









Environmental Product Declaration

In accordance with ISO 14025 and EN 15804:2012+A2:2019 for:

Accessories group I

EPD of multiple products, based on worst-case results Products included are listed in Appendix 1.

from

Oras Group

Programme:

Programme operator:

EPD registration number:

Publication date:

Valid until:

The International EPD® System, <u>www.environdec.com</u>

EPD International AB

EPD-IES-0021145

2025-03-21

2030-03-21

An EPD should provide current information and may be updated it conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com











General information

Programme information										
Programme	The International EPD® System									
Address	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden									
Website	www.environdec.com									
E-mail	info@environdec.com									

Accountabilities for PCR,	LCA and independent, third-party verification
Product Category Rules (PCR)	CEN standard EN 15804 serves as the Core Product Category Rules (PCR) Product Category Rules (PCR): Construction products, 2019:14, version 1.3.4, UN CPC 42911 - Sinks, washbasins, baths and other sanitary ware and parts thereof, of iron, steel, copper or aluminium. PCR review was conducted by: The Technical Committee of the International EPD® System. Chair of the PCR review: Claudia A. Peña. The review panel may be contacted via info@environdec.com.
Life Cycle Assessment (LCA)	LCA accountability: Anna Pietilä, Analyst. Organization: Ecobio Oy.
Third-party verification	Independent third-party verification of the declaration and data, according to ISO 14025:2006, via: ☑ EPD verification by individual verifier Third-party verifier: Hannu Karppi, Ramboll Finland Oy Approved by: The International EPD® System
Procedure for follow-up of data during	EPD validity involves third party verifier: ☐ Yes ☒ No

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

EPDs within the same product category but from different programmes may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804. For further information about comparability, see EN 15804 and ISO 14025.









Company information										
Owner of the EPD	Oras Group									
Contact	Phone: +358 2 83 161 Email: info@orasgroup.com www.orasgroup.com									
Description of the organisation	Oras Group is a significant European provider of sanitary fittings: the market leader in the Nordics and a leading company in Continental Europe. The company's mission is to create the smartest and most sustainable water experiences for everyone, and its vision is to become the Perfect Flow Company. The Group has two strong brands, Oras and Hansa. Oras Group is owned by Oras Invest, a family company, and an industrial owner. The domicile of Oras Ltd, the parent company of the Group, is located in Rauma, Finland, and the Group has three manufacturing sites: Kralovice (Czech Republic), Olesno (Poland) and Rauma (Finland). The Group operates with its own staff in 15 markets. Oras Group's net sales were 243.9 million euros in 2022 and at the end of the period the company employed 1271 people.									
Product-related or management system-related certifications	Designation according to standards EN 1112 (hand shower) and EN 1113 (shower hose)									
Management system related certifications	ISO 9001:2015 ISO14001:2015 ISO 45001: 2018 ISO 50001:2018									
Name and location of production sites	Oras Group Rauma production site Isometsäntie 2, FI 26101 Rauma, Finland Oras Group Olesno production site Ul. Leśna 2, PL 46-300 Olesno, Poland									

Product information											
Product name	Accessories group I										
Product group identification	Accessory e.g. spout or coupling for use with sanitary fittings, according to EN 1112 and EN 1113.										
Product group description	Oras Group products are manufactured in our own European factories by focusing into sustainable energy sources, highly efficient processes and minimized material usage and waste. The threshold value for the share of brass in product declaration is 51-100%.										
UN CPC code	42911 - Sinks, washbasins, baths and other sanitary ware and parts thereof, of iron, steel, copper or aluminium										
Geographical scope	Europe										









