SuMPO EPD JAPAN VERIFIED

SuMPO EPD Japan

Third party verified

Environmental Product Declaration

In confromance with

ISO14025 | ISO14040 | ISO14044

NISSO

NIPPON SODA CO.,LTD.

NISSO HPC-L（pharmaceutical excipient）/CELNY-L（food excipient）

Registration number	Verification date	Publication date	Expiration date	EPD type
SuMPO-EPD-2512- 34-1	2025/12/15	2026/1/14 * First publication date	2030/12/14	Single Product EPD

Additional standards in conformance

ISO21930:2007 standards

EPD can be updated or withdrawn during the validity period.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.2.1.1
PCR name	Cellulose Derivatives（intermediate goods）【v.2】
PCR registration number	PA-161600-CP-02
PCR publication date	2025/6 /10
PCR review panel chair	Tomoko Fuchigami
PCR valid until	2030/6 /9
PCR issuer	Sustainable Management Promotion Organization (SuMPO)

＞Verification

Verification Type	Third-party verification in conformance with ISO14025		
	☐ Internal	■ External	
	■ Third-party verification by individual verifier	☐ Third-party verification by verification body	☐ Third-party verification by system certification
Verifier	Shinichi Inoue		

＞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 the same standards, use the same sub-PCR where applicable, include all relevant information modules and are based on equivalent scenarios with respect to the context of construction works. 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.	NIPPON SODA CO.,LTD. SALES & MARKETING SEC. PHARMA CHEMICALS BUSINESS DEPT. CHEMICALS BUSINESS DIV.
Address	7-2, MARUNOUCHI, 2-CHOME, CHIYODA-KU, TOKYO, 100-7010, JAPAN
Contact	ke.hayashi@nissogr.com
LCA practitioner	NIPPON SODA CO.,LTD.
Company description	As a specialty chemical company, we create various high-performance, high-quality chemical products through our refined research and development.

●Product Information

Product name		NISSO HPC-L（pharmaceutical excipient）/CELNY-L（food excipient）		
Product /model number		NISSO HPC-L（pharmaceutical excipient）/CELNY-L（food excipient）		
Product sepcification	Function	pharmaceutical excipient/food excipient		
	Mass	1kg	Conversion factor	-
	Applications	Binders, etc. for tablets and granules in pharmaceuticals and health foods		
	TS*	-		
Service life	Service life	5 years		
	In-use conditions	pharmaceutical excipient/food excipient		
	reference	Storage Stability Test		
Manufacturing site(s)		NIPPON SODA CO.,LTD. Nihongi Plant		
Product description		It has excellent binding power and can be dissolved in water and polar organic solvents. It is non-toxic, non-irritating, and has low harmfulness.		
Website		https://www.nissoexcipients.com/jp/		

* TS: technical specifications,

●Product Content

Product components	Propotion (%)
hydroxypropyl cellulose	99.0
water	0.9
By-products that could not be completely removed	0.1
Packaging materials	Propotion (%)
cardboard box	80.0
plastic bag	20.0

●Biogenic Carbon Content

Item	Content (kg-C)	Content (kg-CO_2 eq)
Biogenic carbon content per product	0.44	1.61
Biogenic carbon content in packaging	-	-

●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		
	Value	■ Specific	☐ Average	☐ Representative	☐ Worst case
Geographical coverage		Global			
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		1kg	
Mass per declared unit (Conversion factor to mass)		-	
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 for EPD	
LCI database		AIST-IDEA Ver.3.1.0	
Characterization model		Climate change: IPCC Fifth Assessment Report (IPCC, 2013), Other impact categories: LIME2	
Use of other background data		-	
Secondary data quality		The calculation was performed using data that met the secondary data quality specified in the GPI. The data quality evaluation was conducted in accordance with ISO 14044:2006 (Environmental management - Life cycle assessment - Requirements and guidelines) section 4.2.3.6.	
Primary data collection sites		NIPPON SODA CO.,LTD. Nihongi Plant	
Primary data collection period		April 1, 2023 - March 31, 2024	
Biogenic carbon		■ 0/0 approach	☐ -1/+1 approach
Information about electricity	Use	■ Average consumption mix	☐ Others
	Type	-	
	Purchase date	-	
	Issuing body	-	

＞Modules

Production stage			Construction stage		Use stage							End-of-life stage				Suppl. info
					Use					Operation						
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Extraction and upstream production	Transport to factory	Manufacturing	Transport to site	Installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction / Demolition	Transport to waste processing or disposal	Waste processing	Disposal of waste	Potential net benefits
■	■	■	–	–	–	–	–	–	–	–	–	–	–	–	–	–

■ : declared module　– : module not declared

＞Allocation

In this calculation, allocation is not performed because a single product is output.

＞Cut-off rules

There are no items that have been cut off.

＞System Boundary

The configuration was established based on the PCR. Items (processes) designated as out-of-boundary processes in the GPI and PCR are considered outside the system boundary. The temporal system boundary is 100 years.

