



✓ Third party verified

Environmental Product Declaration

In conformance with
ISO14025 | ISO14040 | ISO14044

RICOH
imagine. change.

PFU Limited

RICOH SP-2230



Registration number	Verificartion date	Publication date	Expiration date	EPD type
SuMPO-EPD-2608-220-1	2026/8/7	2026/10/7	2031/8/6	Single Product EPD

* First publication date

Additional standards in conformance
Not Applicable

EPD can be updated or withdrawn during the validity period. To confirm the validity of this EPD, check the following website:
<https://ecoleaf-label.jp/epd/search>

● General Information

> Programme

Programme name	SuMPO EPD Japan
Programme operator	Sustainable Management Promotion Organization (SuMPO)
Address	KANDA SQUARE GATE 4F, 14-8, Uchikanda 1-chome, Chiyoda-ku, Tokyo, 101-0047, Japan
Website	https://ecoleaf-label.jp

> GPI and PCR

GPI	SuMPO EPD Japan General Program Instructions v.2.2.0
PCR name	Imaging input and/or output equipment products
PCR registration number	PA-SuMPO-PCR-02001-9-0-0
PCR publication date	2025/10/17
PCR review panel chair	Ken Yamagishi (LCA Expert Center Co., Ltd.)
PCR valid until	2030/10/16
PCR issuer	Sustainable Management Promotion Organization (SuMPO)

> Verification

Verification Type	Third-party verification in conformance with ISO14025		
	☐ Internal	☒ External	
Verifier	☒ Third-party verification by individual verifier	☐ Third-party verification by verification body	☐ Third-party verification by system certification
	Tetsuya Okuyama (Office Okuyama)		

> Standards

Standards in conformance with;	☒ ISO14040:2006	☒ ISO14044:2006	☐ ISO14067:2018
	☒ ISO14025:2006	☐ ISO21930:2007	☐ ISO21930:2017
	☐ EN15804+A2	☐ EN50693:2019	☐ ISO/IEC63366:2025

EPD owner is responsible for the information contained in the EPD and for environmental claims related to the information. For any inquiries or requests regarding the content of the EPD, please contact the EPD owner.

EPDs are comparable only if they comply with this document, use the same sub-PCR where applicable, include all relevant information and are based on equivalent scenarios. Comparability of EPDs is limited to those applying a functional unit.

The LCIA results are relative expressions and do not predict impacts on category endpoints, the exceedance of thresholds, safety margins or risks.

When using weighted averages for calculation, the life cycle impact assessment results, life cycle inventory analysis-related information, waste-related information, and environmental information on output flows do not correspond to information about a specific product.

● EPD Owner's Information

Name of company and dept.	PFU Limited – Imaging Service & Support
Address	YOKOHAMA i-MARK PLACE, 4-5 Minatomirai 4-chome, Nishi-ku, Yokohama-shi, Kanagawa 220-8567 Japan
Contact	050-3786-0811
LCA practitioner	PFU Limited
Company description	PFU Ltd. was founded in 1960. Building on the expertise cultivated through computer development, we provide image document-related products and services, exemplified by our image scanners, as well as IT infrastructure construction and operational support services that contribute to our customers' peace of mind and security.

Environmental Product Declaration for **RICOH SP-2230**

●Product Information

Product name		RICOH SP-2230	
Product /model number		RICOH SP-2230	
Product specification	Function	4.32kg	Conversion factor 4.32kg/unit
	Mass	A capability to digitize original paper documents into electronic image files suitable for storage, transmission, and processing, primarily within a personal computer environment.	
	Applications	Used for document storage, sharing, and organization, as well as business digitization	
	TS*	—	
Service life	Service life	5 years	
	In-use conditions	— Scans per day: 4,000 sheets/day (15 scans/day) — Workdays per month: 20 days/month — Working days per year: 240 days/year — Expected usage period: 5 years — Total scans : 18,000 times (4,800,000 sheets) / 5 years •Printing paper is not included in the environmental impact	
	reference	Based on PCR, it was set at five years.	
Manufacturing site(s)		Thailand Factory	
Product description		Product Category : Sheet-fed scanner (Without Flat-bed) For Business, for Personal use Scanning Speed : Simplex or Duplex, 30 ppm (60 ipm) Scanning Size : 215.9mm × 355.6mm Scanning Resolutions : 600dpi Scanning Method : CIS	
Website		https://www.pfu.ricoh.com/	

