

## Environmental Product Declaration

In conformance with  
ISO14025 | ISO14040 | ISO14044



RISO KAGAKU CORPORATION

### RISO SJ9390A



Paper: Not subject  
to calculation

Registration number

SuMPO-EPD-2608-235-1

Verification date

2026/8/24

Publication date

2026/10/1

\* First publication date

Expiration date

2031/8/23

EPD type

Single Product EPD

Additional standards in conformance

None

EPD can be updated or withdrawn during the validity period.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            | <a href="https://ecoleaf-label.jp">https://ecoleaf-label.jp</a>                   |

### > GPI and PCR

|                         |                                                       |
|-------------------------|-------------------------------------------------------|
| GPI                     | SuMPO EPD Japan General Program Instructions v.2.1.1  |
| PCR name                | Imaging input and/or output equipment                 |
| PCR registration number | 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                               |                                                                        |                                                                           |
|                   | <input type="checkbox"/> Internal                                                   | <input checked="" type="checkbox"/> External                           |                                                                           |
|                   | <input checked="" type="checkbox"/> Third-party verification by individual verifier | <input type="checkbox"/> Third-party verification by verification body | <input type="checkbox"/> Third-party verification by system certification |
| Verifier          | Kengo Minamiyama (K's Business Factory)                                             |                                                                        |                                                                           |

### > Standards

|                                |                                                   |                                                   |                                            |
|--------------------------------|---------------------------------------------------|---------------------------------------------------|--------------------------------------------|
| Standards in conformance with; | <input checked="" type="checkbox"/> ISO14040:2006 | <input checked="" type="checkbox"/> ISO14044:2006 | <input type="checkbox"/> ISO14067:2018     |
|                                | <input checked="" type="checkbox"/> ISO14025:2006 | <input type="checkbox"/> ISO21930:2007            | <input type="checkbox"/> ISO21930:2017     |
|                                | <input type="checkbox"/> EN15804+A2               | <input type="checkbox"/> EN50693:2019             | <input type="checkbox"/> 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. | RISO KAGAKU CORPORATION                                                                                                                                                                    |
| Address                   | Riso Research and Design Center, 2-8-1 Gakuen-minami, Tsukuba-shi, Ibaraki 305-0818, Japan                                                                                                 |
| Contact                   | +81-29-850-5314                                                                                                                                                                            |
| LCA practitioner          | Kazuki Nomura (Product Environment Section)                                                                                                                                                |
| Company description       | Business Operations: Development, manufacturing, and sales of high-speed inkjet printer "ORPHIS," digital duplicator "RISOGRAPH," along with related hardware, equipment, and consumables. |

## ●Product Information

|                                       |                   |                                                                                                                                                                                                                                                  |                     |
|---------------------------------------|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| Product name                          |                   | RISO SJ9390A                                                                                                                                                                                                                                     |                     |
| Product /model number                 |                   | SJ9390A                                                                                                                                                                                                                                          |                     |
| Product<br>specification              | Function          | 133kg                                                                                                                                                                                                                                            | Conversion factor — |
|                                       | Mass              | High-speed digital printer                                                                                                                                                                                                                       |                     |
|                                       | Applications      | Print office documents like meeting materials at high speed and low cost.                                                                                                                                                                        |                     |
|                                       | TS*               | Method: Digital Printing                                                                                                                                                                                                                         |                     |
| RSL<br>(Reference<br>Service<br>Life) | Service life      | 5 years                                                                                                                                                                                                                                          |                     |
|                                       | In-use conditions | In accordance with the Ministry of the Environment's Basic Policy on Promoting Green Procurement (Digital Printers).                                                                                                                             |                     |
|                                       | reference         | Based on the estimated period of use for digital printer as defined in the PCR for Imaging Equipment.                                                                                                                                            |                     |
| Manufacturing site(s)                 |                   | RISO (Thailand) LTD.                                                                                                                                                                                                                             |                     |
| Product description                   |                   | Product Type: High-speed digital printer<br>Printing Speed: 200 ppm<br>Maximum paper size: 320 mm × 432 mm<br>Target Function for Verification (ADF, Sorter, etc.): —<br>Printing Method: digital printer<br>Product destination: Southeast Asia |                     |
| Website                               |                   | <a href="https://www.riso.co.jp/index.html">https://www.riso.co.jp/index.html</a>                                                                                                                                                                |                     |

