LUBRICANTS AND LUBRICATING GREASE FLUID

PRODUCT CATEGORY CLASSIFICATION: UN CPC 33380, 35430

PCR REGISTRATION NUMBER TO BE ADDED BY THE SECRETARIAT
VERSION 1.0.0 FOR OPEN CONSULTATION. DO NOT USE OR CITE.

VALID UNTIL 20XX-YY-ZZ *(TO BE ADDED BY THE SECRETARIAT)*

Draft PCR for open consultation

INTRODUCTION TO OPEN CONSULTATION

This draft PCR document is available for open consultation from 2025-04-01 until 2025-06-01. Feel free to forward the draft to any other stakeholder you might think is relevant, including colleagues and other organisations.

We are interested in comments from stakeholders on:

- General
  - Alignment with PCRs available in other programmes for type III environmental declarations, industry-specific LCA guidelines or similar.
- Scope of PCR
  - Product category definition and description
  - Classification of product category using CPC codes
- Goal and scope, life cycle inventory and life cycle impact assessment
  - Functional unit/declared unit
  - System boundary
  - Allocation rules
  - Data quality requirements
  - Recommended databases for generic data
  - Impact categories and impact assessment methodology
- Additional information

Comments shall be sent directly to the PCR Moderator (contact details available in Section 1). There is a template for comments on www.environdec.com that may be used.

For questions about the PCR, please contact the PCR moderator. For general questions about the International EPD System, EPD or PCR development, please contact the Secretariat via https://www.environdec.com/support.

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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 Environmental Product Declarations (EPD)[1] according to ISO 14025:2006, ISO 14040:2006, ISO 14044:2006, and product-specific standards, such as EN 15804 and ISO 21930 for construction products. EPDs are voluntary documents for a company or an industry association to present transparent, consistent, and verifiable information about the environmental performance of their products (goods or services).

The General Programme Instructions (GPI), publicly available on www.environdec.com, includes the rules for the overall administration and operation of the programme and the basic rules for developing EPDs registered in the programme. A PCR complements the GPI and the normative standards by providing specific rules, and guidelines for developing an EPD for one or more specific product categories (see Figure 1), thereby enabling the generation of consistent EPDs within a product category. A PCR should not repeat the rules and guidelines of the GPI, but include additions, specifications and deviations to the rules set in the GPI. As such, a PCR shall be used together with the GPI.

This PCR is a main PCR that may be complemented with one or several complementary PCR (c-PCR). If there is an applicable and valid c-PCR, it shall be used in case it has been valid for at least 90 days when the EPD is verified[2]. If it has been valid for less than 90 days, it is optional to use the c-PCR. The valid c-PCRs can be found on www.environdec.com.

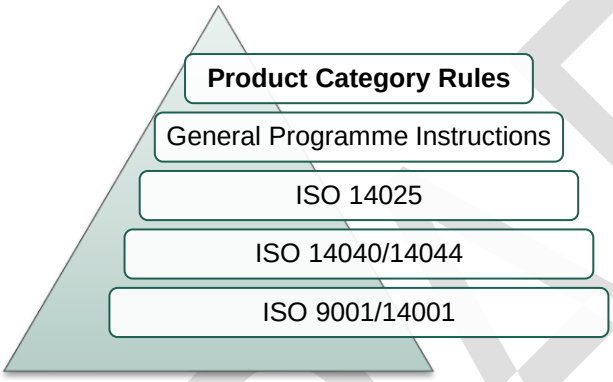

Figure 1. The hierarchy between PCRs, standards, and other documents. EN 15804 and ISO 21930 are normative standards for construction products only.

The present PCR uses the following terminology:

- The term “shall” is used to indicate what is obligatory, i.e., a requirement.
- The term “should” is used to indicate a recommendation. Any deviation from a recommendation shall be justified in the EPD development process.
- The terms “may” or “can” are used to indicate an option that is permissible.

For definitions of other terms used in the document, see the GPI and normative standards.

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

The programme operator maintains the copyright of the PCR to ensure that it is possible to publish, update, and make it 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] Termed type III environmental declarations in ISO 14025.

[2] This does not apply when the EPD is re-verified during its validity, unless the validity period is extended.

