



SuMPO EPD
Type III Environmental Declaration (EPD)

Japan EPD Program by SuMPO

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

Registration number : JR-BF-24013E

Hitachi, Ltd. Hitachi Virtual Storage Platform One Block 28



Functional unit

Per sales unit (per unit)

System boundary

final products intermediate products

Main specifications of the product

All-Flash Array

- Controller chassis

Cache capacity : 1024 GiB

HT-40SN-MNENNA Up to 1 unit

Up to 60TB 24 NVMe SSD

- Drive box

HT-F40SN-DBN2E Up to 2 units

Up to 60TB 24 NVMe SSD

Company Information

Hitachi, Ltd.

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| | |
|-------------------------------------|--|
| Registration# | JR-BF-24013E |
| PCR number | PA-520000-BF-04 |
| PCR name | IT equipments |
| Publication date | 12 Mar. 2025 |
| Verification date | 1st Mar. 2025 |
| Verification method | Product-by-product |
| Verification# | JV-BF-24013 |
| Expiration date | 28 Feb. 2030 |
| PCR review was conducted by: | |
| Approval date | 8/15/2023 |
| PCR review panel chair | Ken Yamagishi (Sustainable Management Promotion Organization) |

Third party verifier*

Yuki Sakamoto

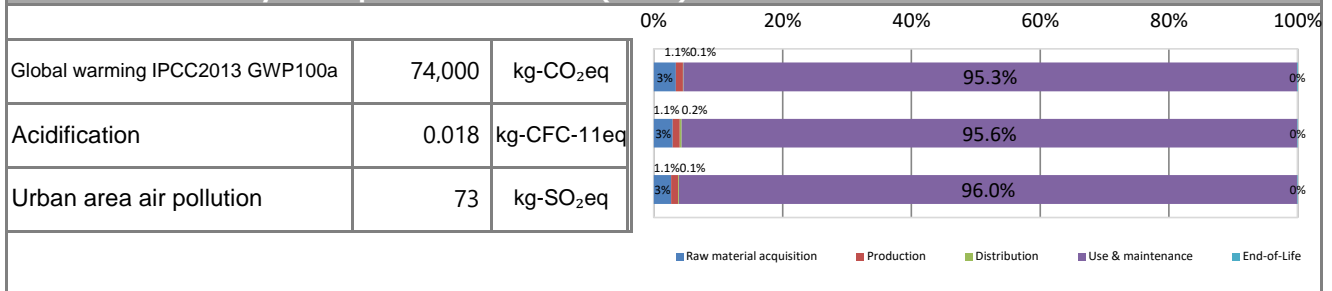
Independent verification of data & declaration in accordance with ISO14025

internal external

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

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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 ₂ eq | 7.4E+04 | 2.5E+03 | 8.4E+02 | 5.4E+01 | 7.1E+04 | 9.4E+01 |
| Ozone layer destruction | | kg-CFC-11eq | 1.8E-02 | 1.7E-04 | 2.0E-04 | 7.2E-10 | 1.7E-02 | 2.8E-06 |
| Acidification | | kg-SO ₂ eq | 7.3E+01 | 2.1E+00 | 8.2E-01 | 1.8E-01 | 7.0E+01 | 5.3E-02 |
| Urban area air pollution | | kg-SO ₂ eq | 5.5E+01 | 1.5E+00 | 6.3E-01 | 6.7E-02 | 5.3E+01 | 3.2E-02 |
| Photochemical ozone | | kg-C ₂ H ₄ eq | 1.4E+00 | 3.8E-02 | 1.6E-02 | 3.8E-04 | 1.4E+00 | 3.6E-04 |
| Toxic chemicals(cancer) | | kg-C ₆ H ₆ eq | 4.5E+00 | 2.8E+00 | 2.0E-02 | 2.7E-04 | 1.7E+00 | 5.9E-03 |
| Toxic chemicals(chronic disease) | | kg-C ₆ H ₆ eq | 2.3E-01 | 1.9E-02 | 2.5E-03 | 1.7E-04 | 2.1E-01 | 9.9E-05 |
| Aquatic toxicity | | kg-C ₆ H ₆ eq | 1.5E+02 | 8.6E+00 | 1.6E+00 | 8.6E-06 | 1.4E+02 | 2.4E-02 |
| Biological toxicity | | kg-C ₆ H ₆ eq | 3.6E+03 | 1.9E+02 | 4.0E+01 | 1.4E-04 | 3.4E+03 | 5.4E-01 |
| Eutrophication | | kg-PO ₄ ³⁻ eq | 1.8E-02 | 1.3E-02 | 5.1E-05 | 5.6E-10 | 4.3E-03 | 3.4E-04 |
| Land use(Occupation) | | m ² /year | 4.1E+02 | 5.3E+01 | 4.1E+00 | 4.5E+00 | 3.5E+02 | 5.3E-01 |
| Land use(Transformation) | | m ² | 1.0E+01 | 3.4E-01 | 1.1E-01 | 9.1E-02 | 9.7E+00 | 1.1E-02 |
| Resources consumption | | kg-Sbeq | 7.8E-01 | 2.9E-01 | 5.7E-03 | 2.2E-04 | 4.8E-01 | 1.6E-04 |

