrifootprint database is based on European data, it is preferable that for cattle raising in different geographic regions more representative data of the specific geographic context be used.

Section 4.8 provides a list of recommended databases/data sets to be used for generic data.

If selected generic data that meets the requirements of the International EPD® System are not available as the necessary input data, proxy data may be used and documented. The environmental impacts associated with proxy data shall not exceed 10% of the overall environmental impact from the product system.

The EPD may include a data quality declaration to demonstrate the share of specific data, selected generic data and proxy data for the environmental impacts.



## 4.8 RECOMMENDED DATABASES FOR GENERIC DATA

Table 4 lists recommended databases for generic data. Please note that this listing does not imply that other data that fulfil the data quality requirements may not be used and that data quality assessment shall also be performed for the data sets in the recommended database by an LCA practitioner.

PROCESS	RECOMMENDED DATASET	DATABASE
Animal production (mammals)	Beef cattle for slaughter, at beef farm, PEF compliant/ Economic	Agrifootprint
Animal production (reproductive mammals)	Cows for slaughter, at dairy farm, PEF compliant/Economic	Agrifootprint

Table 4. Recommended databases for generic data.

## 4.9 IMPACT CATEGORIES AND IMPACT ASSESSMENT

The EPD shall declare the default impact categories as described in the General Programme Instructions. The characterisation models and factors to use for the default impact categories are available on [www.environdec.com/impact-categories](http://www.environdec.com/impact-categories) and shall be updated on a regular basis based on the latest developments in LCA methodology and ensuring the market stability of EPDs. The source and version of the characterisation models and the factors used shall be reported in the EPD. Alternative regional life cycle impact assessment methods and characterisation factors are allowed to be calculated and displayed in addition to the default list. If so, the EPD shall contain an explanation of the difference between the different sets of indicators, as they may appear to the reader to display duplicate information.

## 4.10 OTHER CALCULATION RULES AND SCENARIOS

A weight reduction for the salting and trimming of the rawhide from the slaughterhouse shall be applied as following:

The weight X of the rawhide from the slaughterhouse necessary for obtaining Y kg of rawhide ready for soaking/liming is:

$$Y = X * ((a*(1 - b)) + (c*(1 - d)))$$

Y: weight of the representative rawhide ready for soaking/liming

X: weight of the representative rawhide from the slaughterhouse

a: percentage of salted rawhides used in the tannery

b: percentage of weight reduction of salted rawhides between slaughtering and soaking/liming (fixed at 15% for all categories)<sup>4</sup>

c: percentage of fresh rawhides used in the tannery

d: percentage of weight reduction of fresh rawhides between slaughtering and soaking/liming (fixed at 3% for all categories)

Data on slaughterhouse activities shall be specific for the animal species under study. Key assumptions shall be documented.

### 4.10.1 UPSTREAM PROCESSES

The following requirements apply to the upstream processes:

- Data referring to processes and activities upstream in a supply chain over which the organisation has direct management control shall be specific and collected on site.
- Data referring to contractors that supply main parts, chemicals, packaging, or main auxiliaries should be requested from the contractor as specific data, as well as infrastructure, where relevant.
- The transport of main parts and components along the supply chain to a distribution point (e.g. a stockroom or warehouse) where the final delivery to the manufacturer can take place based on the actual transportation mode, distance from the supplier, and vehicle load.
- In case specific data is lacking, selected generic data may be used. If this is also lacking, proxy data may be used.

<sup>4</sup> Data origin: Tanneries involved in the PCR elaboration; these variations shall be used as fixed specific data for all categories of raw hides.

- For the electricity used in the upstream processes, electricity production impacts shall be accounted for in this priority when specific data are used in the upstream processes:
  1. Specific electricity mix as generated, or purchased, from an electricity supplier, demonstrated by a Guarantee of Origin (or similar, where reliability, traceability, and the avoidance of double-counting are ensured) as provided by the electricity supplier. If no specific mix is purchased, the residual electricity mix from the electricity supplier shall be used.<sup>5</sup>
  2. National residual electricity mix or residual electricity mix on the market
  3. National electricity production mix or electricity mix on the market.The mix of electricity used in upstream processes shall be documented in the EPD, where relevant.
- Packaging: specific data shall be used for the consumer packaging production if it is under the direct control of the organization or if the environmental impact related to the consumer packaging production is more than 10% of the total product environmental indicators. In other cases, generic data may be used. When consumer packaging shows the organization's logo, the LCA report should report the exerted/non exerted direct control on the production of consumer packaging by the organization.