2 GENERAL INFORMATION

2.1 ADMINISTRATIVE INFORMATION

Name:	Lubricants And Lubricating Grease Fluid
Registration number and version:	*To be added by the Secretariat*
Programme:	INTERNATIONAL EPD SYSTEM The International EPD System
Programme operator:	EPD International AB, Box 210 60, SE-100 31 Stockholm, Sweden. Website: www.environdec.com E-mail: support@environdec.com
PCR Moderator:	Shuyi Wang, CECEP Eco-product Development Research Center Co., Ltd (on behalf of Sinopec Lubricating Oil Co., LTD), alice.399@hotmail.com.
PCR Committee:	Sinopec Lubricating Oil Co., LTD; CECEP Eco-product Development and Research Center Co., Ltd.; Sinopec Research Institute of Petroleum Processing Co., LTD.
Publication date:	*To be added by the Secretariat* See Section 9 for a version history of the PCR.
Valid until:	*To be added by the Secretariat* The validity may change. See www.environdec.com for the latest version of the PCR and the latest information on its validity and transition periods between versions.
Development and updates:	The PCR has been developed following ISO 14027, including public consultation and review. The rules for the development and updating processes are described in Section 9 of the GPI. The PCR is valid for a pre-determined time period 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 on if and how to proceed with updating the PCR and renewing its validity. A PCR may be updated before it expires, based on changes in normative standards or provided significant and well-justified proposals for changes or amendments are presented. When there has been an update of the PCR, the new version should be used to develop EPDs. For small updates (change of third-digit version number), the previous version is normally immediately removed from the PCR library on www.environdec.com and there is no transition period. For medium updates (change of second-digit version number), the previous version of the PCR is valid in parallel during a transition period of at least 90 days, but not exceeding its previously set validity period. For large updates (change of first-digit version number), the previous version is valid in parallel during a transition period of at least 180 days, but not exceeding its previously set validity period.

	Stakeholder feedback on PCRs is very much encouraged. Any comments on this PCR may be sent directly to the PCR Moderator and/or the Secretariat during its development or during its period of validity.
Standards and documents conformance:	General Programme Instructions of the International EPD System, version 5.0.0, based on ISO 14025 and ISO 14040/14044.[3]
PCR language(s):	At the time of publication, this PCR was available in English. If the PCR is available in several languages, these are available on www.environdec.com. 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 lubricants and lubricating grease fluid corresponding to UN CPC Division 33 and 35, including class 3338 and 3543 and their declaration of this performance by an EPD.

- UN CPC Subclass 33380 - lubricants, i.e. oils produced from crude oil, for which the principal use is to reduce friction between sliding surfaces and during metal cutting operations
- UN CPC Subclass 35430 - Lubricating preparations and preparations of a kind used for the oil or grease treatment of materials, except of petroleum; prepared additives for mineral oils; prepared liquids for hydraulic transmission, except of petroleum; anti-freezing preparations and prepared de-icing fluids. This subclass is defined through the following headings/subheadings of the HS 2007: 3403, 3811, 3819, 3820.

The product group and CPC code shall be specified in the EPD. Additional information regarding CPC codes is available at https://unstats.un.org/unsd/classifications/Family/Detail/1074.

2.2.2 GEOGRAPHICAL SCOPE

This PCR may be used globally.

2.2.3 EPD VALIDITY

An EPD becomes valid as of its version date (see Section 8.4.5 of the GPI). When an EPD is originally published, the validity period is normally five years starting from the version date or until the EPD has been de-registered from the International EPD System. Shorter validity periods are also accepted, for example if decided by the EPD owner.

For rules on when an EPD shall be updated and re-verified during its validity, see Section 6.8.1 of the GPI. For validity periods in case of updates of EPDs, see Section 6.8 of the GPI.

The version date and the period of validity shall be stated in the EPD.

Publication of a new version of the PCR or the GPI does not affect the validity of already published EPDs.

[3] Some rules influencing EPD development are independent of the GPI version referred to in the PCR. For example, the latest rules on EPD verification procedures in the GPI shall be followed within 90 days of its publication. See Section 5.1 in the GPI for a description of the four categories of rules and when they shall be followed.

3 REVIEW AND BACKGROUND INFORMATION

This PCR was developed in accordance with the PCR development process described in the GPI of the International EPD System, including open consultation and review.

