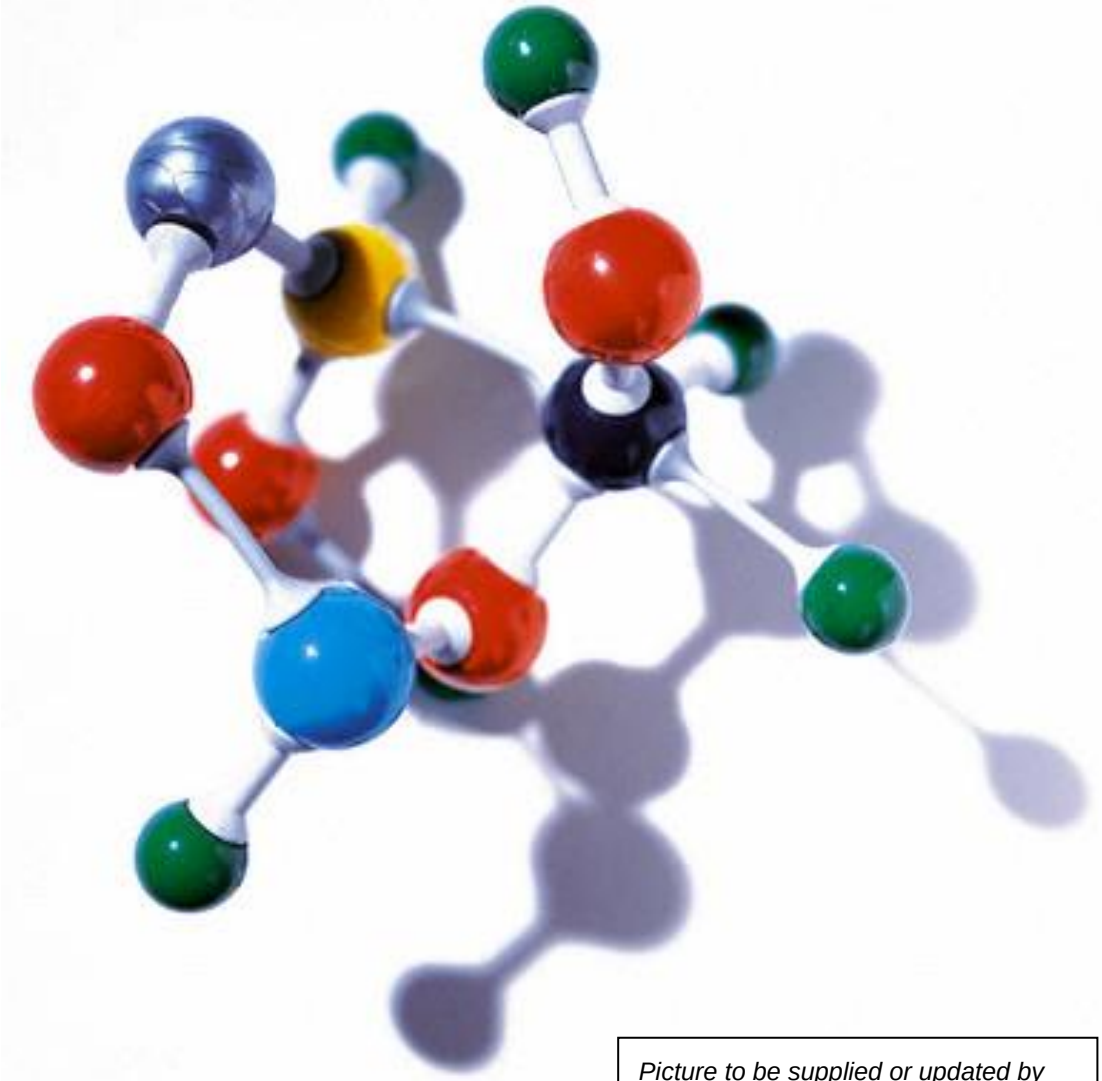
Eco-profile report framework according to methodology V3.0 (October 2019)



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Eco-profile of *XXXXX*

Month Year

Summary

This Eco-profile has been prepared according to **Eco-profiles program and methodology – PlasticsEurope – V3.0 (2019)**.
It provides environmental performance data representative of the average European production of *XXXXX*, from cradle to gate (from crude oil extraction to *XXXXX* production).
Please keep in mind that comparisons <u>cannot</u> be made on the level of the polymer material alone: it is necessary to consider the full life cycle of an application in order to compare the performance of different materials and the effects of relevant life cycle parameters. It is intended to be used by member companies, to support product-orientated environmental management; by users of plastics, as a building block of life cycle assessment (LCA) studies of individual products; and by other interested parties, as a source of life cycle information.

Meta Data

Data Owner	Product Group
LCA Practitioner	
Programme Owner	PlasticsEurope AISBL
Programme Manager, Reviewer	
Number of plants included in data collection	
Representativeness	
Reference year	
Year of data collection and calculation	
Expected temporal validity	
Cut-offs	
Data Quality	
Allocation method	

Description of the Product and the Production Process

Data Sources and Allocation

Environmental Performance

The tables below show the environmental performance indicators associated with the production of 1 kg of *XXXXX*

Input Parameters

Indicator	Unit	Value	Impact method ref.
Non-renewable energy resources[1)]			
• Fuel energy	MJ		
• Feedstock energy	MJ		
Renewable energy resources (biomass)[1)]			
• Fuel energy	MJ	0.7	
• Feedstock energy	MJ	–	
Abiotic Depletion Potential			
• Elements	kg Sb eq.		
• Fossil fuels	MJ		
Renewable materials (biomass)	kg		
Water use	kg		
• for process	kg		
• for cooling	kg		
[1)] Calculated as upper heating value (UHV)			

Output Parameters

Indicator	Unit	Value	Impact method ref.
GWP	kg CO_2 eq.		
ODP	g CFC-11 eq.		
AP	g SO_2 eq.		
POCP	g Ethene eq.		
EP	g PO_4 eq.		
Dust/particulate matter[2)]	g PM10		
Total particulate matter[2)]	g		
Waste			
• Non-hazardous	kg		
• Hazardous	kg		
[2)] Including secondary PM10			

Additional Environmental and Health Information

This part has been written under the only responsibility of the Data owner and is not part of the LCA practitioner and reviewer work.