LCA information							
Functional unit / declared unit	1 kg of accessory product						
EPD of multiple products	In this EPD, the information and LCA results of two (2) similar products are presented. The products are presented in the Appendix I and in the LCA report related to this EPD. Since the declared environmental impact indicator results, aggregated over all included modules A-C, differ by more than 10% between any of the included products, for each indicator, the highest results are declared. I.e., the results of a "worst-case product" are presented.						
Reference service life	The reference service life for accessories is 10 years The technical service life for accessories is 15 years						
Time representativeness	The data was collected covering production year 2020, which is considered to represent average production year for accessory products. Data of electricity sources of electricity consumed in the manufacturing is from 2022. The sales volumes of the reference products are from 2022. The material declarations used as a basis for modelling the raw material supply are compiled in 2024.						
Databases and LCA software	Ecoinvent 3.10 and SimaPro (Version 9.6.0.1).						
Description of system boundaries	Cradle to gate with options, modules C1–C4, module D and with optional modules (A1–A3 + C + D and additional modules). The additional module is A4.						



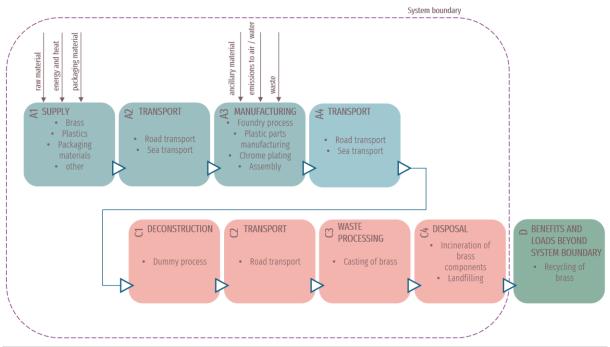








System diagram



LCA practitioner	Ecobio Oy, www.ecobio.fi
Allocation	The allocation of energy and material flows is determined based on the production volumes of the main products, as well as any co-products and other products manufactured within the same facilities.
	No co-product allocation was applied.
Electricity used in module A3	In Rauma, the electricity is 100 % based on hydropower. GWP-GHG impact of the used electricity mix is 5,4 g CO ₂ -eq/kWh.* The Polish residual electricity mix contains biomass 2,6 %, hydropower 0,98 %, wind 2,9 %, solar 1,5 %, coal 70,8 %, lignite 0,2 %, natural gas 14,7 %, oil 0,12 % and nuclear 4 %. GWP-GHG impact of the used electricity mix is 799 g CO2-eq/kWh*
Cut-off rule	1% cut-off rule was applied for input flows in the inventory. Environmental impacts of infrastructure, facilities (capital goods), transportation of employees required for and during production are excluded along the whole life cycle.

^{*} The information provided regarding electricity production is based on data from a specific collection period described on page 4. As such, it may not reflect the current electricity mix or greenhouse gas impact.







Modules declared

geographical scope, share of specific data (in GWP-GHG indicator) and data variation:

	Product stage Construction process stage					Use stage							End of li	Resource recovery stage			
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
Module	A1	A2	А3	A4	A5	В1	B2	В3	В4	В5	В6	В7	C1	C2	С3	C4	D
Modules declared	Х	Х	Х	Х	MND	MND	MND	MND	MND	MND	MND	MND	Х	Х	Х	Х	Х
Geography																EU27	EU27
Specific data used	5 %					-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	< 10 %					-	-	-	-	-	-	-	-	-	-		-
Variation – sites		Only or	ne product	ion site		-	-	-	-	-	-	-	-	-	-	-	-