3.1 OPEN CONSULTATION

3.1.1 VERSION 1.0.0

This PCR was available for open consultation from 2025-04-01 until 2025-06-01, during which any stakeholder was able to provide comments by contacting the PCR Moderator and/or the Secretariat.

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 in the PCR and on www.environdec.com:

- *List of stakeholder names and affiliation (to be added after the open consultation).*

3.2 PCR REVIEW

3.2.1 VERSION 1.0.0

PCR review panel:	The Technical Committee of the International EPD System. A full list of members is available on www.environdec.com. The review panel may be contacted via support@environdec.com. Members of the Technical Committee were requested to state any potential conflict of interest with the PCR Committee, and if there were conflicts of interest they were excused from the review.
Chair of the PCR review:	*To be added by the Secretariat*
Review dates:	*To be added by the Secretariat*

3.3 EXISTING PCRS FOR THE PRODUCT CATEGORY

As part of the development of this PCR, existing PCRs and other internationally standardised methods that could potentially act as PCRs were considered to avoid unnecessary overlaps in scope and to ensure harmonisation with established methods of relevance for the product category. The existence of such documents was checked among the following EPD programmes and international standardisation bodies:

- International EPD System. www.environdec.com.
- BRE Global
- EPD Italy
- EPD Norge
- UL Environment

No existing EPD PCRs or other relevant internationally standardized methods with overlapping scope were identified.

3.4 REASONING FOR DEVELOPMENT OF PCR

This PCR was developed to enable publication of EPDs for the product category defined in Section 2.2.1 based on ISO 14025 and ISO 14040/14044. The PCR enables different practitioners to generate consistent results when assessing the environmental impact of products of the same product category, and thereby it supports comparability of products within a product category.

3.5 UNDERLYING STUDIES USED FOR PCR DEVELOPMENT

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

- Ljubica D ,Stevan M ,Mitar J , et al. Life Cycle Assessment of Different Waste Lubrication Oil Management Options in Serbia[J].Applied Sciences,2021,11(14):6652-6652.
- Hassanain M E ,Yacout M M D ,Metwally A M , et al. Life cycle assessment of waste strategies for used lubricating oil[J].The International Journal of Life Cycle Assessment,2017,22(8):1232-1240.
- Madhesan B ,R E S ,Sanil S , et al. Novel pathways for fuels and lubricants from biomass optimized using life-cycle greenhouse gas assessment.[J].Proceedings of the National Academy of Sciences of the United States of America,2015,112(25):7645-9.
- Pires A ,Martinho G .Life cycle assessment of a waste lubricant oil management system[J].The international journal of life cycle assessment,2013,18(1):102-112.
- A S M ,E A L ,L T T , et al. A comparative life cycle assessment of petroleum and soybean-based lubricants.[J].Environmental science & technology,2007,41(11):4143-9.
- Våg C ,Marby A ,Kopp M , et al. A comparative life cycle assessment of the manufacture of base fluids for lubricants[J]. Journal of Synthetic Lubrication,2002,19(1):39-57.
- Omair M ,Sarkar B ,Cárdenas-Barrón E L , et al. Minimum Quantity Lubrication and Carbon Footprint: A Step towards Sustainability[J].Sustainability,2017,9(5):714-714.
- Long J ,Lu Y ,Zhang H , et al. Life cycle assessment of a slipper/swash plate friction pair based on thermal-fluid-structure lubrication state dynamic recognition[J].Tribology International,2024,192109256.
- K.K. M ,A. A ,A. H , et al. Recycling of waste lubricating oil: A review of the recycling technologies with a focus on catalytic cracking, techno-economic and life cycle assessments[J].Journal of Environmental Chemical Engineering,2023,11(6).

4 LCA METHOD

This section provides rules for the LCA method used to develop an EPD for the product category as defined in Section 2.2.1. The basic rules of the LCA method are set in Annex A of the GPI, and this section only includes additions, specifications and deviations to the rules set in the GPI. Guidance and examples of applying the LCA method are also available on www.environdec.com/methodology.

4.1 MODELLING APPROACH

See Section A.1 of the GPI.

4.2 DECLARED UNIT

The declared unit (DU) shall be one 1 kg of lubricant product and its packaging (the weight of the packaging is not included in this 1 kg). The environmental impact shall be given per declared unit.