* TS: technical specifications,

●Product Content

Product components	Proportion (%)
Ordinary steel	19.3
SUS	2.3
Aluminium	0.0064
Other metals	0.43
Plastic	56.1
Rubber	1.1
Glass	1.3
Circuit Board	6.2
Others	13.4
Packaging materials	Proportion (%)
Plastic	4.01
Paper & Wood	95.95
Others	0.04

●Biogenic Carbon Content

Item	Content (kg-C)	Content (kg-CO ₂ eq)
Biogenic carbon content per product	—	—
Biogenic carbon content in packaging	—	—

Environmental Product Declaration for **RICOH SP-2230**● **LCA-related Information**> **EPD Type Information**

EPD type	Product type	☒ Single product EPD	☐ Multiple products EPD	☐ Industry-wide EPD
	Site type	☒ Single site		☐ Multiple sites
Geographical coverage		United States		
Description of representativeness for multiple-products/sites EPD		—		
Description of variation for multiple-products/sites EPD		—		
Description of products covered in the multiple products EPD		—		

> **LCA Information**

Declared unit	Per unit of product		
Mass per declared unit (Conversion factor to mass)	4.32kg		
Reference flow (number of products required to fulfil the function)	—		
System boundary	☐ Cradle-to Gate	☐ Cradle-to-Gate with options	☒ Cradle-to-Grave
LCA software	MiLCA Ver.3.1.1		
LCI database	IDEA 3.1		
Characterization model	Climate change: IPCC Fifth Assessment Report (IPCC, 2013), Other impact areas: LIME2		
Use of other background data	—		
Secondary data quality	The calculation was carried out using the data which satisfied the secondary data quality specified in GPI.		
Primary data collection sites	Thailand Factory		
Primary data collection period	Data for the one-year period from August 2024 to July 2025		
Biogenic carbon	☒ 0/0 approach	☐ -1/+1 approach	
Information about electricity	Use	☒ Average consumption mix	☐ Others
	Type	—	
	Purchase date	—	
	Issuing body	—	

> **Life Cycle Stages**

Raw materials acquisition stage	Production stage	Distribution stage	Use stage	End of life stage
☒	☒	☒	☒	☒

■ : declared stage — : stage not declared

> Allocation

Electricity and water consumption in the main unit manufacturing process were allocated based on the ratio of the number of employees engaged in the manufacture of one main unit to the total number of employees at the Thailand factory.

> Cut-off rules

Based on PCR, the following were excluded:

- Loads associated with the transportation process of "parts," "materials," "packaging materials," and "accessories"
- Loads associated with the storage, warehouse management during transportation, sales, and installation processes of the product

> System Boundary

The scope of the environmental impact assessment was established based on the PCR.

The temporal system boundary was set at 100 years.

The following were excluded from the calculation scope:

- Processes related to employees' work activities, such as the environmental loads attributable to employees themselves in operating machinery, as well as employee transportation and commuting
- Processes related to research and development, administrative work, and other indirect activities
- Processes related to the manufacture and construction of capital goods such as production facilities and equipment (excluding power plants and power generation equipment)
- Processes related to the manufacture of trucks, ships, aircraft, and other vehicles used for transportation
- Processes related to general-purpose supplies, such as work clothes and gloves, that are also used for purposes other than product manufacturing

> Scenario

For transportation processes where collecting primary data was difficult, the transport distance specified in PCR Scenario B1 was applied.

The recycling rates for paper in general, cardboard, and recovered paper pulp were calculated based on Advancing Sustainable Materials Management: 2018 Tables and Figures (an EPA publication).

The use and maintenance stage was modeled using the PCR scenario.

