# BASIC CHEMICALS

PRODUCT CATEGORY CLASSIFICATION: UN CPC 341, 342, 343, 345 (EXCEPT SUBCLASS 3451)

PCR 2021:03
VERSION 1.1.5

VALID UNTIL: 2026-05-03

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# 1 INTRODUCTION

## 1.1 GENERAL

This document constitutes Product Category Rules (PCR) developed in the framework of the International EPD® System: a programme for type III environmental declarations[1] 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, publicly available at 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.

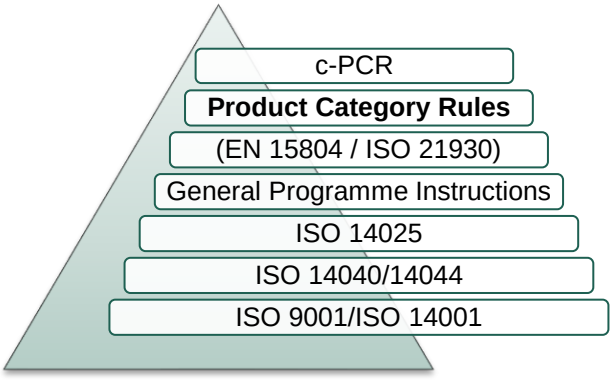


*Figure 1 Illustration PCR in relation to the hierarchy of standards and other documents.*

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. Stakeholder feedback on PCRs is very much encouraged. Any comments on this PCR document may be given via 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.

## 1.2 ROLE OF THIS DOCUMENT AND COMPLEMENTARY PCRS

This PCR document serves as the main PCR for basic chemicals and as a basis for the development of complementary PCRs (c-PCRs) for more specific product categories of basic chemicals. When a c-PCR exists in the International EPD® System for a more

[1] Type III environmental declarations in the International EPD® System are referred to as EPD, Environmental Product Declarations.

 

specific product category, such a c-PCR shall be used together with this PCR. Current c-PCRs related to this PCR are available at www.environdec.com.

This PCR allows for an EPD to be produced (see Figure 1 for an illustration) using:

- this PCR only, or
- this PCR together with a c-PCR available at www.environdec.com.

An EPD based only on this PCR shall use a declared unit (see Section 4.1), whereas an EPD based on this PCR together with a c-PCR may or shall use a functional unit if allowed or required, respectively, by the c-PCR. If a c-PCR is used, the EPD shall comply also with other requirements and specifications given in the c-PCR. If requirements in the PCR and the c-PCR differ, the requirements in the c-PCR take precedence over those in the PCR.

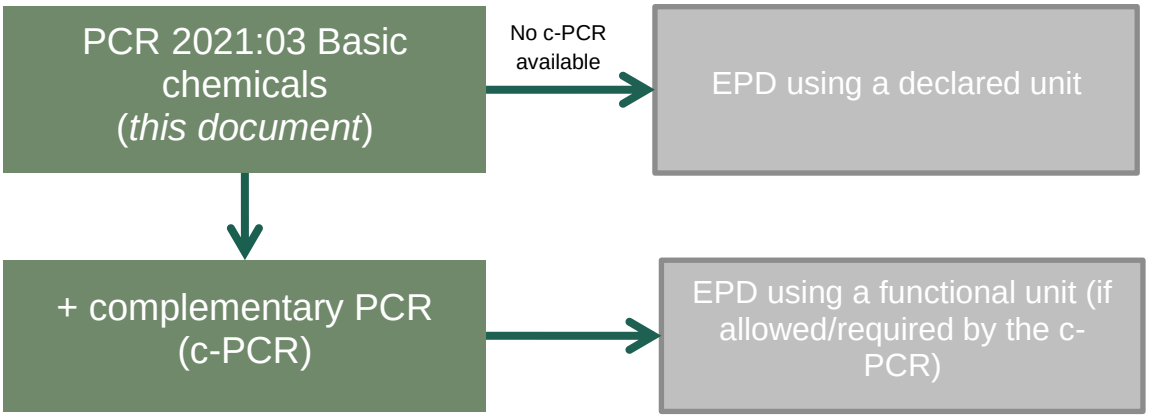


*Figure 2 Overview of how this PCR document can be used directly, or together with a c-PCR, to develop an EPD. An EPD that uses a functional unit needs a c-PCR.*

## 1.3 DEVELOPMENT OF C-PCR

A complementary PCR (c-PCR) may be developed for a more specific category of basic chemicals, for example catalysts. The development of such a c-PCR follows the regular PCR development procedure. Read more at www.environdec.com.