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. To be able to compare EPDs, it is recommended that the lubricant compared with each other have a similar output and function, these aspects should be taken into consideration when comparing EPDs based on this PCR. The EPD shall therefore include a statement saying that the function of the product must be the same for the EPDs to be comparable.

Additional functions shall be reported in the documentation but shall not be considered in the LCA/EPD calculation. Examples of additional functions are:

- Cooling ability
- Corrosion Protection
- Cleaning abilities
- Biodegradability
- Service life

4.2.1 TECHNICAL SPECIFICATION, LIFESPAN AND REFERENCE SERVICE LIFE (RSL)

There are different kinds of lubricant products, which may have different characteristics. Technical specifications of the declared product/products shall be documented, e.g.:

- performance characteristics
- technical information
- application ranges
- product categories
- typical product information
- safety description
- other additional information

4.3 SYSTEM BOUNDARY

The scope of this PCR and EPDs based on it is “cradle-to-grave”.

All environmentally relevant processes from “cradle to grave” should be included, so that at minimum 95% of the total energy use, mass of product content, and environmental impact is accounted for (see Section 4.5).

When the product categories in this PCR are intended for a range of applications (with the end use unknown); the system boundary may be limited to 'cradle to gate,' or the use stage may be excluded. If end-of-life treatment is excluded, the following criteria shall be fulfilled (the first three criteria are adapted from EN 15804, and the fourth criteria is adapted from ISO 14025):

- the product is physically integrated with other products in subsequent life-cycle process (e.g., during installation in a building) 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 AND INFORMATION MODULES

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

- Upstream processes
- Core processes
- Downstream processes

In the EPD, the environmental performance associated with each of the three life-cycle stages above shall be reported separately and in aggregated form.

In the EPD, the environmental performance of each of the life-cycle stages shall be reported separately, and in aggregated form for the life-cycle stages.

Section A.3.1 of the GPI outlines rules for how to assign generation of electricity and production of fuels, steam and other energy carriers used, and losses arising, in each information module.

4.3.1.1 Upstream processes

The following unit processes are part of the product system and shall be classified as upstream processes:

- extraction and processing of raw materials, such as base oils.
- recycling processes of secondary materials from other product life cycles,
- production of input components, such as additives.
- relevant services, such as transport of raw materials and components along the upstream supply chain to a distribution point (e.g. a stockroom or warehouse),
- production of distribution and consumer packaging, and
- generation of electricity and production of fuels, steam and other energy carriers used in upstream processes.

Processes not listed here 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 unit processes are part of the product system and shall be classified as core processes:

- transportation of materials and components to the manufacturing of the lubricant product under study,
- manufacturing of the lubricant product under study, including base oil feeding, saponification (if any), blending, etc.,
- building (or dismantling) of a production site, infrastructure, production and maintenance of manufacturing equipment, and personnel activities if they make up a significant share of the overall attributable environmental impact,
- end-of-life treatment of lubricant manufacturing waste, even if carried out by third parties, including transportation, and
- generation of electricity and production of fuels, steam and other energy carriers used in core processes.

Core processes not listed may also be included. Manufacturing of a minimum of 99% of the total weight of the declared product including packaging shall be included.

The following processes shall not be included:

- manufacturing of production equipment, buildings and other capital goods,
- business travel of personnel,
- travel to and from work by personnel, and
- research and development activities.

Processes not listed here 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.

4.3.1.3 Downstream processes

The following unit processes are part of the product system and shall be classified as downstream processes:

- transportation of the lubricant product to retailer, wholesale or consumer,
- product use, e.g. use of electricity or water, use activities causing direct emissions, maintenance activities, if relevant,
- end-of-life treatment of the used lubricant product and its packaging, including transportation, and
- generation of electricity and production of fuels, steam and other energy carriers used in downstream processes.

Processes not listed here 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.

4.3.1.4 Excluded processes

See Section A.3.1.1 of the GPI.

4.3.2 OTHER BOUNDARY SETTING RULES

See Section A.3.2 of the GPI for rules on setting boundaries to nature as well as geographical and temporal boundaries. See Section A.4 of the GPI and Section 4.6 below for rules on setting boundaries to other product systems.