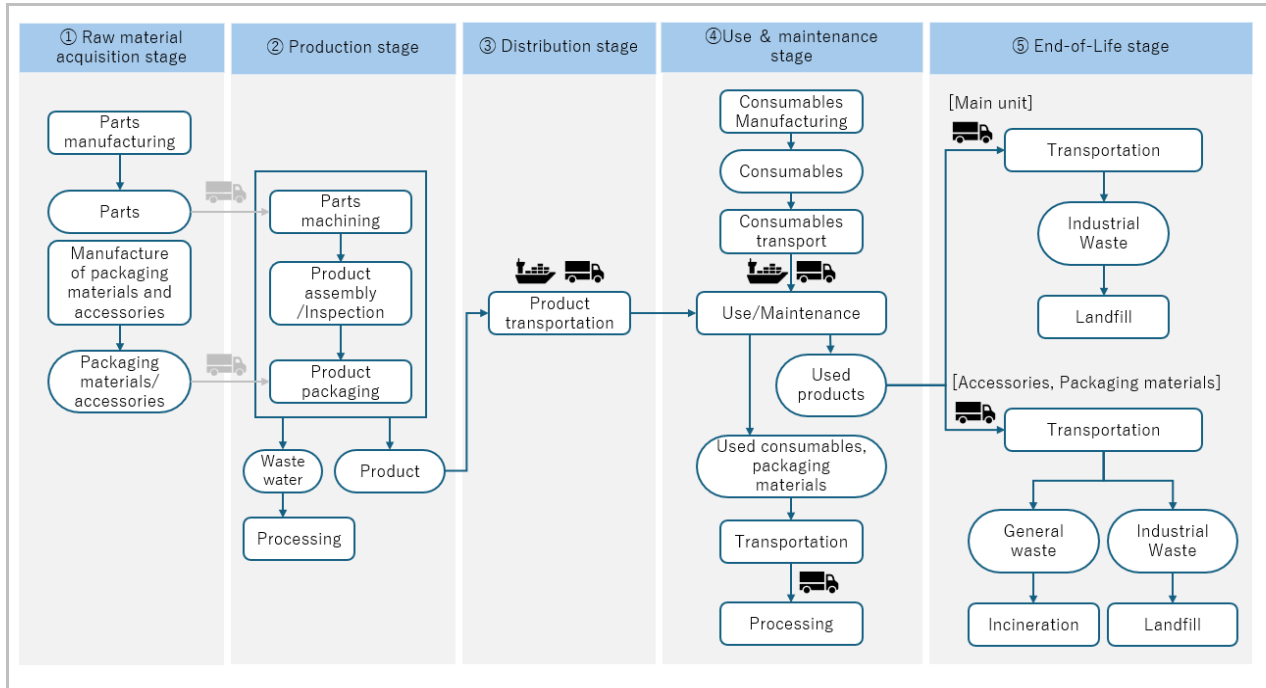
Waste treatment was calculated with reference to the PCR scenario, assuming that post-use products are discarded as industrial waste without separation and with metal components still attached, and are therefore landfilled.

> Electricity Modelling

For the manufacturing stage, the calculation was performed using data on Thailand's grid electricity in 2015. For the use stage, data on the United States' grid electricity in 2015 were used.

Environmental Product Declaration for **RICOH SP-2230**

> Life Cycle System Diagram



Environmental Product Declaration for **RICOH SP-2230**● **LCA Result**> **LCIA Indicators**

		Raw materials acquisition stage	Production stage	Distribution stage	Use stage	End of life stage
GWP	kg-CO ₂ eq	3.96E+01	3.82E+00	5.32E+00	4.83E+01	2.64E+00
Ozone layer depletion	kg-CFC-11eq	8.79E-06	6.84E-09	6.66E-11	2.31E-06	5.08E-08
Acidification	kg-SO ₂ eq	4.18E-02	2.19E-02	1.22E-02	2.27E-01	2.41E-03
Photochemical oxidants	kg-C ₂ H ₄ eq	1.89E-03	3.81E-06	2.90E-05	4.40E-04	1.36E-05
Eutrophication	kg-PO ₄ ³⁻ eq	4.47E-03	2.42E-04	5.42E-11	6.53E-04	2.21E-05