A c-PCR should contain:

- general information, for example scope of the c-PCR, programme-related information and information about its development; and
- further specifications and additional requirements on LCA calculations and EPD content in relation to the PCR (this document), for example regarding system boundaries, declared or functional unit, environmental indicators or additional information.

All c-PCRs currently available and under development are available at www.environdec.com.

 

# 2 GENERAL INFORMATION

## 2.1 ADMINISTRATIVE INFORMATION

| | |
|---|---|
| Name: | Basic chemicals |
| Registration number and version: | 2021:03, Version 1.1.5 |
| Programme: | The International EPD System |
| Programme operator: | EPD International AB, Box 210 60, SE-100 31 Stockholm, Sweden.<br><br>Website: www.environdec.com<br>E-mail: support@environdec.com |
| PCR moderator: | Emre Can Çorumlu (ClimatePrime), ecorumlu@climateprime.com.tr |
| PCR Committee: | Semtrio Sustainability Consulting, Spin360 Srl |
| Date of publication and last revision: | 2025-04-11 (Version 1.1.5)<br><br>See Section 8 for a version history of the PCR. |
| Valid until: | 2026-05-03 |
| Schedule for renewal: | 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.<br><br>A PCR document may be revised during its period of validity provided significant and well-justified proposals for changes or amendments are presented. See www.environdec.com for up-to-date information and the latest version. |
| Standards conformance: | ▪ General Programme Instructions of the International EPD System, version 3.01, based on ISO 14025 and ISO 14040/14044<br>▪ PCR Basic Module, CPC Division 34 Basic chemicals, version 3.02 |
| 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 Basic Chemicals and the declaration of this performance by an EPD. The product category corresponds to UN CPC Group 341, UN CPC Group 342 (except subclass 3429), UN CPC Group 343, UN CPC Group 345 (except subclass 3451).

 

The product group is defined by The UN CPC classification:

**Division: 34 - Basic chemicals**

- **Group: 341 - Basic organic chemicals**
  - Class 3411 - Hydrocarbons and their halogenated, sulphonated, nitrated or nitrosated derivatives
  - Class 3412 - Industrial monocarboxylic fatty acids; acid oils from refining
  - Class 3413 - Alcohols, phenols, phenol-alcohols, and their halogenated, sulphonated, nitrated or nitrosated derivatives, industrial fatty alcohols
  - Class 3414 - Carboxylic acids and their anhydrides, halides, peroxides and peroxyacids and their halogenated, sulphonated, nitrated or nitrosated derivatives, except salicylic acid and its salts and esters and their salts
  - Class 3415 - Amine-function compounds; oxygen-function amino-compounds, except lysine and its esters and salts thereof and glutamic acid and its salts; ureines and their derivatives and salts thereof; carboxyimide-function compounds and imine-compounds; nitrile-function compounds; diazo-, azo- or azoxy-compounds; organic derivatives of hydrazine or of hydroxylamine; compounds with other nitrogen function
  - Class 3416 - Organo-sulphur compounds and other organo-inorganic compounds; heterocyclic compounds n.e.c.; nucleic acids and their salts
  - Class 3417 - Ethers, alcohol peroxides, ether peroxides, epoxides, acetals and hemiacetals, and their halogenated, sulphonated, nitrated or nitrosated derivatives; aldehyde-function compounds; ketone-function compounds and quinone-function compounds; enzymes; prepared enzymes n.e.c.; organic compounds n.e.c.
  - Class 3418 - Phosphoric esters and their salts or esters of other inorganic acids (excluding esters of hydrogen halides) and their salts; and their halogenated, sulphonated, nitrated or nitrosated derivatives
- **Group: 342 - Basic inorganic chemicals**
  - Class 3421 - Hydrogen, nitrogen, oxygen, carbon dioxide and rare gases; inorganic oxygen compounds of non-metals n.e.c.
  - Class 3422 - Zinc oxide; zinc peroxide; chromium oxides and hydroxides; manganese oxides; iron oxides and hydroxides; earth colours; cobalt oxides and hydroxides; titanium oxides; lead oxides; red lead and orange lead; inorganic bases n.e.c.; metal oxides, hydroxides and peroxides n.e.c., except of mercury
  - Class 3423 - Chemical elements n.e.c.; inorganic acids; inorganic oxygen compounds of boron, silicon and carbon; halogen or sulphur compounds of non-metals; sodium hydroxide; hydroxide and peroxide of magnesium; oxides, hydroxides and peroxides of strontium or barium; aluminium hydroxide; hydrozine and hydroxylamine and their inorganic salts
  - Class 3424 - Phosphates of triammonium; salts and peroxysalts of inorganic acids and metals n.e.c.
  - Class 3425 - Salts of oxometallic or peroxometallic acids; colloidal precious metals and compounds thereof; inorganic and organic compounds of mercury; other inorganic chemicals n.e.c.; compressed air; amalgams
  - Class 3426 - Isotopes n.e.c. and compounds thereof (including heavy water)
  - Class 3427 - Cyanides, cyanide oxides and complex cyanides; fulminates, cyanates and thiocyanates; silicates; borates; perborates
  - Class 3428 - Hydrogen peroxide; phosphides; carbides; hydrides, nitrides, azides, silicides and borides
- **Group: 343 - Tanning or dyeing extracts; tannins and their derivatives; colouring matter n.e.c.**
  - Class 3431 - Synthetic organic colouring matter and preparations based thereon; synthetic organic products of a kind used as fluorescent brightening agents or as luminophores; colour lakes and preparations based thereon
  - Class 3432 - Tanning extracts of vegetable origin; tannins and their salts, ethers, esters and other derivatives; colouring matter of vegetable or animal origin, except animal black; preparations based on colouring matter of vegetable or animal origin