4.4 PROCESS FLOW DIAGRAM

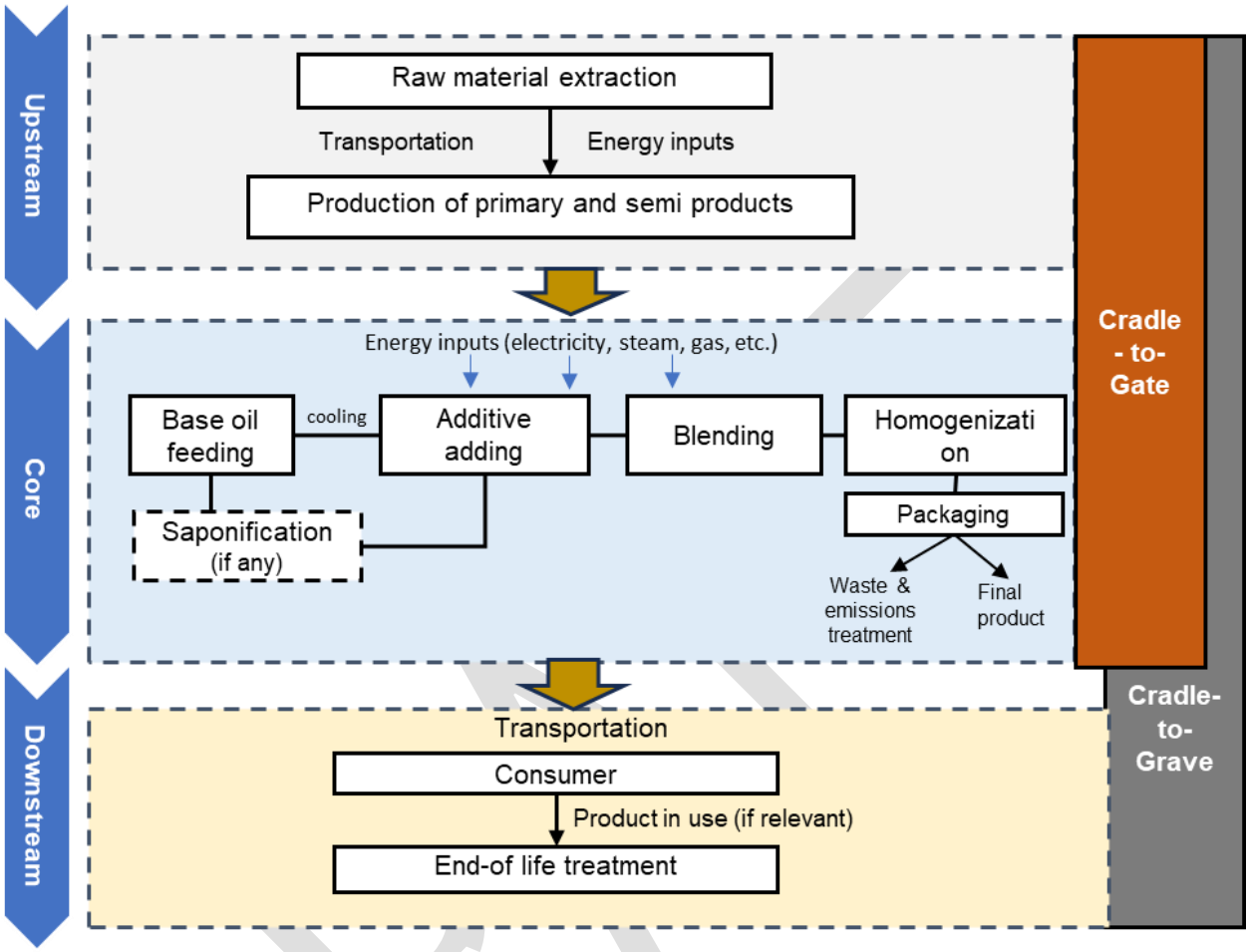

Figure 2. Process flow diagram illustrating the processes that shall be included in the product system, divided into the life-cycle stages. The illustration of processes to include may not be exhaustive.

4.5 CUT-OFF RULES

See Section A.3.3 of the GPI.

4.6 ALLOCATION RULES

See Section A.4 of the GPI.

4.6.1 ALLOCATION OF CO-PRODUCTS

See Section A.4.1 of the GPI.

4.6.2 ALLOCATION OF WASTE

See Section A.4.2 of the GPI.