2. Life cycle inventory analysis (LCI)

| Parameter | Value | Unit |
|----------------------------------|---------|----------------|
| Non-renewable material resources | 1.4E+03 | kg |
| Non-renewable energy resources | 2.8E+04 | kg |
| Non-renewable energy resources | 1.2E+06 | MJ |
| Renewable material resources | 3.7E+02 | kg |
| Renewable primary energy | 4.6E+05 | MJ |
| Consumption of freshwater | 4.9E+01 | m ³ |

3. Material composition

| Material | Value | Unit |
|--------------------------|-------|------|
| All Flash array Steel | 79 | % |
| Other metals | 2 | % |
| Plastics | 1 | % |
| PCB | 4 | % |
| Copper-clad wire, Motors | 4 | % |
| Batteries | 1 | % |
| PSU | 4 | % |
| SSD | 5 | % |
| Total | 100 | % |

4. Waste to disposal

| Parameter | Value | Unit |
|---------------------------------------|----------|------|
| Hazardous waste | 0.00E+00 | kg |
| Non-hazardous waste. | 4.51E+02 | kg |
| Treated MSW for landfill | 1.00E-07 | kg |
| Treated industrial waste for landfill | 4.51E+02 | kg |

*Data derived from LCA and not assigned to the impact categories of LCIA



5. Additional explanation

<Products>

- Product Name : Hitachi Virtual Storage Platform One Block 28
 - Conditions for calculating CO₂eq emissions :
 - Calculated using 1 controller chassis (HT-40SN-MNENNA) with 24 NVMe SSDs installed.
 - and 2 drive boxes (HT-F40SN-DBN2E) with the maximum installed of 48 NVMe SSDs
 - Product type name of the scenario used :
 - Disk array (Solid State Drive(SSD) installed)
- <Product main specifications>
- Storage capacity*1 : 4,320TB
 - Operating years*2 : 5 years
 - Drive type : Solid State Drive (NVMe SSD)
 - Drive interfaces : NVMe
 - Installed drives : 72 units
- Measurement conditions :
 - Power during use is measured by the measurement method specified by certified PCR(PA-520000-BF-04)

*1 The capacity is calculated as 1TB = 1,000,000,000,000 bytes

*2 The operating years were assumed to be the statutory useful life(5 years for computer/others)



6-1. Supplementary environmental information

• Greenhouse gas emissions at the use and maintenance stages are the largest, accounting for about 96% of the entire life cycle, and the influence of power consumption during use is large, so it can be said that energy-saving performance during use is a very important factor.

Please note that the usage and maintenance stage may not be the same as the customer's terms of use because general conditions have been set and evaluated.

• In calculating EPD, we use our data for the amount of raw materials used, but since it is difficult to collect data at the time of manufacturing thousands of parts, we use general data at the time of manufacturing raw materials.

Therefore, it may not reflect the unique characteristics of this product.

. Manufactured and assembled at a factory that has obtained ISO14001:2015 certification.

. Obtained USA EPA EnergyStar certification.

. Compliant with the European RoHS Directive.

. We have established environmentally friendly green procurement guidelines and are working on green procurement with our procurement partners.

7. Assumptions of secondary data used

Priority to IDEA ver. 3.1.0, it was supplemented with the registered basic unit v1.15.

8. Remarks

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- 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/>)

- This is a self-declared translation of EPD that can be accessed at [[検証済みEPDへのリンクを追加してください](#)]
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