 

- Class 3433 - Synthetic organic tanning substances; inorganic tanning substances; tanning preparations; enzymatic preparations for pre-tanning
- Class 3434 - Colouring matter n.e.c.; inorganic products of a kind used as luminophores

- **Group: 345 - Miscellaneous basic chemical products (except Class 3451 Wood charcoal)**
  - Class 3452 - Sulphur, except sublimed sulphur, precipitated sulphur and colloidal sulphur
  - Class 3453 - Roasted iron pyrites
  - Class 3454 - Oils and other products of the distillation of high temperature coal tar, and similar products; pitch and pitch coke, obtained from mineral tars
  - Class 3455 - Animal or vegetable fats and oils and their fractions, chemically modified, except those hydrogenated, inter-esterified, re-esterified or elaidinized; inedible mixtures or preparations of animal or vegetable fats or oils
  - Class 3456 - Synthetic or reconstructed precious or semiprecious stones, unworked
  - Class 3457 - Glycerol

Other classes and their subclasses are not included in this PCR.

The product may be a pure basic chemical or a mixture of several of the basic chemicals listed above. The product may also be basic chemical(s) diluted in a solvent, e.g. water. Basic chemicals produced from renewable as well as non-renewable feedstocks are included.

The product group and CPC code shall be specified in the EPD. Additional information regarding CPC codes can be seen at https://unstats.un.org/unsd/classifications/Econ/cpc.

### 2.2.2 GEOGRAPHICAL REGION

This PCR is applicable to be used globally. The data for the core module shall be representative for the site/region where the respective process is taking place.

### 2.2.3 EPD VALIDITY

An EPD based on this PCR shall be valid from its registration and publication at 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 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

| | |
|---|---|
| PCR review panel: | The Technical Committee of the International EPD System. A full list of members available on www.environdec.com. The review panel may be contacted via info@environdec.com.<br><br>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: | Lars-Gunnar Lindfors |
| Review dates: | 2021-03-09 until 2021-04-13 |

## 3.2 OPEN CONSULTATION

### 3.2.1 VERSION 1.0

This PCR was available for open consultation from 2020-10-29 until 2020-12-28, during which any stakeholder was able to provide comments by posting on the PCR forum on 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. No stakeholders provided comments during the open consultation and agreed to be listed as contributors to the PCR and at www.environdec.com.

## 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.

The following existing PCRs have been identified:

| PCR NAME | PROGRAMME | REGISTRATION NUMBER | SCOPE |
|---|---|---|---|
| BASIC ORGANIC CHEMICALS | The International EPD System | 2011:17 | UN CPC 341; Expired |
| BASIC INORGANIC CHEMICALS | The International EPD System | 2011:18 | UN CPC 342; Expired – Prolonged; |
| TANNING CHEMICALS | The International EPD System | 2015:09 | UN CPC 343; Expired |

The PCRs in the above table are to be replaced by this PCR.