4.7 DATA AND DATA QUALITY RULES

Section A.5 of the GPI.

EPDs shall include a declaration of the quality of data used in the LCA calculations. See Section 4.7.4.

See Section 4.9 for further rules related to data and data quality per life-cycle stage.

4.7.1 DATA CATEGORIES

See Section A.5.1 of the GPI.

4.7.2 DATA QUALITY REQUIREMENTS FOR PRIMARY DATA

See Section A.5.2 of the GPI.

4.7.3 DATA QUALITY REQUIREMENTS FOR REPRESENTATIVE SECONDARY DATA

See Section A.5.4 of the GPI.

The EPD shall include a data quality declaration to demonstrate the share of primary data, and secondary data contributing to the results of the environmental impact indicators.

4.7.4 DATA QUALITY ASSESSMENT AND DECLARATION

The EPD shall include a data quality declaration. For example, data quality indicators can be utilised to evaluate data quality level. A description of data quality indicators is shown in Table 1 (UEIL, 2023). Table 2 detailed descripted data quality indicators. For each indicator, three quality levels exist, where level 1 represents the highest data quality and level 3 the lowest.

Table 1. Data quality indicators

Data Quality Indicator (DQI)	Description
Technological representativeness (TeR)	Lubricant manufacturers should select data that are technologically specific. Relevant data from actual production plants should be utilised for the product under study.
Temporal representativeness (TiR)	Lubricant manufacturers should select data that are temporally specific. The degree to which the data reflects the actual time (e.g., year) or age of the activity.
Geographical representativeness (GeR)	Production chains of chemicals vary across regions. Therefore, datasets that accurately reflect the relevant geography should be utilised. Lubricant manufacturers shall select data that are geographically specific.
Completeness (C)	Completeness includes the percentage of locations and processes for which data is available and used out of the total number that relate to a specific activity.
Reliability (R)	More reliable results are achieved when data is obtained from measurements of production data specific to the site and detailed modelling. On the other hand, simplified process calculations and assumptions result in less reliable data sets.

Table 2. Data quality levels

Data Quality Indicator (DQI)	1	2	3
Technological representativeness (TeR)	Same technology: All relevant production technologies are considered for the main product and raw materials.	Similar technology: The production technology used to model up to 50% of the raw materials is industrially relevant/similar but not the predominant market technology.	Different or unknown technology: Production of the main product or one or more major raw materials is based on a technology that is known not to be representative.
Temporal representativeness (TiR)	Representativeness has been checked and confirmed from the reporting year.	Representativeness has been checked and confirmed within the last 5 years. Minor changes are known, but the dataset is still considered to be partly representative.	Data for substantial parts of the production chain is known to be outdated. Data is older than 5 years.
Geographical representativeness (GeR)	Data correspond to the country average or state of the production location. No region-specific averages such as EU, EMEA, or Asia are used to represent a specific state or country.	Data correspond to a similar area or region using region-specific averages.	Data correspond to the global average or an unknown area.
Completeness (C)	Data collected for all relevant sites and processes within one year that have been measured at a high level of detail. In case of irregular production years, data is collected within up to three years.	Data collected for less than 50% of sites or processes within one year, or data collected for more than 50%of sites or processes within less than one year. In case of irregular production years data is collected for less than 50%of sites or processes within three years, or for more than 50%of sites or processes within less than three years.	Data collected for less than 50% of sites or processes within less than one year or unknown. In case of irregular production years, data is collected for less than 50% of sites or processes within less than three years.

Reliability (R)	The activity data is fully based on measurements at relevant production sites. The results have been verified.	Activity data is partly based on assumptions, such as simplified process calculations or non-verified assumptions.	The activity data is based on non-qualified estimates.

4.7.5 EXAMPLES OF DATABASES FOR SECONDARY DATA

No specific databases are recommended. Any data that fulfil the above prescribed data quality rules may be used. Any database or dataset to use as representative secondary data for specific unit processes shall meet the requirements of the International EPD System for data quality, representativeness, review, scope of documentation, geographical scope, etc.

4.8 OTHER LCA RULES

See Section A.6 of the GPI.

For specific LCA rules per life-cycle stage, see Section Fel! Hittar inte referenskälla..

4.8.1 MASS BALANCE

See Section A.6.1 of the GPI.