\* TS: technical specifications,

## ●Product Content

| Product components  | Proportion (%) | Mass (unit) |
|---------------------|----------------|-------------|
| SUS                 | 4.5            | 5.14 kg     |
| Aluminium           | 1.6            | 1.86 kg     |
| Rubber              | 0.1            | 0.12 kg     |
| Others              | 0.3            | 0.34 kg     |
| Other Metals        | 2.4            | 2.73 kg     |
| Plastic             | 15.6           | 17.78 kg    |
| Paper, Wood         | 0.6            | 0.70 kg     |
| Circuit Board       | 2.8            | 3.17 kg     |
| Copper              | 5.5            | 6.32 kg     |
| Steel               | 66.5           | 75.84 kg    |
| Packaging materials | Proportion (%) | Mass (unit) |
| Others              | 0.3            | 0.05 kg     |
| Plastic             | 10.8           | 2.05 kg     |
| Paper, Wood         | 52.2           | 9.91 kg     |
| Cardboard           | 36.7           | 6.98 kg     |
|                     |                | kg          |
|                     |                | kg          |

## ●Biogenic Carbon Content

| Item                                 | Content (kg-C) | Content (kg-CO <sub>2</sub> eq) |
|--------------------------------------|----------------|---------------------------------|
| Biogenic carbon content per product  | —              | —                               |
| Biogenic carbon content in packaging | —              | —                               |

## ● LCA-related Information

### > EPD Type Information

|                                                                   |              |                                                        |                                                |                                                                             |
|-------------------------------------------------------------------|--------------|--------------------------------------------------------|------------------------------------------------|-----------------------------------------------------------------------------|
| EPD type                                                          | Product type | <input checked="" type="checkbox"/> Single product EPD | <input type="checkbox"/> Multiple products EPD | <input type="checkbox"/> Industry-wide EPD                                  |
|                                                                   | Site type    | <input checked="" type="checkbox"/> Single site        | <input type="checkbox"/> Multiple sites        |                                                                             |
|                                                                   | Value        | <input checked="" type="checkbox"/> Specific           | <input type="checkbox"/> Average               | <input type="checkbox"/> Representative <input type="checkbox"/> Worst case |
| Geographical coverage                                             |              | Southeast Asia                                         |                                                |                                                                             |
| 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                                                       | 1unit                                                                                                          |                                                             |                                                      |
| Mass per declared unit<br>(Conversion factor to mass)               | 133kg                                                                                                          |                                                             |                                                      |
| Reference flow (number of products required to fulfil the function) | —                                                                                                              |                                                             |                                                      |
| System boundary                                                     | <input type="checkbox"/> Cradle-to- Gate                                                                       | <input type="checkbox"/> Cradle-to- Gate with options       | <input checked="" type="checkbox"/> Cradle-to- Grave |
| LCA software                                                        | MiLCA Ver.3.1                                                                                                  |                                                             |                                                      |
| LCI database                                                        | AIST-IDEAv3.1                                                                                                  |                                                             |                                                      |
| Characterization model                                              | LIME2、IPCC 2013 GWP 100a                                                                                       |                                                             |                                                      |
| Use of other background data                                        | —                                                                                                              |                                                             |                                                      |
| Secondary data quality                                              | Calculations were conducted using data that meet the secondary data quality requirements specified in the GPI. |                                                             |                                                      |
| Primary data collection sites                                       | RISO (Thailand) LTD.、Ube Works                                                                                 |                                                             |                                                      |
| Primary data collection period                                      | April 1, 2024 – March 31, 2025                                                                                 |                                                             |                                                      |
| Biogenic carbon                                                     | <input checked="" type="checkbox"/> 0/0 approach                                                               | <input type="checkbox"/> -1/+1 approach                     |                                                      |
| Information about electricity                                       | Use                                                                                                            | <input checked="" type="checkbox"/> Average consumption mix | <input type="checkbox"/> Others                      |
|                                                                     | Type                                                                                                           |                                                             |                                                      |
|                                                                     | Purchase date                                                                                                  |                                                             |                                                      |
|                                                                     | Issuing body                                                                                                   |                                                             |                                                      |

### > Life Cycle Stages

| Raw materials acquisition stage     | Production stage                    | Distribution stage                  | Use stage                           | End of life stage                   |
|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

■ : declared stage      — : stage not declared

### > Allocation

In this calculation, process subdivision and allocation were examined following the procedures outlined in the GPI. In the manufacturing processes for the main unit, other digital printer products are generated as co-products. Since avoiding allocation through process subdivision was difficult, and the economic value of the product in this application is equivalent to that of the other digital printers from the same process, physical allocation was applied.

### > Cut-off rules

Impacts related to packaging and transport materials used for sourcing input materials.  
 Impacts related to auxiliary materials.  
 Transport-related impacts for components, materials, packaging, and accessories.  
 Impacts related to product storage, warehouse management during transport, sales, and installation processes.  
 Impacts related to the proper treatment of waste in the raw material procurement and manufacturing stages.  
 Impacts related to component assembly.

### > System Boundary

#### 【Target Life Cycle Stages】

The assessment covers all mandatory life cycle stages: Raw Material Acquisition, Manufacturing, Distribution, Use and Maintenance, and End-of-Life (Final Treatment).

