Japan EPD Program by SuMPO
Sustainable Management Promotion Organization
14-8, Uchikanda 1-chome, Chiyoda-ku, Tokyo Japan
https://ecoleaf-label.jp/

MEIDENSHA CORPORATION

84 (72.5) kV Dry Air Insulated Dead Tank Vacuum Circuit Breaker

Functional unit

Per product

System boundary

■ final products □intermediate products

Raw material acquision, Production,
Distribution, Use & maintenance, End-of-Life stage

Main specifications of the product

Product category：Circuit Breaker
Configuration (Number of Poles / Interrupting Units / Phases):
3 poles, 3 phases
Rated Voltage：84 / 72 kV
Rated Current：3,000 A
Rated Short-Circuit Breaking Current：31.5 kA
Overall Dimensions：Approx. 3.7 m (H) × 2.0 m (W) × 3.2 m (D)
Product Weight：Approx. 2.3 t

Company Information

MEIDENSHA CORPORATION
ThinkPark Tower, 2-1-1 Osaki, Shinagawa-ku Tokyo, 141-6029 Japan
URL : https://www.meidensha.com/

Registration#	JR-CE-25001E
PCR number	PA-303800-CE-01
PCR name	Circuit Breaker･Disconnector
Publication date	01 September 2025
Verification date	12 August 2025
Verification method	Product-by-product
Verification#	JV-CE-25001
Expiration date	11 August 2030

PCR review was conducted by:

Approval date	06 March 2024
PCR review panel chair	Katsuyuki Nakano (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.

SuMPO EPD
Type III Environmental Declaration (EPD)
Registration number： JR-CE-25001E

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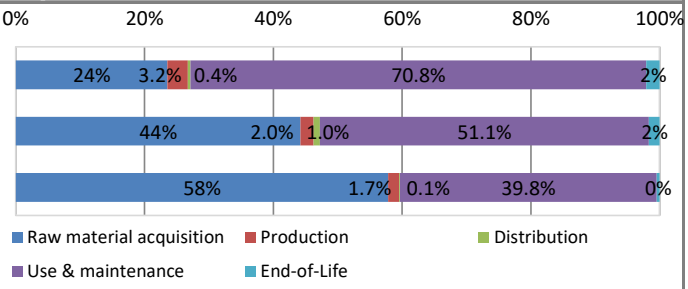
1. Results of life cycle impact assessment (LCIA)

Global warming IPCC2013 GWP100a	42000	kg-CO_2eq
Acidification	57	kg-SO_2eq
Resources consumption	0.51	kg-Sbeq



Parameter \ stage	Unit	Total	Raw material acquisition	Production	Distribution	Use & maintenance	End-of-Life
Global warming IPCC2013 GWP100a	kg-CO_2eq	4.2E+04	9.9E+03	1.3E+03	1.7E+02	3.0E+04	8.8E+02
Ozone layer destruction	kg-CFC-11eq	9.1E-03	1.4E-03	5.2E-04	5.1E-09	7.2E-03	2.5E-06
Acidification	kg-SO_2eq	5.7E+01	2.5E+01	1.2E+00	5.6E-01	2.9E+01	9.7E-01
Urban area air pollution	kg-SO_2eq	4.4E+01	2.0E+01	8.6E-01	2.1E-01	2.2E+01	5.5E-01
Photochemical ozone	kg-C_2H_4eq	1.2E+00	6.3E-01	2.3E-02	1.2E-03	5.7E-01	4.7E-03
Toxic chemicals(cancer)	kg-C_6H_6eq	6.7E+00	6.0E+00	2.8E-02	8.4E-04	6.9E-01	8.3E-03
Toxic chemicals(chronic disease)	kg-C_6H_6eq	4.7E-01	3.8E-01	3.9E-03	5.4E-04	8.8E-02	1.9E-03
Aquatic toxicity	kg-C_6H_6eq	4.5E+02	3.9E+02	2.2E+00	5.0E-05	5.8E+01	3.3E-01
Biological toxity	kg-C_6H_6eq	1.1E+04	9.3E+03	5.4E+01	9.8E-04	1.4E+03	4.0E-01
Eutrophication	kg-PO_4^{3-}eq	3.9E-01	3.9E-01	7.1E-05	1.7E-06	1.8E-03	1.2E-03
Land use(Occupation)	m^2/year	1.6E+03	1.4E+03	1.0E+01	1.4E+01	1.5E+02	1.6E+01
Land use(Transformation)	m^2	7.1E+00	2.2E+00	2.5E-01	2.8E-01	4.1E+00	3.2E-01
Resources consumption	kg-Sbeq	5.1E-01	2.9E-01	8.6E-03	7.0E-04	2.0E-01	2.4E-03

2. Life cycle inventory analysis (LCI)

Parameter		Unit
Non-renewable material resources	4.6E+03	kg
Non-renewable energy resources	1.7E+04	kg
Non-renewable energy resources	7.0E+05	MJ
Renewable material resources	1.9E+03	kg
Renewable primary energy	2.3E+05	MJ
Consumption of freshwater	1.3E+03	m^3

3. Material composition

Material		Unit
Metallic Materials	70.2	%
Insulating Materials	27.4	%
Others	2.4	%

4. Waste to disposal

Parameter		Unit
Hazardous waste	0.00E+00	kg
Non-hazardous waste.	2.18E+03	kg
Treated MSW for landfill	2.07E-05	kg
Treated industrial waste for landfill	2.18E+03	kg

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

5. Additional explanation

Based on the PCR for “Circuit Breakers and Disconnectors” (PA-303800-CE-01), Scenario 10-4, the assumed service life was set to 20 years. In calculating the material composition of the main unit, some intensity-based data (i.e., non-physical-quantity-based unit data) were used in part. Therefore, the calculation results may vary depending on fluctuations in the prices of component materials.

6-1. Supplementary environmental information

6-2. Regulated hazardous substances

Substance	CAS No.	Reference to standards or regulations
Poly(tetrafluoroethylene)	9002-84-0	Industrial Safety and Health Act
Vinyl acetate	108-05-4	Industrial Safety and Health Act
Toluene	108-88-3	Industrial Safety and Health Act, Pollutant Release and Transfer Register, Act on the Regulation of Manufacture and Evaluation of Chemical Substances
Methanol	67-56-1	Industrial Safety and Health Act, Act on the Regulation of Manufacture and Evaluation of Chemical Substances
Potassium cyanide	151-50-8	Act on the Regulation of Manufacture and Evaluation of Chemical Substances
Potassium Selenocyanate	3425-46-5	Act on the Regulation of Manufacture and Evaluation of Chemical Substances
Ethylene chlorohydrin	107-07-3	Industrial Safety and Health Act
1-Methyl-1-phenylethyl hydroperoxid	80-15-9	Industrial Safety and Health Act
Cumene	98-82-8	Industrial Safety and Health Act
Silver(I) cyanide	506-64-9	Poisonous and Deleterious Substances Control Act、Industrial Safety and Health Act、Act on Confirmation, etc. of Release Amounts of

7. Assumptions of secondary data used

IDEA ver. 3.1 was used.

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 selfdeclared translation of EPD that can be accessed at [https://ecoleaf-label.jp/epd/2401]
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