4.8.2 ELECTRICITY MODELLING

See Section A.6.2 of the GPI.

4.8.3 BIOGAS MODELLING

See Section A.6.3 of the GPI.

4.9 SPECIFIC RULES PER LIFE CYCLE STAGE

4.9.1 UPSTREAM PROCESSES

Primary data shall be collected to quantify the input and output flows of the lubricant manufacturer's production system. In case Primary data is lacking, selected Secondary data may be used. If this is also lacking, proxy data may be used.

For non-continuous or irregular pandemic years, recessions, etc., production data shall be averaged for a longer period of up to three production years for use in a EPD calculation. Primary data used in the EPD calculation shall be as recent as practicable and not older than five years.

- Data referring to processes and activities in upstream that are either owned or controlled by the reporting company shall be collected on site. Measured data shall be collected over a period of one year, e.g. production years, e.g. data from ERP systems or documentations.
- Ideally, packaging data should be requested from the contractor as Primary data.
- Data on transport of main materials along the supply chain to a distribution point (e.g. a stockroom or warehouse) where the final delivery to the manufacturer can take place, should be specific and based on the actual mass, transportation mode, distance from the supplier, and vehicle load.

- For upstream processes modelled with Primary data, generation of electricity used 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 as provided by the electricity supplier.
    2. Residual electricity mix of the electricity supplier on the market.
    3. Residual electricity mix on the market.
    4. Electricity consumption mix on the market.

  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 consumption mix.

  "The market" in the above hierarchy may correspond a national electricity market, if this can be justified.

  The mix of electricity used in upstream processes shall be documented in the EPD, where relevant.
- Packaging: Primary 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, Secondary 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.

4.9.2 CORE PROCESSES

- Primary data shall be used for the assembly of the lubricant product and for the manufacture of main parts as well as for on-site generation of steam, heat, electricity, etc., where relevant.
- Primary data shall be used for the consumption of materials, chemicals, steam, heat, electricity, etc., necessary for execution of the service.
- Primary data shall be collected and used for lubricant waste during manufacturing and treatment of manufacturing waste.
- 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 mass, transportation mode, distance from the supplier, and vehicle load, if available.
- For electricity used in the core processes, generation of electricity used 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 as provided by the electricity supplier.
    2. Residual electricity mix of the electricity supplier on the market.
    3. Residual electricity mix on the market.
    4. Electricity consumption mix on the market. This option shall not be used for electricity used in processes over which the manufacturer (EPD owner) has direct control4.

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 consumption mix.

"The market" in the above hierarchy may correspond a national electricity market, if this can be justified.

The mix of electricity used in the core processes shall be documented in the EPD, where relevant.

[4] For electricity markets without trade of Guarantees of Origin (or similar), the residual mix will, however, be identical to the consumption mix.

4.9.3 DOWNSTREAM PROCESSES

- Data for the use stage are usually based on scenarios, but primary data should be used when available and relevant, use stage may be excluded (see section 4.2) when the data is not available.
- Data on the 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.
- If relevant, 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. Residual electricity mix on the market.
    2. Electricity consumption mix on the market.

  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.

  "The market" in the above hierarchy may correspond a national electricity market, if this can be justified.

  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 EPD, where relevant, and be accounted for in this priority:
    1. Actual transportation modes and distances to specific a customer or market, representing the geographical scope of the EPD.
    2. A weighted average of transportation modes and distances, based on transportation to several customers or markets, representing the geographical scope of the EPD.
- In the case that transportation distances (of raw materials to the factory and/or of the product to the customer) are unknown, the following default distances shall be assumed as necessary:
    - Truck or train transportation: 1.000 km
    - Ship or plane transportation: 10.000 km Both or either one of the transportation distances specified above shall be assumed as the case may be.
- If transportation distance of the product to the waste management in the end-of-life stage is unknown, 50 km truck transportation shall be assumed.
- 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. An end-of-life scenario shall be defined as example and declared into the EPD.

4.10 ENVIRONMENTAL PERFORMANCE INDICATORS

See Section A.8 of the GPI.

4.11 SPECIFIC RULES PER EPD TYPE

4.11.1 MULTIPLE PRODUCTS FROM THE SAME COMPANY

See Section A.9.1 of the GPI.