> **LCI**

		Raw materials acquisition stage	Production stage	Distribution stage	Use stage	End of life stage
Use of non-renewable resources	kg	5.01E+00	2.49E-02	4.98E-06	1.50E+00	2.08E-02
Use of non-renewable energy	MJ	7.19E+02	6.93E+01	7.33E+01	8.60E+02	1.92E+01
Use of renewable resources	kg	6.68E+00	1.63E-03	1.27E-06	1.57E+00	9.53E-03
Use of renewable energy	MJ	1.13E+02	4.52E+00	1.72E-03	1.60E+02	1.12E+00
Consumption of freshwater resources	m ³	1.24E+00	1.97E-03	1.01E-04	2.64E-01	1.30E-03

> **Waste Indicators**

		Raw materials acquisition stage	Production stage	Distribution stage	Use stage	End of life stage
hazardous waste disposed	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
non-hazardous waste disposed	kg	4.87E-01	3.28E-04	4.31E-08	6.16E-01	4.46E-01
Municipal waste, landfill	kg	8.62E-06	4.12E-14	7.10E-17	1.79E-01	3.28E-01
Industrial waste, landfill	kg	4.87E-01	3.28E-04	4.31E-08	4.37E-01	1.18E-01

*It indicates the amount of waste generated throughout the lifecycle.

> **Output Flow Indicators**

		Raw materials acquisition stage	Production stage	Distribution stage	Use stage	End of life stage
Components for reuse	kg	—	—	—	—	—
Materials for recycling	kg	—	—	—	—	—
Material for energy recovery	kg	—	—	—	—	—
Exported energy from waste (energy recovery efficiency ≥ 60%)	MJ	—	—	—	—	—
Incineration of waste (energy recovery efficiency < 60%)	Waste disposed	kg	—	—	—	—
	Recovered energy	MJ	—	—	—	—
Waste disposed in landfill and energy recovered from landfill gas	Waste disposed	kg	—	—	—	—
	Recovered energy	MJ	—	—	—	—

> Description of LCA Results

- Overview of Environmental Impact During Product Use: Actual measured power consumption serves as the factual data, calculated according to the PCR scenario.
- Overview of Transportation: For measurable transportation, actual data is used; for other aspects, calculations follow the PCR scenario.
- EPDs may be updated or discontinued if circumstances change. To verify the latest version and validity of an EPD, please check the following:
<https://ecoleaf-label.jp/epd/>
- Since general reference values are used, the specific characteristics of this product may not be reflected. Therefore, please use this result as an approximate value.
- Since yen-denominated data are applied to some hotspot materials, the calculated results may vary due to exchange rate fluctuations.
 (Primary data collection date: April 1, 2026)
- Assumed destination market of the product for the calculation: North America
- Calculation method for the use and maintenance stage: Based on the PCR scenario
- Version of the applied International ENERGY STAR Program: Version 3.2
- The environmental load of image output media during the use and maintenance stage is not included.
- Product selected in the scenario used for environmental load calculation: Sheet-fed scanner
- Assumed service life: 5 years

● Additional Environmental Information

> Additional Environmental Information not related to LCA

- This product is manufactured in an ISO 14001 certified facility.
- Complies with the International Energy Star Program.
- Complies with the European RoHS Directive.

> Information on Hazardous Substances

Hazardous materials name	CAS No.	Standards or regulations
—	—	—
—	—	—
—	—	—

● Definitions of Terms

—

● References

- ISO14025:2006 Environmental labels and declarations — Type III environmental declarations — Principles and procedures
- ISO14040:2006 Environmental management - Life Cycle Assessment - Principles and framework
- ISO14044:2006 Environmental management - Life Cycle Assessment - Requirements and guidelines
- Advancing Sustainable Materials Management:2018 Tables and Figures.pdf

● Version History

—