 

## 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.

## 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.) in this PCR were primarily based on the following underlying studies:

- WBSCD - Life Cycle Metrics for Chemical Products A guideline by the chemical sector to assess and report on the environmental footprint of products, based on life cycle assessment
- LCA of Chemicals and Chemical Products Fantke, Peter; Ernstoff, Alexi. Published in: Life Cycle Assessment: Theory and Practice
- A. Burgess, D.J.Brennan - Application of life cycle assessment to chemical processes - Chemical Engineering Science - Volume 56, Issue 8, April 2001, Pages 2589-2604
- Springer - 2020 - Life Cycle Assessment in the Chemical Product Chain Challenges, Methodological Approaches and Applications - Editors: Maranghi, Simone, Brondi, Carlo
- Walter Klöpffer - Life Cycle Assessment as Part of Sustainability Assessment for Chemicals - Environmental Science and Pollution Research volume 12, pages173–177(2005)
- Johanna Kleinekorte, Lorenz Fleitmann, Marvin Bachmann, Arne Kätelhön, Ana Barbosa-Póvoa, Niklas von der Assen, and André Bardow - Life Cycle Assessment for the Design of Chemical Processes,Products, and Supply Chains - - Annual Review of Chemical and Biomolecular Engineering
- A. Santos, A. Barbosa-Po´voa, A. Carvalho – Current Opinion in Chemical Engineering 2019

 

# 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 shall be 1 (one) kg of chemical product plus its packaging ready for delivery (the weight of the packaging shall not be included in the 1 kg declared unit). The declared unit shall be declared in the EPD.

The weight of the packaging of the studied product shall be reported separately. The environmental impacts in Section 5.4.5.1, use of resources in Section 5.4.5.2 and waste production and output flows in Section 5.4.5.2 of the product packaging shall be reported separately per life-cycle stages from those of the chemical product.

The reference flow in the LCA shall be defined at the point where the product arrives at the customer gate, i.e. any losses occurring before then must be taken into account.

This PCR uses a declared unit instead of a functional unit as all functional and qualitative aspects are not possible to capture in the same unit. These aspects should be taken into consideration when comparing EPDs based on this PCR.

EPDs based on this PCR document together with a c-PCR may use a functional unit – instead of above declared unit – if allowed by the c-PCR. For information about c-PCR, see Sections 1.2 and 1.3.

## 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 cradle to grave. End-of-life treatment of the chemical product may be excluded if all of the following criteria are fulfilled[2]:

- the product is physically integrated with other products in subsequent life-cycle process so they cannot be physically separated from them at end of life,
- the product or material is no longer identifiable at end-of-life as a result of a physical or chemical transformation process,
- the product or material does not contain biogenic carbon, and
- the EPD shall not be used for business-to-consumer communication.

### 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)

[2] Exclusion of end-of-life treatment is only applicable for the chemical product itself, not for the product packaging.

 

- 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 4.3.1.1–4.3.1.3.

#### 4.3.1.1. Upstream processes

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

- Extraction of non-renewable resources (e.g. operation of oil platforms and pipelines)
- Growing and harvesting of renewable resources (e.g. agricultural planting)
- Refining, transfer, and storage of extracted or harvested resources into feedstock for production
- The production processes of energy wares used in the extraction and refinement
- Production of electricity and fuels used in the upstream module
- Manufacturing of primary and secondary packaging
- Treatment of waste generated by the upstream module

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.

#### 4.3.1.2. Core processes

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

- External transportation to the core processes
- Production processes
- Recycling of waste or secondary materials for use in production
- Storage
- Maintenance (e.g. of the machines)
- 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

#### 4.3.1.3. Downstream processes

The following attributional processes are part of the product system and classified as downstream processes. All relevant unit processes shall be included in accordance with the rules in Section 4.3.

- Transportation of the packaged product from preparation to an average retailer/distribution platform (see Section 4.10.3 for downstream distance priority)
- Use stage
- End-of-life treatment of the chemical product

 

- End-of-life treatment of product packaging

## 4.3.2 OTHER BOUNDARY SETTING

#### 4.3.2.1. Boundary towards nature

Boundaries to nature are defined as where flows of material and energy resources leaves nature and enters the technical system, i.e. the part of the environment that is made or modified by humans. Emissions to air, water and soil cross the system boundary when they are emitted from the product system.

#### 4.3.2.2. Boundaries in the life cycle

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

#### 4.3.2.3. Boundaries towards other technical systems

See Section 4.6.2.