#### 4.10.2 CORE PROCESSES

The following requirements apply to the core processes:

- Specific data shall be used for the assembly of the product and for the manufacture of main parts as well as for on-site generation of steam, heat, electricity, etc., where relevant.
- For the electricity used in the core processes, electricity production impacts shall be accounted for in this priority:
  1. Specific electricity mix as generated, or purchased, from an electricity supplier, demonstrated by a Guarantee of Origin (or similar, where reliability, traceability, and the avoidance of double-counting are ensured) as provided by the electricity supplier. If no specific mix is purchased, the residual electricity mix from the electricity supplier shall be used.<sup>6</sup>
  2. National residual electricity mix or residual electricity mix on the market
  3. National electricity production mix or electricity mix on the market.The mix of electricity used in the core processes shall be documented in the EPD, where relevant.

- Transport from the final delivery point of raw materials, chemicals, main parts, and components (see above regarding upstream processes) to the manufacturing plant/place of service provision should be based on the actual transportation mode, distance from the supplier, and vehicle load, if available.
- Waste treatment processes of manufacturing waste should be based on specific data, if available.

The processes listed in Section 4.3.3 for the production of the final product shall be included. All tanning processes have to be included in the study (see Table 5). Manufacturing processes not listed may also be included. However, the production of the raw materials used for production of all product parts shall be included according to the cut-off rules in Section 4.5.

<sup>5</sup> The residual electricity mix is the mix when all contract-specific electricity that has been sold to other customers has been subtracted from the total production mix of the electricity supplier.

<sup>6</sup> The residual electricity mix is the mix when all contract-specific electricity that has been sold to other customers has been subtracted from the total production mix of the electricity supplier.

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Production of wet blue – (from rawhide to wet blue)	Preservation/storage of rawhides
	Soaking/dehairing/liming
	Fleshing/pelt splitting and trimming
	Deliming/bating/pickling/tanning
	Shammying
Production of crust – (from wet blue to crust)	Soaking
	Wet blue splitting and shaving
	Neutralization/retanning/dyeing/fatliquoring
	Drying
Production of finished leather – (from crust to finished)	Spraying/coating
	Finishing/embossing/ironing/milling/buffing/measuring

*Table 5. Indicative manufacturing processes to include in the Core module.*

Manufacturing processes covered by third parties and inputs and outputs of semi-finished leather (e.g. tanned Wet Blue) shall be considered and stated in the LCA study.

The waste produced in the manufacturing processes shall be declared as kg of waste in three waste categories (see Section 5.4.5.3).

#### 4.10.3 DOWNSTREAM PROCESSES

Scenarios for the end-of-life stage of the finished product packaging shall be technically and economically practicable and compliant with current regulations in the relevant geographical region based on the geographical scope of the EPD. Key assumptions regarding the end-of-life stage scenario shall be documented.

## 5 CONTENT AND FORMAT OF EPD

EPDs based on this PCR shall contain the information described in this section. Flexibility is allowed in the formatting and layout provided that the EPD still includes the prescribed information. A generic template for EPDs is available via [www.environdec.com](http://www.environdec.com)

As a general rule the EPD content:

- shall be in line with the requirements and guidelines in ISO 14020 (Environmental labels and declarations - General principles),
- shall be verifiable, accurate, relevant and not misleading, and
- shall not include rating, judgements or direct comparison with other products.

An EPD should be made with a reasonable number of pages for the intended audience and use.

### 5.1 EPD LANGUAGES

EPDs should be published in English, but may also be published in additional languages. If the EPD is not available in English, it shall contain an executive summary in English including the main content of the EPD. This summary is part of the EPD and thus subject to the same verification procedure.

### 5.2 UNITS AND QUANTITIES

The following requirements apply for units and quantities:

- The International System of Units (SI units) shall be used, e.g., kilograms (kg), Joules (J) and metres (m). Reasonable multiples of SI units may be decided in the PCR to improve readability, e.g., grams (g) or megajoules (MJ). The following exceptions apply:
  - Resources used for energy input (primary energy) should be expressed as kilowatt-hours (kWh) or megajoules (MJ), including renewable energy sources, e.g., hydropower, wind power and geothermal power.
  - Water use should be expressed in cubic metres (m<sup>3</sup>)
  - Temperature should be expressed in degrees Celsius (°C),
  - Time should be expressed in the units most practical, e.g., seconds, minutes, hours, days or years.
- Three significant figures<sup>7</sup> should be adopted for all results. The number of significant digits shall be appropriate and consistent.
- The thousand separator and decimal mark in the EPD shall follow one of the following styles (a number with six significant figures shown for illustration):
  - SI style (French version): 1 234,56
  - SI style (English version): 1 234.56

In case of potential confusion or intended use of the EPD in markets where different symbols are used, the EPD shall state what symbols are used for thousand separator and decimal mark.