Modules explained

LCA Modules	
A1 Raw material supply	C1 De-construction
This module contains the supply of raw materials including brass, stainless steel, plastics, rubbers and other materials in smaller quantities.	This module is assumed to not cause environmental impacts as the de-construction of accessory product can be done with manual labour and does not require external energy sources.
A2 Transportation	C2 Transport
This module contains the transportation of raw materials and prefabricated components from suppliers to Oras Group's production facilities. Average transportation route covering all the relevant raw materials was developed as there is wide range of possible supply locations even for single raw materials and components. Transportation takes place by road and sea.	This module contains the transportation of product for waste processing to nearest waste processing facility. Transportation is done by road and the distance is assumed to be 50 km.
A3 Manufacturing	C3 Waste processing
This module contains the relevant production processes for accessories. The most relevant is casting of brass components as the brass components are precasted and chrome plated by suppliers before arriving to assembly, treatment of waste and wastewater are also included. The used electricity mix for manufacturing stage is stated on chapter "LCA Information".	This module contains the waste processing related to material recycling of brass. It is assumed that 90 % of the brass is headed for material recycling process, which includes casting of brass into brass ingots.
A4 Transport	C4 Disposal
This module contains the transportation of the final product to warehouses from where further distribution takes place. The scenario does not included transportation to construction site.	This module contains final disposal of materials that are not headed for material or energy recovery. Stainless steel, plastic components, rubber components, packaging materials of the final product and 10 % of brass are assumed to be headed for incineration without energy recovery. Other components in smaller quantities are assumed to be headed to landfill.
	D Benefits and loads beyond system boundary
	This module contains the benefits related to material recycling of brass. Brass is recycled through casting process, and it is assumed to substitute virgin brass production from the market









Content information

The content declaration lists the lowest amounts of recycled and biogenic content in the products and packaging, the most hazardous substances in any of the products, and the average content for all other components.

Product components	Weight, kg	Post-consumer material, weight-%	Biogenic material, weight-% of product	Biogenic material, kg C/declared unit	
Brass	0,8543	0 %	0 %	0 %	
Brazling	0,0024	0 %	0 %	0 %	
Chromium	0,0001	0 %	0 %	0 %	
Copper	0,0003	0 %	0 %	0 %	
Ethylene propylene diene monomer	0,0042	0 %	0 %	0 %	
Nickel	0,0003	0 %	0 %	0 %	
Other	0,0793	0 %	0 %	0 %	
Polyoxymethylene	0,0138	0 %	0 %	0 %	
Stainless steel	0,0455	0 %	0 %	0 %	
TOTAL	1	0 %	0 %	0 %	
Packaging materials	Weight, kg	Weight-% (versus the product)	Biogenic material, k	g C/declared unit	
Carton	0,0036	0,0124	0,0428		
Cellulose fibre	0,001	0,0034	0,0119		
Corrugated board	0,01165	0,0402	0,1386		
Paper	0,0286	0,0986	0,0986		
PE	0,0030	0,0103	0,0000		
TOTAL	0,0478	0,1650	1,0066		

The products do not contain substances which exceed the limits for registration with the European Chemicals Agency regarding the "Candidate List of Substances of Very High Concern for authorization".









Environmental Information

Potential environmental impact – mandatory indicators according to EN 15804 and EF 3.1