 

## 4.4 SYSTEM DIAGRAM

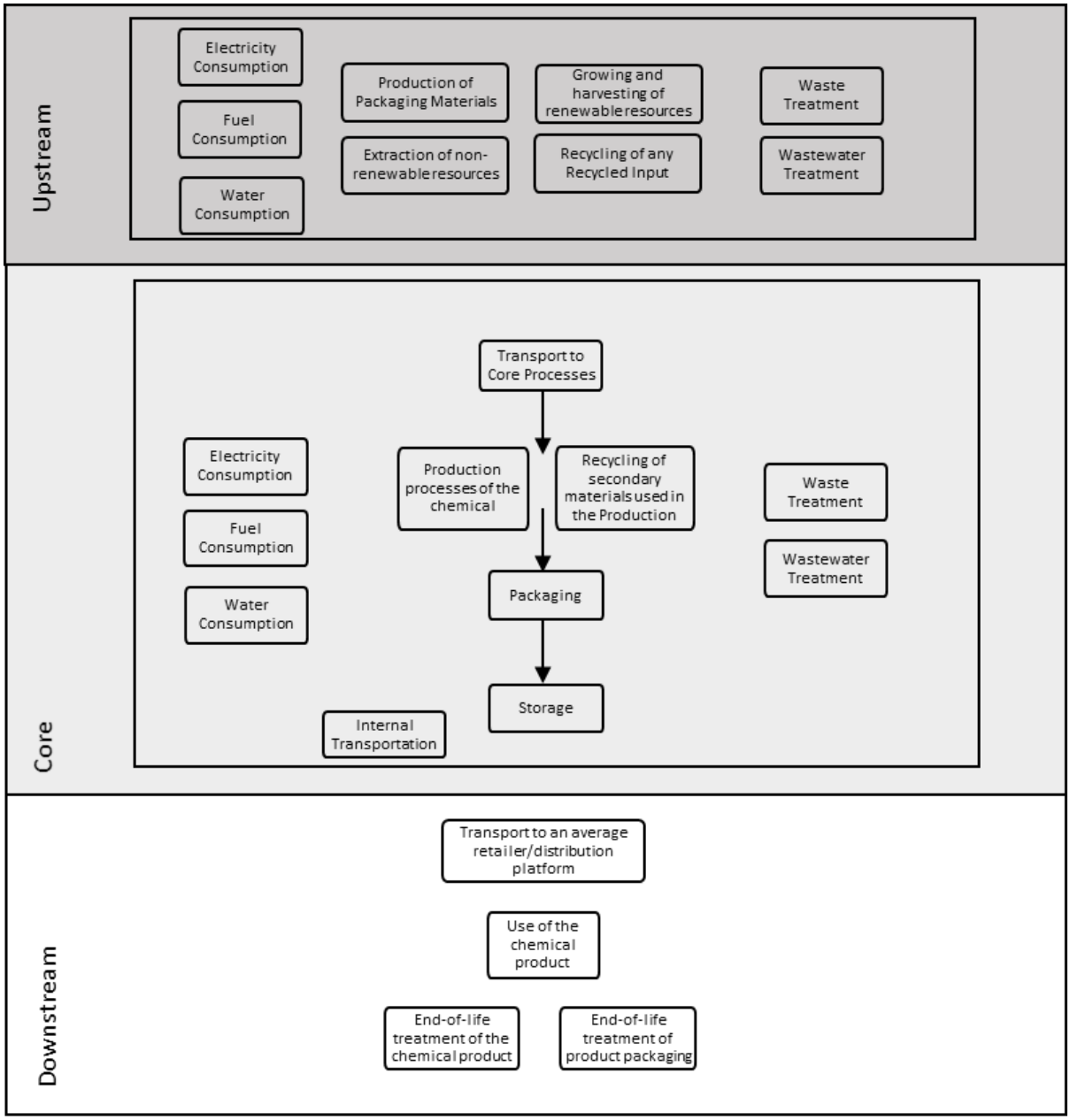


*Figure 3 System diagram illustrating the processes that are included in the product system, divided into upstream, core and downstream processes.*

## 4.5 CUT-OFF RULES

Data for elementary flows to and from the product system contributing to a minimum of 99% of the declared environmental impacts shall be included (not including processes that are explicitly outside the system boundary as described in Section 4.3).

 

The check for cut-off rules in a satisfactory way is through the combination of expert judgment based on experience of similar product systems and a sensitivity analysis in which it is possible to understand how the un-investigated input or output could affect the final results.