- Dates and times presented in the EPD should follow the format in ISO 8601. For years, the prescribed format is YYYY-MM-DD, e.g., 2017-03-26 for March 26<sup>th</sup>, 2017.
- The result tables shall:
  - Only contain values or the letters "INA" (Indicator Not Assessed). It is not possible to specify INA for mandatory indicators. INA shall only be used for voluntary parameters that are not quantified because no data is available.<sup>8</sup>
  - Contain no blank cells, hyphens, less than or greater than signs or letters (except "INA").

<sup>7</sup> Significant figures are those digits that carry meaning contributing to its precision. For example with two significant digits, the result of 123.45 shall be displayed as 120, and 0.12345 shall be displayed as 0.12. In scientific notation, these two examples would be displayed as  $1.2 \cdot 10^2$  and  $1.2 \cdot 10^{-2}$ .

<sup>8</sup> This requirement does not intend to give guidance on what indicators are mandated ("shall") or voluntary.



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- Use the value 0 only for parameters that have been calculated to be zero.
- Footnotes shall be used to explain any limitation to the result value.

## 5.3 USE OF IMAGES IN EPD

Images used in the EPD, especially pictures featured on the cover page, may in themselves be interpreted as an environmental claim. Images such as trees, mountains, wildlife that are not related to the declared product should therefore be used with caution and in compliance with national legislation and best available practices in the markets in which the EPD is intended to be used.

## 5.4 EPD REPORTING FORMAT

The reporting format of the EPD shall include the following sections:

- Cover page (see Section 5.4.1)
- Programme information (see Section 5.4.2)
- Product information (see Section 5.4.3)
- Content declaration (see Section 5.4.4)
- Environmental performance (see Section 5.4.5)
- Additional environmental information (see Section 5.4.6)
- References (see Section 5.4.9)

The following information shall be included, when applicable:

- Information related to Sector EPDs (see Section 5.4.7)
- Differences versus previous versions (see Section 5.4.8)
- Executive summary in English (see Section 5.4.10)

### 5.4.1 COVER PAGE

The cover page shall include:

- Product name and image,
- Name and logotype of EPD owner,
- The text "Environmental Product Declaration" and/or "EPD"
- *Programme: The International EPD® System, [www.environdec.com](http://www.environdec.com),*
- *Programme operator: EPD International AB*
- Logotype of the International EPD® System,
- EPD registration number as issued by the programme operator<sup>9</sup>,
- *Date of publication (issue): 20XX-YY-ZZ,*
- *Date of revision: 20XX-YY-ZZ, when applicable,*
- *Date of validity: 20XX-YY-ZZ*
- A note that "An EPD should provide current information, and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at [www.environdec.com](http://www.environdec.com)"
- A statement of conformity with ISO 14025,

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<sup>9</sup> The EPD shall not include a "registration number" if such is provided by the certification body, as this may be confused with the registration number issued by the programme operator.

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## 5.4.2 PROGRAMME INFORMATION

The programme information section of the EPD shall include:

- Address of programme operator: *EPD International AB, Box 210 60, SE-100 31 Stockholm, Sweden, E-mail: [info@environdec.com](mailto:info@environdec.com)*
- The following mandatory statement from ISO 14025: "EPDs within the same product category but from different programmes may not be comparable."
- A statement that the EPD owner has the sole ownership, liability and responsibility of the EPD
- Information about verification<sup>10</sup> and reference PCR in a table with the following format and contents:

Product category rules (PCR): <name, registration number, version and UN CPC code(s)>
PCR review was conducted by: <name and organisation of the review chair, and information on how to contact the chair through the programme operator>
Independent third-party verification of the declaration and data, according to ISO 14025:2006:  <input type="checkbox"/> EPD process certification <input type="checkbox"/> EPD verification
Third party verifier: <name, organisation and signature of the third-party verifier>  <i>In case of certification bodies:</i> Accredited by: <name of the accreditation body and accreditation number, if applicable>.  <i>In case of individual verifiers:</i> Approved by: The International EPD® System Technical Committee, supported by the Secretariat
Procedure for follow-up of data during EPD validity involves third party verifier:  <input type="checkbox"/> Yes <input type="checkbox"/> No

