READING GUIDE

FOR THE REPOSITORY ON SHAMPOO BP X30-323-5

Contents

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Introduction

❯ Background

❯ General background on environmental labelling

Article 54 of law No. 2009-967 passed on 3 August 2009 states that consumers shall be given objective environmental information on product characteristics (environmental impacts of the product/packaging pair).

Environmental labelling applies to all consumer products targeted at the end-consumer. Since spring 2008, AFNOR has been conducting work headed by ADEME to develop the methodologies assessing environmental impacts with the involvement of all stakeholders: professionals, but also based on input from civil society. **The AFNOR repository of best practices BP X30-323 is the framework document that sets out the general principles** so that companies who wish to initiate environmental labelling can do so on the basis of a common methodology. The repository has established that the indicators should allow products belonging to the same category to be compared. It is therefore necessary for the indicators to be calculated in the same manner. For this reason, and as an extension of this repository, work groups have met to specify calculation methods.

Sector-specific work groups bring together professionals and other stakeholders concerned by a product family to discuss and propose calculation methodologies specific to a given product.

❯ Specific background of the reading guide: work on shampoo

The repository examined here applies to shampoos, which have formulae that are defined by the COLIPA (European cosmetics industry association). Conditioners, in particular, are not covered.

The aim of this repository is to be extended, in a second development phase, to all rinsed products.

❯ Environmental labelling principles

In order to provide consumers with information that is representative of the main environmental impacts of products, the environmental labelling system is based on a key method for all work in the area: **life-cycle analysis** (LCA). This assessment makes it possible to identify and evaluate all the potential environmental impacts of a product at each stage of its life cycle: raw materials production or extraction, product manufacture, distribution, product use and the impacts associated with its end-of-life processing or disposal.

ISO 14040 and ISO 14044[1] provide an international framework for this type of assessment. The standards have, however, left various methodological options open. The purpose of the cross-sector methodology annex and the sector-specific methodology annexes is to further specify these methodologies in order to ensure that all calculations follow the same method and that the results included in the environmental labelling system are therefore comparable.

❯ Objective of the reading guide

The aim of this reading guide is to explain some of the concepts and requirements included in the repository on shampoo and make them accessible to a wider audience so that everyone can understand the choices made in the repository.

There is also a reading guide for the cross-sector methodology annex that is applicable to all products.

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[1] www.iso.org

Presentation of the product covered by the repository

> Introduction

The working group on Beauty products, jointly led by the Fédération des Entreprises de la Beauté (FEBEA — beauty product businesses federation) and ADEME met on a regular basis between January 2009 and February 2011. Their work culminated in a repository for the shampoo product category, which was adopted by the general platform in April 2011.

> Functional unit

> Determining the functional unit and the reference flow

▪ Functional unit

The functional unit is the unit of measurement used to evaluate the service provided by the product, which is therefore a result. For shampoo, a unit such as "having clean hair for 3 days" might have been expected. The group was not able to determine quantitative elements that would have allowed them to set a functional unit based on performance, and in the end agreed on: **"a hair wash carried out in France"**.

▪ Reference flow

The reference flow designates the quantity of product necessary to satisfy the needs defined by the functional unit. For this study, the reference flow selected is an **8 gram dose of shampoo**.

The group considered the pertinence of referring to a quantity of active ingredients (concentrated shampoos would have been given an advantage), but it has been proven that consumer behaviour is the same for all shampoos (no recommended dose on the package), so basing the study on a product quantity is preferable.