## 4.6 ALLOCATION RULES

### 4.6.1 CO-PRODUCT ALLOCATION

The following step-wise procedure shall be applied 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), Table 1 shall be consulted for key processes. For processes not listed the most suitable allocation procedure shall be used and documented.

| PROCESS | MAIN PRODUCT AND CO-PRODUCTS | ALLOCATION INSTRUCTION |
|---|---|---|
| Combined heat and power (all technologies) | Electricity, heat, cooling | Alternative Generation Method. Consult PCR 2007:08 Electricity, steam and district heating/cooling. |

*Table 1 Allocation procedure for key processes in the product system, if steps 1 and 2 are not possible.*

### 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.

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.

### 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 ±5% of the environmental impact of fully representative data.

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

No recommendations of specific databases for generic data are made.

All commercial or publicly available databases that meet the data quality requirements may be used. The specifications and the version of the database shall be reported in the EPD. The EPD may include a data quality declaration to demonstrate how large share of the impact assessment results that specific data, selected generic data and proxy data contributes to, respectively.

## 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 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

## 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 an organisation has direct management control shall be specific and collected on site.
- Data referring to contractors that supply main parts, 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.
- 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.[3]
    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.[4]
    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.

[3] 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.

[4] 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.

 

- 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.

### 4.10.3 DOWNSTREAM PROCESSES

The following requirements apply to the downstream processes:

- Data for the use stage are usually based on scenarios, but specific data should be used when available and relevant. It is not mandatory to declare any quantitative information about the use and end-of-life phases[5] of the chemical product. However, a short description of the main applications and associated disposal scenarios should be declared together with a qualitative description of key environmental aspects associated with the use and end-of-life fate of all components of the product. The carbon content of the product and the packaging can be used to calculate climate impact at end of life.
- Data on the pollutant emissions from the use stage should be based on documented tests, verified studies in conjunction with average or typical product use, or recommendations concerning suitable product use. Whenever applicable, test methods shall be internationally recognised.
- The use of electricity in the region/country where the product is used (as specified in the geographical scope of the EPD) shall be accounted for in the following priority:
    1. National residual electricity mix or residual mix on the market
    2. National electricity production mix or electricity mix on the market

    The mix of electricity used in the downstream processes shall be documented in the EPD, where relevant.
- The transport of the product to the customer shall be described in the LCA and in the EPD, which should reflect the actual situation to the best extent possible. The following priority should be used:
    1. Actual transportation distances and types.
    2. Calculated as the average distance of a product of that product type transported by different means of transport modes.
    3. Calculated as a fixed long transport of 1 000 km road transportation by lorry.
- Scenarios for the end-of-life stage 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.
- Recycling or handling of packaging waste/materials after use: Packaging materials and benefits beyond the system boundary may be evaluated. Country specific legislation regarding to packaging waste treatment should be used for developing the scenario. The scenario and data sources should be reported in the EPD.

# 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

As a general rule the EPD content:

[5] Most basic chemical products have many different applications and are often used as input materials to other production processes. Typically, it is difficult to allocate an environmental burden from the use phase to the chemical input. Also, the end-of-life management depends on the application and location of the use and disposal of the chemical. Furthermore, the chemical may be used in a conversion process in which part of the chemical is incorporated in a new product and part of the chemical is disposed of as waste or as an emission. See Section 4.3 for criteria for when use stage and end-of-life treatment of the product can be excluded.

 

- 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 ($m^3$)
  - 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[6] 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 26th, 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.[7]
  - Contain no blank cells, hyphens, less than or greater than signs or letters (except “INA”).
  - 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.

[6] 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 $1.2*10^2$ and $1.2*10^{-2}$.

[7] This requirement does not intend to give guidance on what indicators are mandated (“shall”) or voluntary.

 

## 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,*
- *Programme operator: EPD International AB*
- Logotype of the International EPD System,
- EPD registration number as issued by the programme operator[8],
- *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*.”
- A statement of conformity with ISO 14025,

[8] 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.

 

### 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*
- 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[9] and reference PCR in a table with the following format and contents:

| |
|---|
| Product category rules (PCR):<br>PCR 2021:03 Basic chemicals (version 1.1)<br>*<name and version of c-PCR, if applicable>* |
| 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 EPD verification of the declaration and data, according to ISO 14025:2006:<br><br>☐ Process certification ☐ Individual verification |
| Third party verifier: *<name, organisation and signature of the third party verifier>*<br><br>*In case of certification bodies:*<br>Accredited by: *<name of the accreditation body and accreditation number, if applicable>.*<br><br>*In case of individual verifiers:*<br>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:<br><br>☐ Yes ☐ 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),

[9] 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.