## 5.4.3 PRODUCT INFORMATION

The product information section of the EPD shall include:

- Address and contact information to EPD owner,
- Description of the organisation. This may include information on products- or management system-related certifications (e.g. ISO 14024 Type I environmental labels, ISO 9001- and 14001-certificates and EMAS-registrations) and other relevant work the organisation wants to communicate (e.g. SA 8000, supply-chain management and social responsibility),
- Name and location of production site,
- Product identification by name, and an unambiguous identification of the product by standards, concessions or other means,
- Identification of the product according to the UN CPC scheme system. Other relevant codes for product classification may also be included, e.g.
  - Common Procurement Vocabulary (CPV),
  - United Nations Standard Products and Services Code® (UNSPSC),
  - Classification of Products by Activity (NACE/CPA) or
  - Australian and New Zealand Standard Industrial Classification (ANZSIC),

<sup>10</sup> If the EPD has been verified by an approved individual verifier who has received contractual assistance from a certification body that is not accredited, this certification body shall not be included in this table.

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- Description of the product, its application/intended use and technical functions, e.g. expected service life time,
- Geographical scope of the EPD, i.e., for which geographical location(s) of use and end-of-life the product's performance has been calculated,
- Declared unit,
- Reference service life (RSL), if applicable,
- Declaration of the year(s) covered by the data used for the LCA calculation and other relevant reference years,
- Reference to the main database(s) for generic data and LCA software used, if relevant,
- System diagram of the processes included in the LCA, divided into the life cycle stages,
- Description of the EPD system boundary ("cradle-to-grave"),
- Information on which life cycle stages are not considered (if any), with a justification of the omission,
- Relevant websites for more information or explanatory materials.

This section may also include:

- Name and contact information of organisation carrying out the underlying LCA study,
- Additional information about the underlying LCA-based information, such as assumptions, cut-off rules, data quality and allocation.

#### 5.4.4 CONTENT DECLARATION

The content declaration shall have the form of a list of materials and chemical substances including information on their environmental and hazardous properties. The gross weight of material shall be declared in the EPD at a minimum of 99 % of one unit of product.

Information on the hazardous properties of materials and chemical substances should follow the requirements given in the latest revision of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS)<sup>11</sup>, issued by United Nations or national or regional applications of the GHS.

As an example, the following regulations should be used for EPDs intended to be used in the European Union:

- Regulation (EC) No 1907/2006 of the European parliament and of the council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)
- Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures

##### 5.4.4.1. Information about recycled materials

Not relevant for this product category.

##### 5.4.4.2. Information about packaging

As packaging is strongly connected with the product, the producer shall provide information about packaging in the EPD, when applicable. Packaging may be classified as:

- Distribution Packaging: packaging designed to contain one or more articles or packages, or bulk materials, for the purposes of transport, handling and/or distribution (ISO 21067-1:2016, Par. 2.2.6)
- Consumer Packaging: packaging constituting, with its content, a sales unit for the final user or consumer at the point of retail (ISO 21067-1:2016, Par. 2.2.7).

Consumer packaging is generally the outcome of eco-design processes, or other activities, under direct control of the organisation. Many critical categories with strict legal requirements belong to consumer packaging category like food contact packaging and pharmaceutical packaging.

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<sup>11</sup> The GHS document is available on [www.unece.org](http://www.unece.org).

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The type and function of packaging shall be reported in the EPD.

A statement of the source of the materials (pre-consumer or post-consumer) shall be presented in the EPD when the packaging is made in whole or in part by recycled materials.

## 5.4.5 ENVIRONMENTAL PERFORMANCE

### 5.4.5.1. Environmental impacts

The EPD shall declare the environmental impact indicators, per declared unit and per life cycle stage, using the default impact categories, characterisation models and factors available on [www.environdec.com/indicators](http://www.environdec.com/indicators), as well as the environmental impact indicators required according to Section 5.4.5.2. The source and version of the characterisation models and the factors used shall be reported in the EPD. Alternative regional life cycle impact assessment methods and characterisation factors are allowed to be calculated and displayed in addition to the default list. If so, the EPD shall contain an explanation of the difference between the different sets of indicators, as they may appear to the reader to display duplicate information.