	Results per 1 kg of accessory product														
Indicator	Unit	A1	A2	А3	Tot. A1-A3	A4	C1	C2	C3	C4	D				
GWP-fossil	kg CO2 eq.	5,8*10°	2,8*10-1	1,6*10-1	6,3*10°	3,0*10-1	0	1,2*10-2	8,3*10-3	8,2*10-3	-2,6*10°				
GWP- biogenic	kg CO2 eq.	-9,8*10 ⁻²	4,8*10-5	1,9*10-1	9,0*10-2	5,3*10 ⁻⁵	0	0	2,2*10-6	1,3*10-5	-1,3*10 ⁻¹				
GWP - luluc	kg CO2 eq.	1,4*10-2	1,1*10-4	5,1*10 ⁻⁵	1,4*10-2	1,0*10-4	0	3,8*10-6	1,4*10-6	3,5*10-6	-5,0*10 ⁻³				
GWP - total	kg CO2 eq.	5,8*10°	2,8*10-1	3,4*10-1	6,4*10°	3,0*10-1	0	1,2*10-2	8,3*10-3	8,2*10-3	-2,8*10°				
ODP	kg CFC 11 eq.	5,6*10-8	5,2*10 ⁻⁹	5,7*10 ⁻⁹	6,7*10-8	5,8*10 ⁻⁹	0	2,4*10-10	2,3*10 ⁻¹⁰	1,7*10-10	-2,3*10 ⁻⁸				
AP	mol H+ eq.	3,9*10-1	2,5*10-3	4,2*10-4	4,0*10-1	1,2*10-3	0	3,6*10-5	1,5*10 ⁻⁵	4,7*10 ⁻⁵	-1,9*10 ⁻¹				
EP- freshwater	kg P eq.	1,8*10-3	2,0*10-6	1,4*10-5	1,8*10-3	2,3*10-6	0	9,0*10-8	5,9*10 ⁻⁸	1,0*10-7	-8,3*10 ⁻⁴				
EP-marine	kg N eq.	2,0*10-2	6,7*10-4	8,0*10-5	2,1*10-2	3,8*10-4	0	1,2*10-5	4,8*10-6	1,8*10-5	-9,3*10 ⁻³				
EP- terrestrial	mol N eq.	2,9*10-1	7,4*10 ⁻³	8,7*10-4	2,9*10-1	4,2*10-3	0	1,3*10-4	5,8*10 ⁻⁵	2,0*10-4	-1,3*10 ⁻¹				
POCP	kg NMVOC eq.	8,1*10-2	2,4*10-3	3,4*10-4	8,3*10 ⁻²	1,7*10-3	0	5,7*10 ⁻⁵	2,2*10 ⁻⁵	6,7*10 ⁻⁵	-3,8*10 ⁻²				
ADP- minerals& metals*	kg Sb eq.	5,4*10-3	7,7*10-7	7,8*10-8	5,4*10-3	9,3*10 ⁻⁷	0	3,8*10-8	2,5*10-8	2,2*10-8	-2,6*10 ⁻³				
ADP-fossil*	MJ	7,5*10 ¹	3,9*100	2,4*100	8,2*10 ¹	4,2*10°	0	1,7*10-1	1,3*10-1	1,4*10-1	-3,3*10 ¹				
WDP	m3	6,9*100	2,0*10-2	2,2*10-2	6,9*100	2,3*10-2	0	9,4*10-4	4,4*10-3	3,8*10-3	-3,2*10°				

Acronyms

GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption

^{*} Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.







Potential environmental impact – additional mandatory and voluntary indicators, based on EF 3.1

	Results per 1 kg of accessory product														
Indicator	Indicator Unit A1 A2 A3 Tot. A1-A3 A4 C1 C2 C3 C4 D														
GWP-GHG1	kg CO2 eq.	5,9*10°	2,9*10-1	1,6*10-1	6,4*100	3,0*10-1	0	1,2*10-2	8,4*10-3	8,3*10-3	-2,7*10°				

Use of resources

	Results per 1 kg of accessory product														
Indicator	Unit	A1	A2	А3	Tot. A1-A3	A4	C1	C2	C3	C4	D				
PERE	MJ	2,3*10 ¹	5,8*10-2	7,5*10 ⁻²	2,3*10 ¹	6,9*10-2	0	3,2*10-3	3,7*10-2	2,5*10-3	-8,7*10°				
PERM	MJ	5,7*10 ⁻²	0	0	5,7*10 ⁻²	0	0	0	0	0	0				
PERT	MJ	2,3*10 ¹	5,8*10 ⁻²	7,5*10 ⁻²	2,3*10 ¹	6,9*10-2	0	3,2*10-3	3,7*10-2	2,5*10-3	-8,7*10°				
PENRE	MJ	8,1*10 ¹	4,1*10°	2,6*100	8,7*10 ¹	4,4*10°	0	1,8*10-1	1,4*10-1	1,4*10-1	-3,6*10 ¹				
PENRM	MJ.	1,5*10-3	0	0	1,5*10 ⁻³	0	0	0	0	0	0				
PENRT	MJ	7,9*10 ¹	4,1*10°	2,7*10°	8,6*10 ¹	5,0*10°	0	1,8*10-1	1,4*10-1	1,0*10-1	-3,5*10 ¹				
SM	kg	0	0	0	0	0	0	0	0	0	0				
RSF	MJ	0	0	0	0	0	0	0	0	0	0				
NRSF	MJ	0	0	0	0	0	0	0	0	0	0				
FW	m3	1,7*10 ⁻¹	4,8*10-4	5,1*10-4	1,7*10 ⁻¹	5,6*10-4	0	2,3*10-5	1,3*10-4	9,0*10-5	-7,8*10 ⁻²				

Acronyms

PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRT = Total use of non-renewable primary energy resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water

¹ The indicator includes all greenhouse gases included in GWP-total but excludes biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. This indicator is thus almost equal to the GWP indicator originally defined in EN 15804:2012+A1:2013.