 

- United Nations Standard Products and Services Code® (UNSPSC),
- Classification of Products by Activity (NACE/CPA) or
- Australian and New Zealand Standard Industrial Classification (ANZSIC),

- 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,
- Functional unit or 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 if the EPD system boundary is "cradle-to-gate", "cradle-to-gate with options" or "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,
- If the EPD represents a product group or product(s) from several manufacturing sites, this shall be clearly stated, and the method used for calculating the average environmental impacts shall be explained in the LCA and shall be available to the verifier. In applicable cases information about the concentration of the basic chemical shall be included. Any claims made about the product shall be available to the verifier.

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,
- Additional voluntary information may be reported in the following table:

| PARAMETER | UOM | DATA |
|---|---|---|
| Appearance | - | |
| Typical usage | - | |
| Total solids | % *(other units may be used)* | |
| PH | - | |
| Density | $g/cm^3$ *(other units may be used)* | |

*Table 2: Additional voluntary information regarding product specification*

### 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/volume of material shall be declared in the EPD at a minimum of 99 % of one product unit[10]. The product components shall be declared by IUPAC[11] names, CAS numbers and GHS phrases[12] (if applicable)[13].An exception to the 99% rule is that all materials/substances hazardous to health and the environment, being carcinogenic, mutagenic or toxic to reproduction (CMR), allergic, PBT[14] or vPvB[15] shall be listed as such. Even if a substance does not have a classification but is suspected to fall under any of these categories, it shall be listed as well.

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)[16], 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.

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.

[10] If the applicant considers such information to be confidential business information, generic material names or chemical family name may be provided

[11] International Union of Pure and Applied Chemistry

[12] Globally Harmonized System of Classification and Labelling of Chemicals

[13] Other standards may be used that allow unequivocally identifying the product. If the applicant considers such information to be confidential business information, generic product name or chemical family name may be provided.

[14] Persistent, bio accumulative and toxic

[15] Very persistent and very bio accumulative

[16] The GHS document is available on www.unece.org.

 

## 5.4.5 ENVIRONMENTAL PERFORMANCE

### 5.4.5.1. Environmental impacts

The EPD shall declare the results of the environmental impact indicators, per declared unit, per life-cycle stage and in aggregated form, using the default impact categories, impact assessments methods and characterisation factors available at www.environdec.com/indicators. The results of the packaging shall be reported separately per life-cycle stage from those of the chemical. The source and version of the impact assessment methods and characterisation factors used shall be reported in the EPD.

### 5.4.5.2. Use of resources

The EPD shall declare the results of the indicators for resource use listed at www.environdec.com/indicators per declared unit, per life-cycle stage and in aggregated form. The results of the packaging shall be reported separately per life-cycle stage from those of the chemical.

### 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 results of the indicators for waste production and output flows as listed at www.environdec.com/indicators per declared unit, per life-cycle stage and in aggregated form. The results of the packaging shall be reported separately per life-cycle stage from those of the chemical.

### 5.4.5.4. Other environmental indicators

The EPD may contain other environmental indicators to include for the products covered in the EPD from the inventory or impact assessment. Such indicators should be based on international standards or similar methodologies developed in a transparent procedure. References to the chosen indictors and methodologies shall be reported.

The following potential environmental impacts may be calculated and reported in the EPD:

- Toxic emissions, Freshwater ecotoxicity (expressed as PAF.m3.day (USEtox 2 (recommended + interim) may be used)
- Human Toxicity cancer and non-cancer (expressed as cases (USEtox 2 (recommended + interim) may be used)
- Any other important environmental indicators related to the chemical product may be listed in the EPD. Examples of additional indicators can be found in the “Life Cycle Metrics for Chemical Products” (WBCSD Chemicals, 2014).

As for the mandatory indicators, the EPD shall declare the results of the other environmental indicators per declared unit, per life-cycle stage and in aggregated form, and the results of the packaging shall be reported separately per life-cycle stage from those of the chemical.

## 5.4.6 ADDITIONAL INFORMATION

An EPD may contain additional information not derived from the LCA-based calculations. The part of the EPD describing additional information may include various issues. Examples of these are:

- Toxic emissions may be reported in the EPD considering air, soil and water. Attention shall be paid to all materials/substances hazardous to health and the environment, being allergenic, carcinogenic, mutagenic or toxic to reproduction.
- By-product generated by the production process.
- If biotic matter is used as feedstock (i.e. ends up in the chemical), information regarding the typical crop shall be included. If this information is not known, this shall be stated and explained in the EPD. The typical location of the growing of the crop may also be provided in the EPD.
- Material Safety Data Sheet (MSDS) information may be used as a basis for risk communication.
- A more detailed description of an organisation’s overall environmental management, such as:
  - the existence of a quality or environmental management system or any type of organised environmental activity,

 

- any activity related to supply chain management, social responsibility, etc., and
- information on where interested parties may find more details about the organisation's environmental work.