#### 【Temporal System Boundary】

The temporal boundary for the system is set at 100 years, beginning from the year of primary data collection.

### > Scenario

#### 【Distribution Stage】

Transportation Mode & Loading Rate: PCR scenarios applied.

Transportation Distance: Both PCR and internal company scenarios applied.

#### 【Use and Maintenance Stage】

Load Calculation During Operation: PCR scenarios applied.

Transportation Mode & Loading Rate: PCR scenarios applied.

Transportation Distance: Both PCR and internal company scenarios applied.

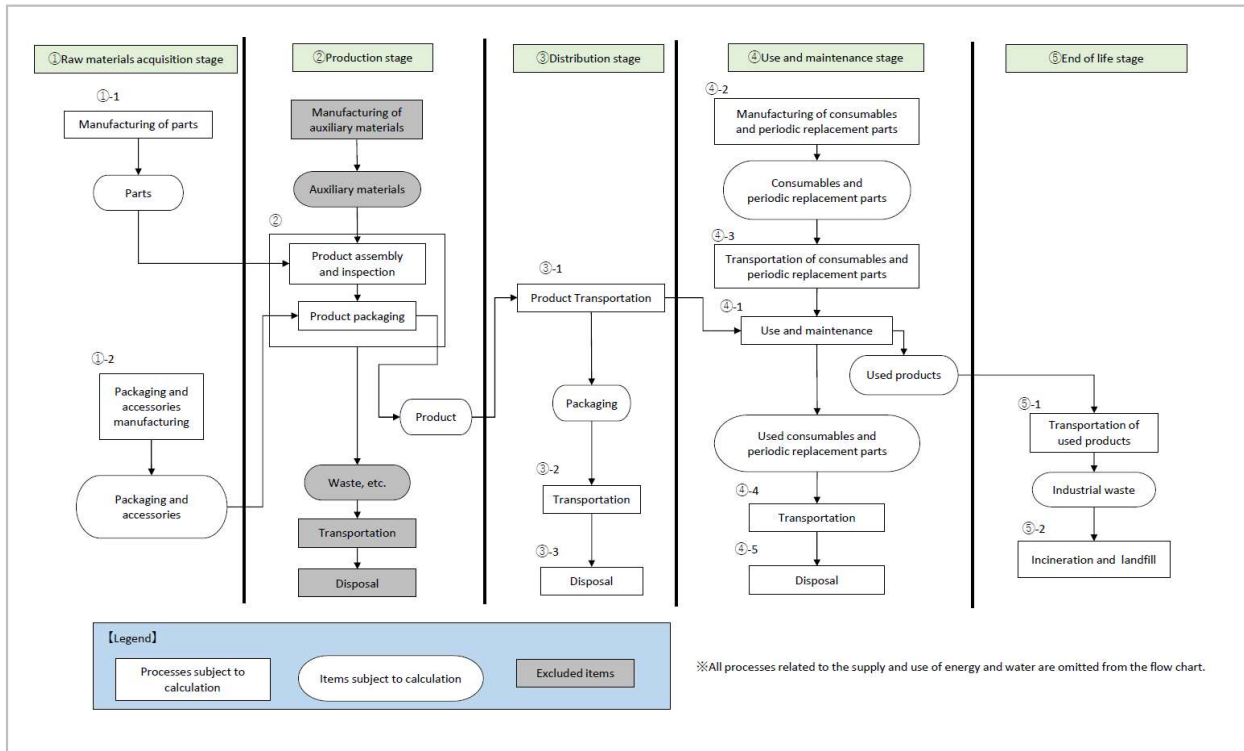
#### 【End-of-Life Stage】

Transportation Mode, Loading Rate, & Distance: PCR scenarios applied.

### > Electricity Modelling

All stages: Calculated using the latest available average grid electricity data for each manufacturing and user country.