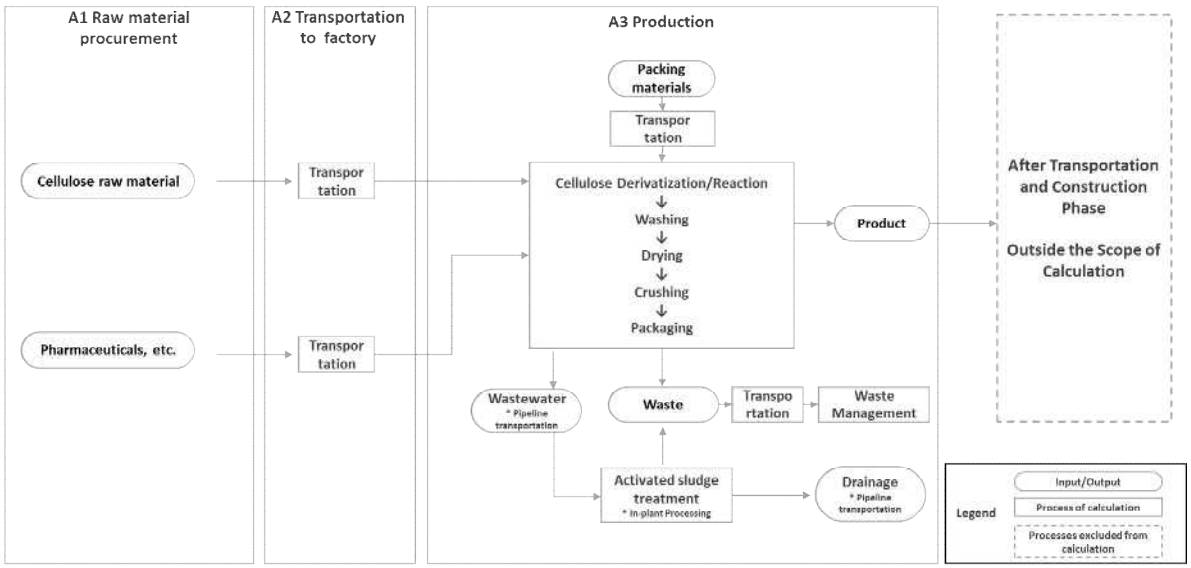
＞Scenario

Modules	Description
A2 Transportation to factory, A3 Production	No scenario is being used.

＞Electricity Modelling

Calculations were performed using data on Japan's average grid electricity in fiscal year 2018 for all targeted lifecycle stages.

＞Life Cycle Sytem Diagram



* Processes related to the supply and use of "electricity," "steam," "pure water," and "nitrogen" are omitted from the flow diagram

●LCA Result

＞LCIA Indicators

		Raw materials acquisition stage	Production stage	Distribution stage	-	-	D suppl. Info
GWP	kg-CO_2eq	3.44E+00	1.56E-01	2.19E+00	-	-	-
Ozone layer depletion	kg-CFC-11eq	7.43E-07	1.88E-09	4.54E-07	-	-	-
Eutrophication	kg-PO_4^{3-}eq	1.16E-03	4.73E-10	6.93E-07	-	-	-
Acidification	kg-SO_2eq	4.20E-03	2.62E-04	2.21E-03	-	-	-
Photochemical oxidants	kg-C_2H_4eq	1.32E-04	2.02E-06	5.77E-05	-	-	-

＞LCI

		Raw materials acquisition stage	Production stage	Distribution stage	-	-	D suppl. Info
Use of renewable resources	kg	2.11E+00	8.33E-06	9.47E-02	-	-	-
Use of non-renewable resources	kg	3.72E-02	1.03E-04	2.86E-02	-	-	-
Use of renewable energy	MJ	3.12E+00	4.95E-02	1.15E+01	-	-	-
Use of non-renewable energy	MJ	7.29E+01	2.17E+00	3.48E+01	-	-	-
Consumption of freshwater resources	m^3	9.76E-01	3.85E-06	8.70E-03	-	-	-

＞Waste Indicators

		Raw materials acquisition stage	Production stage	Distribution stage	-	-	D suppl. Info
hazardous waste disposed	kg	-	-	-	-	-	-
non-hazardous waste disposed	kg	9.50E-03	9.44E-07	1.36E-03	-	-	-

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

＞Output Flow Indicators

			Raw materials acquisition stage	Production stage	Distribution stage	-	-	D suppl. Info
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

・As this is an intermediate product, the stages from transportation and construction onwards are excluded from the calculation scope.
・No scenarios were used for transportation.
・Secondary data was used for cellulose raw materials and chemicals, without tracing upstream.

●Additional Environmental Information

＞Additional Environmental Information not related to LCA

Manufactured at ISO14001 certified factory

＞Information on Hazardous Substances

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

Release of dangerous substances from construction products
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●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
・ISO 21930:2007 Sustainability in building construction — Environmental declaration of building products

●Version History

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