### 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

### 5.4.9 REFERENCES

A reference section shall include a list of references, 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

| | |
|---|---|
| AP | Acidification potential |
| B2B | Business to business |
| $C_2H_4$ | Ethene |
| CEN | European Committee for Standardization |
| CFC | Chlorofluorocarbons |
| $CO_2$ | Carbon dioxide |
| CPC | Central product classification |
| EN | European norms |
| EP | Eutrophication potential |
| EPD | Environmental product declaration |
| GPI | General programme instructions |
| GWP | Global warming potential |
| ISO | International Organization for Standardization |
| kg | kilogram |
| LCA | Life cycle assessment |
| LCI | Life cycle inventory |
| MJ | Megajoules |
| NMVOC | Non-methane volatile organic compounds |
| PAF | Potentially affected fraction |
| PCR | Product Category Rules |
| $PO_4^3$ | Phosphate |
| POFP | Photochemical oxidant formation potential |
| REACH | Registration, Evaluation, Authorisation and Restriction of Chemicals |
| Sb | Antimony |
| SI | The International System of Units |
| $SO_2$ | Sulphur dioxide |
| UN | United Nations |

# 7 REFERENCES

CEN (2013), EN 15804:2012+A1:2013, Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products.

EPD International (2017) General Programme Instructions for the International EPD System. Version 3.0, dated 2017-12-11. www.environdec.com

ISO (2000), ISO 14020:2000, Environmental labels and declarations – General principles

ISO (2004), ISO 8601:2004 Data elements and interchange formats – Information interchange – Representation of dates and times

ISO (2006a), ISO 14025:2006, Environmental labels and declarations – Type III environmental declarations – Principles and procedures

ISO (2006b), ISO 14040:2006, Environmental management – Life cycle assessment – Principles and framework

ISO (2006c), ISO 14044: 2006, Environmental management – Life cycle assessment – Requirements and guidelines

ISO (2013), ISO/TS 14067:2013, Greenhouse gases – Carbon footprint of products – Requirements and guidelines for quantification and communication

ISO (2014), ISO 14046:2014, Environmental management – Water footprint – Principles, requirements and guidelines

ISO (2017), ISO 21930:2017, Sustainability in buildings and civil engineering works -- Core rules for environmental product declarations of construction products and services

PCR (2011:17), Basic organic chemicals v 2.1, The International EPD System, https://www.environdec.com/PCR/

PCR (2011:18), Basic inorganic chemicals n.e.c. v 2.12, The International EPD System, https://www.environdec.com/PCR/

PCR (2015:09), Tanning chemicals v 1.01, The International EPD System, https://www.environdec.com/PCR/

 

# 8 VERSION HISTORY OF PCR

## VERSION 1.0, 2021-05-03

Original version of the PCR.

## VERSION 1.1, 2022-01-14

- Upgrading of the PCR into a main PCR, thereby allowing the development of c-PCRs with additional requirements and further specifications, for more specific product categories of basic chemicals.
- Editorial changes.

## VERSION 1.1.1, 2023-03-06

Editorial changes: corrected errors in the numbering of classes in UN CPC group 345 in Section 2.2.1, and corrected a broken link in Section 2.2.3.

## VERSION 1.1.2, 2024-01-25

Updated with changed scope, excluding UN CPC 34290, which is now instead covered by PCR 2024:01 Rare-earth concentrates, oxides, metals, and magnets (for non-construction uses). Version 1.1.1 of the present PCR will continue to be valid in parallel to version 1.1.2 (later updated to version 1.1.3) during a six-month transition period ending 2024-07-25, not to interfere with ongoing EPD projects for products belonging to UN CPC 34290.

## VERSION 1.1.3, 2024-03-04

Editorial changes, including a change to correct version number at the cover page.

## VERSION 1.1.4, 2025-01-20

Updated with a new PCR Moderator and an extended validity with one year (until 2026-05-03) due to the initiation of an updating process.

## VERSION 1.1.5, 2025-04-11

Updated with a new affiliation and contact information of the PCR Moderator.

 