### 5.4.5.2. Use of resources

The EPD shall declare the indicators for resource use listed at [www.environdec.com/indicators](http://www.environdec.com/indicators) per declared unit, per life-cycle stage and in aggregated form.

### 5.4.5.3. Waste production and output flows

Waste generated along the whole life cycle production chains shall be treated following the technical specifications described in the GPI. The EPD shall declare the indicators for waste production and output flows as listed at [www.environdec.com/indicators](http://www.environdec.com/indicators) per declared unit, per life-cycle stage and in aggregated form.

### 5.4.5.4. Other environmental indicators

The following indicators per declared unit shall be reported in the EPD, divided into core, upstream and downstream module:

- Materials/substances that are subject to legal requirements (in particular Cr and formaldehyde)

## 5.4.6 ADDITIONAL INFORMATION

Information on the producer related to the application of Environmental Management Systems (EMAS, ISO 14001, etc.) as well as the adoption of processes or use of substances to reduce environmental impact, can be reported.

Furthermore, the EPD has to declare the percentages of the different ranges of thickness that constitute the finished leather.

## 5.4.7 INFORMATION RELATED TO SECTOR EPDS

For sector EPDs, the following information shall also be included:

- a list of the contributing manufacturers that the Sector EPD covers,
- a description of how the selection of the sites/products has been done and how the average has been determined, and
- a statement that the document covers average values for an entire or partial product category (specifying the percentage of representativeness) and, hence, the declared product is an average that is not available for purchase on the market.

## 5.4.8 DIFFERENCES VERSUS PREVIOUS VERSIONS

For EPDs that have been updated, the following information shall also be included:

- a description of the differences versus previously published versions, e.g. a description of the percentage change in results and the main reason for the change;
- a revision date on the cover page.



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## 5.4.9 REFERENCES

A list of references shall be included, including references to the General Programme Instructions (including version number), standards and PCR (registration number, name and version). The source and version of the characterisation models and the factors used shall be reported in the EPD.

## 5.4.10 EXECUTIVE SUMMARY IN ENGLISH

For EPDs published in another language than English, an executive summary in English shall be included.

The executive summary should contain relevant summarised information related to the programme, product, environmental performance, additional information, information related to sector EPDs, references and differences versus previous versions.

## 6 GLOSSARY

- **ADDITIONAL ENVIRONMENTAL INFORMATION** - Other environmental indicators that are calculated and communicated alongside EPD results.
- **ALLOCATION** - An approach to solving multi-functionality problems by partitioning the input or output flows of a process, a product system or a facility between the system under study and one or more other systems
- **CHARACTERISATION** - Calculation of the magnitude of the contribution of each classified input/output to their respective LCA impact categories, and aggregation of contributions within each category. This requires a linear multiplication of the inventory data with characterisation factors for each substance and LCA impact category of concern.
- **CO<sub>2</sub>** - Carbon dioxide
- **CO-PRODUCT** - Any of two or more products coming from the same unit process or product system.
  - Note: Co-products deriving from slaughterhouse may be defined as by-products according to EU Regulation 1069/2009
- **CPC** - Central product classification
- **CRADLE TO GATE** - Addresses the environmental aspects and potential environmental throughout a product's life cycle from raw material acquisition until the end of the production process ("gate of the factory"). It may also include transportation until use phase.
- **CRADLE TO GRAVE** - Addresses the environmental aspects and potential environmental impacts throughout a product's life cycle from raw material acquisition until the end of life.
- **DQR** – Data quality rating
- **EOL** - End of life
- **EPD** - Environmental product declaration
- **FUNCTIONAL UNIT** - quantified performance of a product system for use as a reference unit.
- **GATE TO GATE** - a partial product supply chain that includes only the processes within a specific manufacturer or site.
- **GENERIC DATA** – Refers to data that are not directly collected, measured, or estimated, but rather sourced from a third-party life cycle inventory database or other source that complies with the data quality requirements of the PEF Guide; synonymous with "secondary data".
- **GWP** - Global Warming Potential
- **ILCD** - International Life Cycle Data
- **IMPACT CATEGORY** - Class of resource use or environmental impact to which the Resource Use and Emissions Profile data are related.
- **IMPACT CATEGORY INDICATOR** - Quantifiable representation of an EF impact category (based on ISO 14044:2006)
- **ISO** - International Organization for Standardization
- **kg** - kilogram
- **LIFE CYCLE** – Consecutive and interlinked stages of a product system, from raw material acquisition or generation from natural resources to final disposal (based on ISO 14040:2006).
- **LIFE CYCLE ASSESSMENT (LCA)** – Compilation and evaluation of the inputs, outputs and the potential environmental impacts of a product system throughout its life cycle (based on ISO 14040:2006).
- **LIFE-CYCLE IMPACT ASSESSMENT (LCIA)** – Phase of life cycle assessment that aims at understanding and evaluating the magnitude and significance of the potential environmental impacts for a system throughout the life cycle (based on ISO 14040:2006).
- **MULTI-FUNCTIONALITY** – If a process or facility provides more than one function, i.e. it delivers several goods and/or services ("co-products"), it is "multi-functional". In these situations, all inputs and emissions linked to the process must be partitioned between the product of interest and the other co-products in a principled manner. Organisations undertaking an OEF study may therefore have to address multifunctionality problems both at the product and facility level.