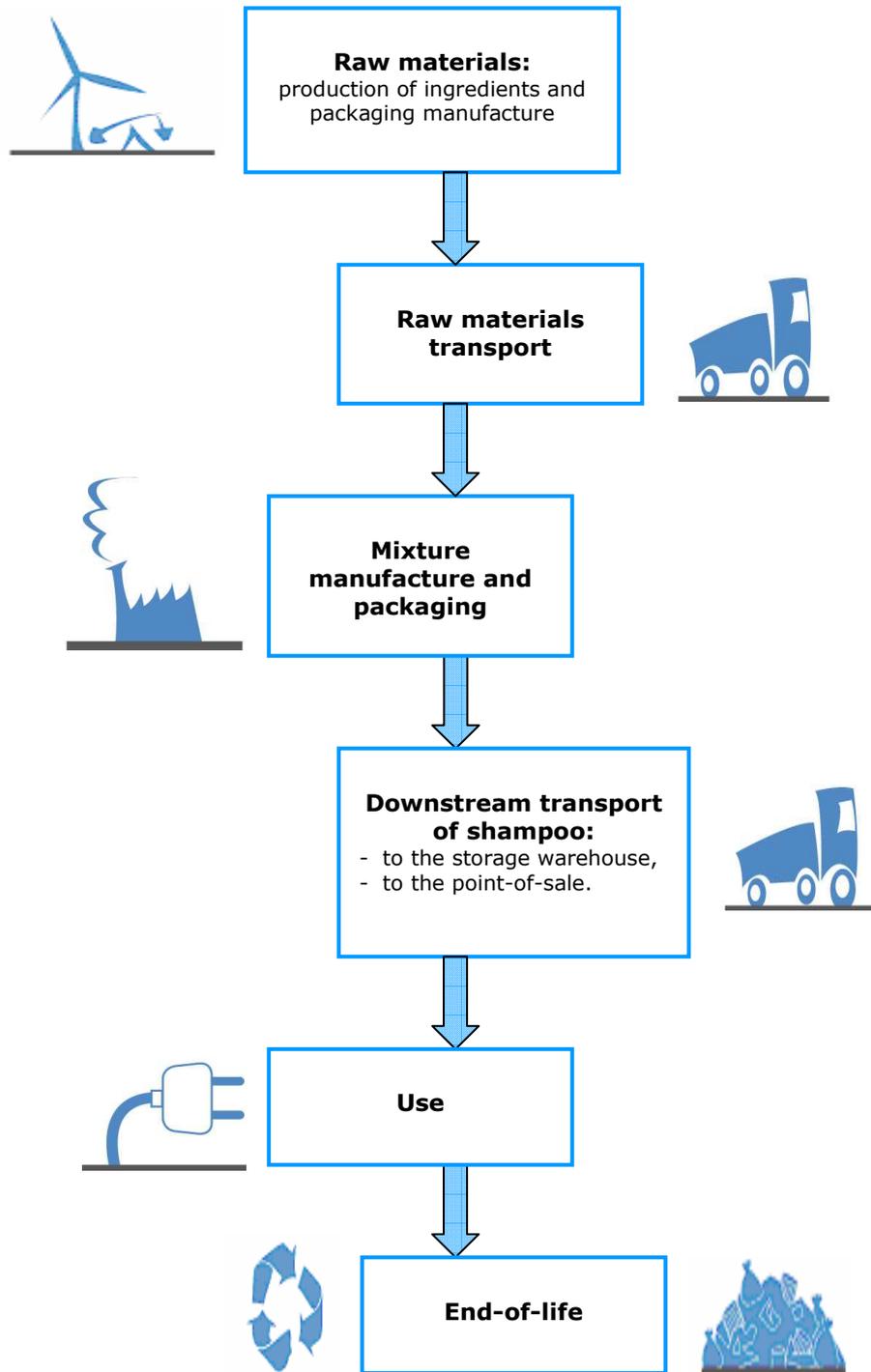The following conditions apply to this reference flow:
- the value of 8 g shall be transposed into ml in order to be consistent with the product quantity indicated on the package,
- the value does not apply to dry shampoos.

The repository will need to reconsider the functional unit for a subsequent revision.

> Shampoo life cycle and study scope

All the stages of the shampoo life cycle are taken into account. The only stages that are not accounted for are those:

- with **a negligible influence** on the **environmental balance** (transport phases from the point-of-sale to the consumer or for collection operations);

- that are **excluded by the** methodological repository **BP X30-323** (consumer transport is offset).

Raw materials:
production of ingredients and packaging manufacture

Raw materials transport

Mixture manufacture and packaging

Downstream transport of shampoo:
- to the storage warehouse,
- to the point-of-sale.

Use

End-of-life

Shampoo life cycle

Explanation of methodological choices

◪ Environmental issues and impacts

◪ Environmental impact assessment:

Some criteria have been identified as significant for the overall environmental balance of a hair wash:

- **Climate change:**
The manufacturing, storage and transport activities that occur throughout the life cycle of shampoo result in greenhouse gas emissions that drive climate change.
The Grenelle 2 laws and the requirements of BP X30-323 have made it mandatory to consider this issue.

