



EcoLeaf

Type III Environmental Declaration (EPD)

Registration number : JR-AI-23518E

Japan EPD Program by SuMPO

Sustainable Management Promotion Organization  
14-8, Uchikanda 1-chome, Chiyoda-ku, Tokyo Japan  
<https://ecoleaf-label.jp/>

**brother**  
at your side

BROTHER INDUSTRIES, LTD.

4-in-1 Inkjet Printer

**MFC-J4540DW** for Europe



### Functional unit

Per unit of product

### System boundary

- final products
- intermediate products

Raw material acquisition - Production - Distribution  
- Use & maintenance - End-of-Life

### Main specifications of the product

Model name: MFC-J4540DW

- Facsimile (Business model)
- Recording method: IJ method
- Maximum Recording size: A4
- Maximum document size: A4
- G3
- Product weight: 9.7kg Packaging etc.: 2.3kg
- Automatic duplex printing
- Wired/Wireless LAN

\* This product is for Europe.

|                                     |   |
|-------------------------------------|---|
| Registration#                       | JR-AI-23518E  |
| PCR number                          | PA-590000-AI-08   |
| PCR name                            | Imaging input and/or output equipment                             |
| Publication date                    | 4/26/2024   |
| Verification date                   | 4/12/2024   |
| Verification method                 | System certificaion   |
| Verification#                       | JV-AI-23518E  |
| Expiration date                     | 4/11/2029   |
| <b>PCR review was conducted by:</b> |   |
| Approval date                       | 9/1/2023  |
| PCR review panel chair              | Masayuki Kanzaki<br>Sustainable Management Promotion Organization |

### Third party verifier\*

Yasuo Koseki

Independent verification of data & declaration in accordance with ISO14025

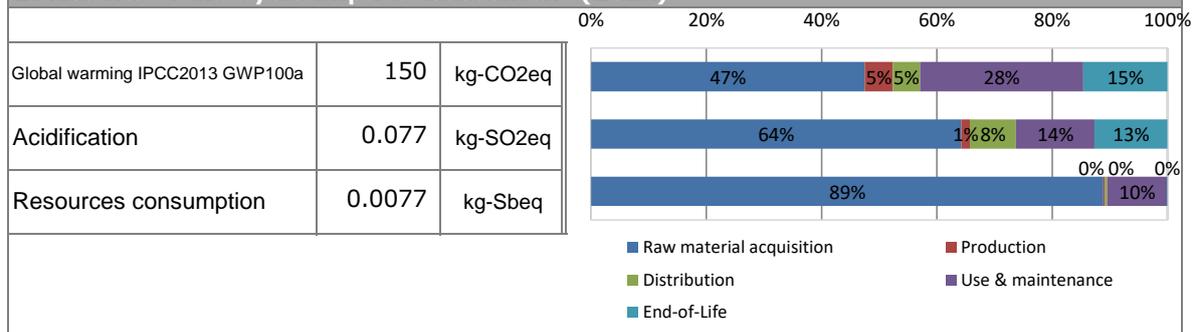
internal  external

\*Auditor's name is stated if system certification has been performed.

### Company Information

Brother Industries, Ltd.  
[inml-ecoleaf-jimukyoku@brother.co.jp](mailto:inml-ecoleaf-jimukyoku@brother.co.jp)  
<https://global.brother/en>

Registration number : JR-AI-23518E

**1. Results of life cycle impact assessment (LCIA)**

| Parameter                       | stage | Unit                  | Total   | Raw material acquisition | Production | Distribution | Use & maintenance | End-of-Life |
|---------------------------------|-------|-----------------------|---------|--------------------------|------------|--------------|-------------------|-------------|
| Global warming IPCC2013 GWP100a |       | kg-CO <sub>2</sub> eq | 1.5E+02 | 7.0E+01                  | 7.2E+00    | 7.0E+00      | 4.2E+01           | 2.2E+01     |
| Acidification                   |       | kg-SO <sub>2</sub> eq | 7.7E-02 | 4.9E-02                  | 1.1E-03    | 6.1E-03      | 1.0E-02           | 9.7E-03     |
| Resources consumption           |       | kg-Sbeq               | 7.7E-03 | 6.8E-03                  | 2.1E-05    | 3.0E-05      | 8.0E-04           | 5.0E-06     |

**2. Life cycle inventory analysis (LCI)**

| Parameter                        | Unit    | Unit           |
|----------------------------------|---------|----------------|
| Non-renewable material resources | 6.6E+00 | kg             |
| Non-renewable energy resources   | 2.2E+03 | MJ             |
| Renewable material resources     | 1.5E+01 | kg             |
| Renewable primary energy         | 9.0E+01 | MJ             |
| Consumption of freshwater        | 1.4E-01 | m <sup>3</sup> |

**3. Material composition**

| Material       | Unit    | Unit |
|----------------|---------|------|
| Steel          | 1.8E+00 | kg   |
| SUS            | 6.6E-02 | kg   |
| Aluminium      | 7.3E-03 | kg   |
| Other metal    | 4.5E-03 | kg   |
| Plastic        | 6.6E+00 | kg   |
| Rubber         | 5.3E-02 | kg   |
| Glass          | 6.3E-01 | kg   |
| Paper and Wood | 1.6E+00 | kg   |
| Circuit board  | 2.9E-01 | kg   |
| Othres         | 9.6E-01 | kg   |

**5. Additional explanation**

Calculation method for usage stage (Scenario) : Facsimile (Business model), Expected use period: 5 years, Transmission / reception: 48,000 each, Use pattern when measuring power: ITU-T No.1 chart, Printing paper is not included in the environmental impact, This product is for Europe.

**6-1. Supplementary environmental information**

This product and main components are produced in our ISO 14001 certified factories.

**7. Assumptions of secondary data used**

Inventory Database: IDEA v2.1.3, and registered data of Japan EPD Program by SuMPO, JLCA data v1.10 are used.

**8. Remarks**

-

- For data quantification, please refer to PCR and Rules on quantification and declaration.
- Comparative assertion is permitted only when Rules on quantification and declaration are satisfied.  
(Reference URL : <https://ecoleaf-label.jp/regulation/>)