FINISHED BOVINE LEATHER

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- ODP - Ozone Depletion Potential
- OUTPUT – Product, material or energy flow that leaves a unit process. Products and materials include raw materials, intermediate products, co-products and releases (based on ISO 14040:2006).
- PCR - Product Category Rules
- PEFCR - Product Environmental Footprint Category Rules
- POCP - Photochemical Ozone Creation Potential
- PRODUCT CATEGORY RULES (PCR) – Set of specific rules, requirements and guidelines for developing Type III environmental declarations for one or more product categories (based on ISO 14025).
- SENSITIVITY ANALYSIS – Systematic procedures for estimating the effects of the choices made
- SI - The International System of Units
- SO<sub>2</sub> - Sulphur dioxide
- SPECIFIC DATA – Refers to directly measured or collected data representative of activities at a specific facility or set of facilities; synonymous with “primary data”.
- SYSTEM BOUNDARY – Definition of aspects included or excluded from the study.
- SYSTEM BOUNDARY DIAGRAM – Schematic representation of the analysed system detailing which parts of the product supply chain are included or excluded from the analysis.
- UN - United Nations
- UNCERTAINTY ANALYSIS – Procedure to assess the uncertainty introduced into the results of a LCA study due to data variability and choice-related uncertainty.
- UNIT PROCESS – Smallest element considered in the Resource Use and Emissions Profile for which input and output data are quantified (based on ISO 14040:2006).
- UPSTREAM – Occurring along the supply chain of purchased goods/services prior to entering the manufacturing site for the product.
- WASTE – Substances or objects which the holder intends or is required to dispose (based on ISO 14025).
- WB – Wet blue.

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## 8 VERSION HISTORY OF PCR

### VERSION 1.0, 2011-09-28

Original version, based on PCR 2007:03.

### VERSION 2.0, 2015-06-11

- Compliance with to the General Programme Instructions, Version 2.01.
- Use of the latest template
- The system boundary for the core model now explicitly excludes research activities and business travel by personnel.
- Specification for GWP calculation added from General Programme Instructions
- Change in reference database for cattle raising processes (from LCAfood to Agrifootprint)
- Update of cut-off rules for chemical products used in the core module
- Packaging collocated in the upstream module instead of the core module
- Change in allocation rules for upstream processes (from mass to economic allocation) in alignment with other PCRs (e.g. mammals meat)
- Change in animal categories which supply the raw hide in alignment with other PCRs (e.g. mammals meat)

### VERSION 2.01, 2018-05-03

Editorial corrections

### VERSION 3.0, 2020-05-22

- Compliance to the General Programme Instructions, Version 3.01.
- Use of the latest basic module as template.
- Change in allocation rules for upstream processes in alignment with the PEFCR of leather (final Version, 25 April 2018).

### VERSION 3.01, 2020-07-07

Clarification that the allocation of farming does not fully comply with the allocation rules of PEFCR Leather (see footnote 2).

### VERSION 3.0.2, 2022-03-21

Editorial change: correct registration number added on cover page.

### VERSION 3.0.3, 2022-04-20

Editorial changes in Sections 5.4.5.1 to 5.4.5.3, to clarify the indicator list at [www.environdec.com](http://www.environdec.com) applies also for the indicators of resource use, waste production and other output flows.

### VERSION 3.0.4, 2024-05-28

Prolonged validity with one year due to the initiation of an updating process. The updated PCR is planned to have a broader scope, including finished bovine, ovine and caprine leather.

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## VERSION 3.0.5, 2025-05-19

Prolonged validity with 6 months due to the delay of an updating process. The updated PCR is planned to have a broader scope, including finished bovine, ovine and caprine leather.

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