Waste production and output flows

Waste production

Results per 1 kg of accessory product											
Indicator	Unit	A1	A2	А3	Tot. A1-A3	A4	C1	C2	C3	C4	D
Hazardous waste disposed	kg	1,7*10- 2	0	1,9*10-7	1,7*10- 2	0	0	0	0	0	0
Non- hazardous waste disposed	kg	3,3*10- 2	1,1*10- 4	1,2*10-3	3,4*10- 2	4,4*10-5	0	1,3*10- 6	5,1*10- 6	1,1*10- 1	-5,7*10- 3
Radioactive waste disposed	kg	3,2*10- 6	0	1,1*10- 7	3,3*10- 6	0	0	0	0	0	0

Output flows

Results per 1 kg of accessory product											
Indicator	Unit	A1	A2	А3	Tot. A1-A3	A4	C1	C2	C3	C4	D
Component s for re-use	kg	0	0	0	0	0	0	0	0	0	0
Material for recycling	kg	0	0	0	0	0	0	0	8,6*10-2	0	0
Materials for energy recovery	kg	0	0	0	0	0	0	0	0	2,7*10-1	0
Exported energy, electricity	MJ	0	0	0	0	0	0	0	0	0	0
Exported energy, thermal	MJ	0	0	0	0	0	0	0	0	0	0

Information on biogenic carbon content

Results per declared unit						
BIOGENIC CARBON CONTENT	Unit	QUANTITY				
Biogenic carbon content in product	kg C	0,0000				
Biogenic carbon content in packaging	kg C	0,1842				

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO₂.









Additional Differences versus previous versions

This is the first version of the EPD so there are no differences versus previous versions of the EPD.

References

Disaggregated final energy consumption in households – Energy use – Water heating. Eurostat. 2022. Ecobio LCA report – Bathroom products and technical valvets. Oras Group. 2024. General Programme Instructions of the International EPD® System. Version 5.0.1. MEErP Preparatory Study on Taps and Showers. European Comission. 2014. PCR 2019:14. Construction products. Version 1.3.4 Taps & showers technical criteria. Unified Water Label. 2











Included products

290009 Angle coupling with stop valve, G3/4(1/2)-D12
290009-33 Angle coupling with stop valve, G3/4(1/2)-D12
290009-80 Angle coupling with stop valve, G3/4(1/2)-D12
290009-81 Angle coupling with stop valve, G3/4(1/2)-D12
5118017380 Wall coupling for shower hose, G1/2
5118017381 Wall coupling for shower hose, G1/2
204021Z Angle coupling with stop valve, G3/4(1/2)-D12

63410020 Safety thermostat 173 Drain coupling 436114 Faucet angle 211215 Swivel spout, L=150 59914470 Swivel spout, L=150 Swivel spout, L=200 59914471 Swivel spout, L=200 242069-11 Bidetta hand shower 204150 Wall bracket, 150/40cc 44440173 Hand shower holder 261032 Vacuum breaker, Type HB 204150L Wall bracket, 150/40cc

159990 Long lever 158899 Long lever 203504 Cover flange

 203504/2
 Cover flange pair, G3/4 / d70

 204726
 Cover part, G1/2xG1/2

 207143
 Cover flange, G3/4, D70

 204723
 Cover part, G3/4xG1/2

180 Washing machine valve, G3/4xG1/2 105001 Washing machine valve, G3/4xG1/2 261031 Vacuum breaker, Type HB 221220 Diverter spout, L=85

200100 Diverter