## > Life Cycle System Diagram



## ● LCA Result

### > LCIA Indicators

|                                |                                     | Total    | Raw materials acquisition stage | Production stage | Distribution stage | Use stage | End of life stage |
|--------------------------------|-------------------------------------|----------|---------------------------------|------------------|--------------------|-----------|-------------------|
| GWP                            | kg-CO <sub>2</sub> eq               | 1.89E+03 | 7.03E+02                        | 1.25E+01         | 1.86E+01           | 1.08E+03  | 7.65E+01          |
| Ozone layer depletion          | kg-CFC-11eq                         | 2.27E-04 | 1.24E-04                        | 2.03E-09         | 5.58E-07           | 1.02E-04  | 6.69E-07          |
| Acidification                  | kg-SO <sub>2</sub> eq               | 2.73E+00 | 7.26E-01                        | 7.22E-02         | 5.75E-02           | 1.79E+00  | 8.24E-02          |
| Urban air pollution            | kg-SO <sub>2</sub> eq               | 1.94E+00 | 5.38E-01                        | 5.80E-02         | 2.97E-02           | 1.27E+00  | 4.67E-02          |
| Photochemical oxidants         | kg-C <sub>2</sub> H <sub>4</sub> eq | 4.74E-02 | 2.19E-02                        | 1.11E-05         | 1.13E-04           | 2.50E-02  | 2.76E-04          |
| Hazardous chem. - carcinogenic | kg-C <sub>6</sub> H <sub>6</sub> eq | 1.72E+00 | 1.38E+00                        | 3.55E-05         | 1.05E-02           | 3.14E-01  | 1.04E-02          |
| Hazardous chem. - chronic      | kg-C <sub>6</sub> H <sub>6</sub> eq | 2.71E-02 | 1.77E-02                        | 2.66E-05         | 3.95E-05           | 9.18E-03  | 1.03E-04          |
| Aquatic ecotoxicity            | kg-C <sub>6</sub> H <sub>6</sub> eq | 1.20E+01 | 4.39E+00                        | 2.04E-05         | 4.50E-03           | 7.60E+00  | 5.42E-03          |
| Terrestrial ecotoxicity        | kg-C <sub>6</sub> H <sub>6</sub> eq | 4.76E+02 | 7.58E+01                        | 4.05E-04         | 1.06E-01           | 4.00E+02  | 1.27E-01          |
| Eutrophication                 | kg-PO <sub>4</sub> <sup>3-</sup> eq | 8.23E+00 | 5.27E-02                        | 3.84E-08         | 1.86E-06           | 8.18E+00  | 2.07E-06          |
| Land use - maintenance         | m <sup>2</sup> /year                | 4.64E+02 | 6.35E+01                        | 2.74E-02         | 5.16E-01           | 4.00E+02  | 7.97E-01          |
| Land use - modification        | m <sup>2</sup>                      | 7.28E+00 | 2.23E-01                        | 8.09E-04         | 1.04E-02           | 7.03E+00  | 1.60E-02          |
| Resource consumption           | kg-Sbeq                             | 9.05E-02 | 7.54E-02                        | 5.33E-05         | 5.59E-05           | 1.49E-02  | 1.38E-04          |

### > LCI

|                                     |                | Raw materials acquisition stage | Production stage | Distribution stage | Use stage | End of life stage |
|-------------------------------------|----------------|---------------------------------|------------------|--------------------|-----------|-------------------|
| Use of non-renewable resources      | kg             | 1.53E+02                        | 8.01E-02         | 1.26E+00           | 3.90E+01  | 1.25E+00          |
| Use of non-renewable energy         | kg             | 2.85E+02                        | 5.82E+00         | 3.89E+00           | 3.63E+02  | 9.87E+00          |
| Use of non-renewable energy         | MJ             | 1.11E+04                        | 2.28E+02         | 1.70E+02           | 1.49E+04  | 4.38E+02          |
| Use of renewable resources          | kg             | 1.59E+02                        | 4.93E-03         | 1.06E-02           | 1.21E+02  | 1.15E-02          |
| Use of renewable energy             | MJ             | 1.48E+03                        | 1.45E+01         | 1.43E+01           | 1.35E+03  | 1.71E+01          |
| Consumption of freshwater resources | m <sup>3</sup> | 5.33E+01                        | 1.11E-03         | 2.99E-03           | 2.34E+02  | 4.11E-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 | 3.54E+01                        | 4.91E-05         | 8.36E-02           | 2.06E+01  | 9.57E+01          |
| Municipal waste, landfill    | kg | 7.22E-05                        | 7.19E-14         | 9.86E-13           | 1.14E-06  | 1.39E-12          |
| Industrial waste, landfill   | kg | 3.54E+01                        | 4.91E-05         | 8.36E-02           | 2.06E+01  | 9.57E+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 recoved from landfill gas | Waste disposed   | kg                              | —                | —                  | —         | —                 |
|                                                                 | Recovered energy | MJ                              | —                | —                  | —         | —                 |

## > Description of LCA Results

Since generic values (emission factors) are used, the specific characteristics of the materials used in this product may not be fully reflected. Therefore, please use these results as an approximation.

- Product destination: Southeast Asia
- Calculation method for use and maintenance stage: Based on PCR scenarios
- Assumed product lifespan: 5 years
- Total lifetime print volume: 3,840,000 sheets
- Environmental impact of printing paper during the use and maintenance stage is not included.
- Product selected for the impact calculation scenario: digital printer

## ● Additional Environmental Information

### > Additional Environmental Information not related to LCA

The assembly and production of this product, as well as the manufacturing of its ink and masters, are conducted at ISO 14001 registered factories.

This product is in compliance with the EU RoHS Directive.

### > Information on Hazardous Substances

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

## ● Definitions of Terms

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## ● 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

## ● Version History

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