Text to be filled in or revised by the data owner

Additional Technical Information

This part has been written under the only responsibility of the Data owner and is not part of the LCA practitioner and reviewer work.

Text to be filled in or revised by the data owner

Additional Economic Information

This part has been written under the only responsibility of the Data owner and is not part of the LCA practitioner and reviewer work.

Text to be filled in or revised by the data owner

Programme Owner
Contact details

Data Owner
Contact details

LCA practioner
Contact details

Reviewer
Contact details

Eco-profile Report

Functional Unit and Declared Unit

1 kg of unpacked *XXXXX* »at gate« (production site output) representing a European industry production average

Product Description

IUPAC name
Cas Number
Chemical formula
Gross caloric value

Manufacturing Description

Chemical route
Production process
Formula of the chemical reactions

Producer Description

The following companies have participated to the data collection.

Contact details of the participating companies

System Boundaries

Flowchart clearly showing background and foreground parts within the whole system boundaries.

Technological Reference

Temporal Reference

Geographical Reference

Cut-off Rules

Data Quality Requirements

Data Sources

Relevance

Representativeness

Consistency

Reliability

Completeness

Precision and Accuracy

Reproducibility

Data Validation

Life Cycle Model

Calculation Rules

Vertical Averaging

Allocation Rules

Life Cycle Inventory (LCI) Results

Delivery and Formats of LCI Dataset

This eco-profile comprises

- a dataset in ILCD format (http://lct.jrc.ec.europa.eu) according to the last version at the date of publication of the eco-profile and including the reviewer (internal and external) input.
- This report in pdf format.

Energy Demand

The **primary energy demand** (system input) of XX MJ/kg indicates the cumulative energy requirements at the resource level, accrued along the entire process chain (system boundaries), quantified as gross calorific value (upper heating value, UHV).

The **energy content in the polymer** indicates a measure of the share of primary energy incorporated in the product, and hence a recovery potential (system output), quantified as the gross calorific value (UHV), is XX MJ/kg.

The difference (∆) between primary energy input and energy content in polymer output is a measure of **process energy** which may be either dissipated as waste heat or recovered for use within the system boundaries. Useful energy flows leaving the system boundaries were removed during allocation.

Primary energy demand (system boundary level) per 1kg XXXXX

Primary Energy Demand	**Value [MJ]**
Energy content in polymer (energy recovery potential, quantified as gross calorific value of polymer)	
Process energy (quantified as difference between primary energy demand and energy content of polymer)	
Total primary energy demand	

Water cradle to gate Consumption and if possible, water use

Water foreground (gate to gate) Use and Consumption

The following table shows the weighted average values for water use of the XXXXX production process (gate-to-gate level). For each of the typical water applications the water sources are shown.

Water use and source per 1kg of XXXXX

Source	Process water [kg]	Cooling water [kg]	Steam Water [kg]	Water in Raw Materials [kg]	Total [kg]
Deionized					
From River					
Relooped					
Totals					

The following table shows the further handling/processing of the water output of the production process.

Treatment of Water Output per 1kg of XXXXX

Treatment	Water Output [kg]
To WWTP	
To Sea (after WWTP)	
To River (untreated)	
Reloop to process	
Water Vapour	
Formed in reaction (to WWTP)	
Totals	

Based on the water use and output figures above the water consumption can be calculated as:

Consumption = (water vapour + water lost to the sea) – (water generated by using water containing raw materials + water generated by the reaction)

Dominance Analysis

Table : *Dominance analysis of impacts per 1kg XXXXX*

	Total Primary Energy [MJ]	ADP Elements [kg Sb eq.]	ADP Fossil [MJ]	GWP [kg CO_2 eq.]	AP [g SO_2 eq.]	EP [g PO_4^{3-} eq]	OTHER
BACKGROUND							
Main Raw Material 1							
Main Raw material n							
Other chemicals							
FOREGROUND							
Production							
Utilities							
Electricity							
Thermal Energy							
Process was treatment							
Other as relevant							
Total	100%	100%	100%	100%	100%	100%	100%

Comparison of the present Eco-profile with its previous version

Table : *Comparison of the present Eco-profile with its previous version*

Environmental Impact Categories	Eco-profile Previous (date of publication)	Eco-profile New (date of publication)	Difference (%)
Gross primary energy from resources [MJ]			
Abiotic Depletion Potential (ADP), elements [kg Sb eq.]			
Abiotic Depletion Potential (ADP), fossil fuels [MJ]			
Global Warming Potential (GWP) [kg CO_2 eq.]			
Acidification Potential (AP) [g SO_2 eq.]			
Eutrophication Potential (EP) [g PO_4^{3-} eq.]			
Ozone Depletion Potential (ODP) [g CFC-11 eq.]			
Photochemical Ozone Creation Potential [g Ethene eq.]			
Others impact as relevant			

Review

Review Details

Review Summary

Reviewer Contact Details