



EcoLeaf

Type III Environmental Declaration (EPD)

Registration number : JR-BO-23003E

Japan EPD Program by SuMPO

Sustainable Management Promotion Organization

14-8, Uchikanda 1-chome, Chiyoda-ku, Tokyo Japan

<https://ecoleaf-label.jp/>



NIPPON STEEL

OCTG and Linpipe (Duplex Stainless Steel)



Functional unit

1t

System boundary

final products intermediate products

Production Stage(Raw material supply, Transport, Manufacturing)

Main specifications of the product

Production Site: Kansai Works_Wakayama Area (Wakayama and Kainan) and Amagasaki Area

Main standards:

OCTG: API 5CRA

ISO13680

NEW SM-SERIES

(SM22CR-,SM25CR-,SM25CRW-,SM25CRU-)

Linpipe: API 5LC

SM-SERIES (SM65-2205,SM80-2507,

SM65-2505-,SM70-2505)

Size:

Outside Diameter 60.3mm(2-3/8")~425.5mm (16-3/4")

Company Information

Nippon Steel Corporation

Energy Tubular Products Marketing Div.

<https://www.nipponsteel.com/>

<http://www.tubular.nipponsteel.com/>

Registration#	JR-BO-23003E
PCR number	PA-187000-BO-02
PCR name	Stainless pipe
Publication date	11/22/2023
Verification date	11/6/2023
Verification method	Product-by-product
Verification#	JV-BO-23003
Expiration date	11/5/2028
PCR review was conducted by:	
Approval date	1/6/2023
PCR review panel chair	Ken Yamagishi (Sustainable Management Promotion Organization)

Third party verifier*

Yumiko Umehara

Independent verification of data & declaration in accordance with ISO14025

internal external

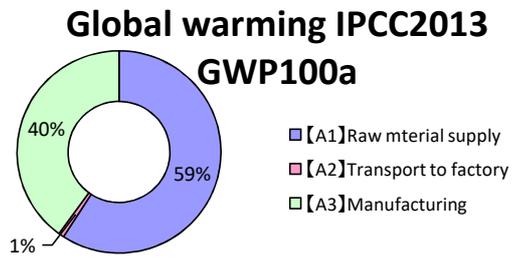
*Auditor's name is stated if system certification has been performed.

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1. Results of life cycle impact assessment (LCIA)

Global warming IPCC2013 GWP100a	7400	kg-CO ₂ eq
Acidification	18	kg-SO ₂ eq
Photochemical ozone	0.13	kg-C ₂ H ₄ eq



Parameter	stage	Unit	Total	[A1]Raw material supply	[A2] Transport to factory	[A3] Manufacturing
Global warming IPCC2013 GWP100a		kg-CO ₂ eq	7.4E+03	4.4E+03	6.2E+01	2.9E+03
Ozone layer destruction		kg-CFC-11eq	6.5E-05	6.2E-05	5.1E-10	3.1E-06
Acidification		kg-SO ₂ eq	1.8E+01	1.4E+01	2.0E-01	3.5E+00
Photochemical ozone		kg-C ₂ H ₄ eq	1.3E-01	8.1E-02	3.8E-04	4.9E-02
Eutrophication		kg-PO ₄ ³⁻ eq	3.1E-01	2.5E-01	4.4E-13	6.1E-02

2. Life cycle inventory analysis (LCI)

Parameter	Unit
Renewable primary energy	6.1E+03 MJ
Non-renewable energy resources	1.0E+05 MJ
Renewable material resources	1.3E+03 kg
Non-renewable material resources	1.2E+03 kg
Consumption of freshwater	4.1E+00 m ³

3. Material composition

Material	Unit
Fe	≥57.05 %
C	≤0.03 %
Si	≤0.80 %
Mn	≤1.00 %
Cu	≤0.8 %
Ni	≤8.0 %
Cr	≤26.0 %
Mo	≤3.5 %
W	≤2.50 %

4. Waste to disposal

Parameter	Unit
Hazardous waste	0.0E+00 kg
Non-hazardous waste.	3.1E+01 kg

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

5. Additional explanation

- Primary data collected in 2018. The source of the unit power consumption is the average of 10 electric power suppliers of Japan in 2014.
- The site uses electricity from several sources such as on-site power plants* to manufacture several products. As the inventory of electricity in the boundary of each product cannot be separated for each source, grid power averages were used as environmental impact intensity data for power generation. *On-site power plants provide electricity only for steel sites. Some of them provide electricity both for steel sites and grid.
- Regarding "3. Material composition", except for steel, the maximum values are given for those that are representative of the steel standard.



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6-1. Supplementary environmental information

Each production site is certified to ISO 14001.

6-2. Regulated hazardous substances

Substance	CAS No.	Reference to standards or regulations
Manganese [Mg]	7439-96-5	Industrial Safety and Health Act
Copper [Cu]	7440-50-8	Industrial Safety and Health Act
Chromium [Cr]	7440-47-3	Industrial Safety and Health Act
Nickel [Ni]	7440-02-0	Industrial Safety and Health Act

7. Assumptions of secondary data used

We use the IDEA2.1.3 database.

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/>)

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