- **Water use:**
This criterion primarily represents data to be collected during the product use phase: the quantity of water used by the consumer for one hair wash. Other water use occurring during other life cycle stages is also considered, although it is not very significant.

- **Aquatic ecotoxicity:**
This criterion represents the effect of pollutants on aquatic ecosystems once they enter the water evacuation and treatment system.
This indicator is based on the UseTox calculation method, which will be re-evaluated in a year. It is temporarily recommended that the VCDTox method, which is specified by the European shampoo ecolabel, be used.

Indicators retained for shampoo:

- **the greenhouse effect**, expressed in g CO_2 eq.;
- **water use**, expressed in litres;
- **aquatic ecotoxicity**, expressed in CTUe (Comparative Toxic Unit for ecosystems).

(see the Unit glossary)

◪ Data underlying impacts and articulation of primary and secondary data

◪ Type of data used for labelling

The work group shall specify which parts of the quantified data shall necessarily be primary data and which can or shall be secondary data.

The data qualification depends on:
- the relative importance of this data for the overall balance,
- the availability of the data,
- the cost involved in obtaining the data.

Data used to calculate impacts:

- **Primary data**: data measured or calculated by the company (also called specific data);
- **Secondary data**: averaged data used by all companies (i.e. materials impacts);
- **Semi-specific data**: secondary data that is proposed by default and that the company can replace with primary data.

The following table summarizes the choices made for shampoo modelization:

Phase	Primary data	Semi-specific data	Secondary data
Raw materials	Composition of the article Data on primary packaging	Data on secondary and tertiary packaging	Ingredient production
Manufacture	- Energy use - Manufacturing site	- Water use - Amount of waste - Product loss rate	Manufacture of packaging materials
Transport	Distance travelled and mode of transport between the packaging site and the point-of-sale (downstream transport)	Default values for the materials and shampoo transport scenario to the packaging site	
Use		No residual shampoo amount	Water and energy used by the consumer for one hair wash
End-of-life			End-of-life of packaging and ingredients

▶ Other methodological choices

▶ Use phase

There was significant debate about whether or not to include the use phase. The issues involved in the debate were:

- **Differentiating shampoos**: if the use phase is included, the impacts associated with water use and heating this water are so extensive that the greenhouse gas and water use indicators no longer enable distinctions to be made between products;

- **Information for consumers on their own environmental impacts**: without the use phase, consumers are no longer aware

of the environmental impacts they themselves cause by using a shampoo and of the advantage involved in limiting how often they wash their hair.

This dual purpose will be achieved by using an educational labelling system that separates the use phase out from the others, for instance. The group therefore decided to specify use phase impacts in the calculation process, in order to provide the option to give such information in the future.

▶ Modelization of the end-of-life phase of shampoo

- **For containers:** for all primary packaging that complies with Eco-Emballages sorting stipulations, the end-of-life scenario that is taken into account is that of recycling plastic household packaging. The containers that do not

comply with these stipulations contain *counter-sorting elements* and are not considered recyclable. The ultimate fate of unrecycled primary packaging is the end-of-life scenario of household packaging.

- **For industrial packaging:** the end-of-life scenario is the same as that of trade packaging (recycling and energy recovery).

- **For shampoo ingredients:** the ultimate fate of shampoo in its end-of-life phase, after processing in a wastewater treatment facility, is modelized using the ecotoxicity calculation method (see p. 5).

▶ Data validity period and frequency of updates

If one of the 3 indicators used is modified by more than 20%, calculations must be updated.

If there is no such modification, the data is valid for at least a year.

In all cases, all data shall be recalculated after **5 years for an initial labelling, then every 10 years.**

▶ How data is validated

The company shall keep the information used in the calculations available for any subsequent inspection. Validation is comprised of the following steps:

- verify that calculations are reproducible;
- use a sampling process to seek evidence to support the information.

Unit glossary

Indicator	Unit	Illustration
Greenhouse effect	g CO_2 eq.	1 tonne CO_2 eq. represents a Paris - New York round trip by plane.
Water use	litre	A consumer uses 60 L of water on average for one shower.
Aquatic ecotoxicity	CTUe	This indicator takes into account many pollutants released into aquatic environments (heavy metals, cyanide, etc.).