4.11.2 SECTOR EPD

See Section A.9.2 of the GPI.

4.11.3 EPD OWNED BY A TRADER

See Section A.9.3 of the GPI.

4.11.4 EPD OF PRODUCT NOT YET ON THE MARKET

See Section A.9.4 of the GPI.

4.11.5 EPD OF PRODUCT RECENTLY ON THE MARKET

See Section A.9.5 of the GPI.

5 CONTENT OF LCA REPORT

Data for verification shall be presented in the form of an LCA report – a systematic and comprehensive summary of the project documentation that supports the verification of an EPD. The LCA report is not part of the public communication.

See Section 8.3.1 of the GPI for rules on the content of the LCA report.

Note that there may be rules on the content of the LCA report elsewhere in the GPI or in this PCR.

6 CONTENT AND FORMAT OF EPD

See Section 7 of the GPI.

6.1 EPD LANGUAGES

See Section 7.1 of the GPI.

6.2 UNITS AND QUANTITIES

See Section 7.2 of the GPI.

6.3 USE OF IMAGES IN EPD

See Section 7.3 of the GPI.

6.4 SECTIONS OF THE EPD

See Section 7.4 of the GPI.

6.4.1 COVER PAGE

See Section 7.4.1 of the GPI.

6.4.2 GENERAL INFORMATION

See Section 7.4.2 of the GPI.

6.4.3 INFORMATION ABOUT EPD OWNER

See Section 7.4.3 of the GPI.

6.4.4 PRODUCT INFORMATION

See Section 7.4.4 of the GPI.

6.4.5 CONTENT DECLARATION

See Section 7.4.5 of the GPI.

6.4.6 LCA INFORMATION

See Section 7.4.6 of the GPI.

6.4.7 ENVIRONMENTAL PERFORMANCE

See Section 7.4.7 of the GPI.

The EPD shall declare the environmental performance indicators listed or referred to in Section 4.10, per declared unit, and per life-cycle stage.

6.4.8 ADDITIONAL ENVIRONMENTAL INFORMATION

See Section 7.4.8 of the GPI.

Any additional environmental information declared shall be substantiated and verifiable, and be derived using appropriate methods and be specific, accurate, not misleading, and relevant to the specific product. Quantitative information is preferred over qualitative information.

6.4.9 ADDITIONAL SOCIAL AND ECONOMIC INFORMATION

See Section 7.4.9 of the GPI.

6.4.10 INFORMATION RELATED TO SECTOR EPDS

See Section 7.4.10 of the GPI.

6.4.11 VERSION HISTORY

See Section 7.4.11 of the GPI.

6.4.12 ABBREVIATIONS

See Section 7.4.12 of the GPI.

6.4.13 REFERENCES

See Section 7.4.13 of the GPI.

7 LIST OF ABBREVIATIONS

CPC	Central product classification
EPD	Environmental product declaration
GPI	General Programme Instructions
GTIN	Global trade item number
ISO	International Organization for Standardization
LCA	Life cycle assessment
ND	Not declared
PCR	Product category rules
RSL	Reference service life
UN	United Nations

8 REFERENCES

CEN (2021) EN 15804:2012+A2:2019/AC:2021, Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products.

EPD International (2024) General Programme Instructions for the International EPD System. Version 5.0.0, dated 2024-06-19. Available on www.environdec.com.

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 (2015a) ISO 14001:2015, Environmental management systems – Requirements with guidance for use.

ISO (2015b) ISO 9001:2015, Quality management systems – Requirements.

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

ISO (2018b) ISO/TS 14067:2018, Greenhouse gases – Carbon footprint of products – Requirements and guidelines for quantification and communication.

Union of the European Lubricants Industry (UEIL), 2023, Methodology for Product Carbon Footprint Calculations for Lubricants and other Specialities.

American Petroleum Institute (API), 2023, Lubricants Life Cycle Assessment and Carbon Footprinting—Methodology and Best Practice.

World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD), 2011. The Greenhouse Gas Protocol- Product Life Cyle Accounting and Reporting Standard.

9 VERSION HISTORY OF PCR

VERSION 1.0.0, 2025-XX-XX

Original version of the PCR.

LUBRICANTS AND LUBRICATING GREASE FLUID

PRODUCT CATEGORY CLASSIFICATION: UN CPC 33380, 35430.