Japan EPD Program by SuMPO
Sustainable Management Promotion Organization
14-8, Uchikanda 1-chome, Chiyoda-ku, Tokyo Japan
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NIPPON STEEL OCTG and Linepipe (13CR and Super 13CR)

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)
Main standards:
OCTG:API 5CT
API 5CRA
ISO 11960
NEW SM-SERIES
(SM13CR-,SM13CRI-,SM13CRM-,SM13CRS-)
Linepipe: API 5LC
SM-SERIES (SM80-130S)
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-23001E
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-23001
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.

EcoLeaf

Type III Environmental Declaration (EPD)

Registration number： JR-BO-23001E

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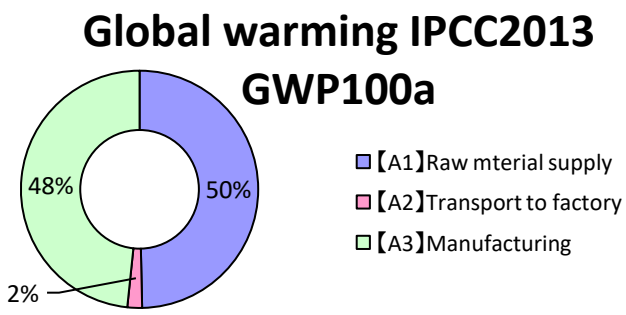
1. Results of life cycle impact assessment (LCIA)

Global warming IPCC2013 GWP100a	6000	kg-CO2eq
Acidification	13	kg-SO2eq
Photochemical ozone	0.95	kg-C2H4eq



Parameter \ stage	Unit	Total	【A1】Raw mterial supply	【A2】Transport to factory	【A3】Manufacturing		
Global warming IPCC2013 GWP100a	kg-CO_2eq	6.0E+03	3.0E+03	1.2E+02	2.9E+03		
Ozone layer destruction	kg-CFC-11eq	1.7E-04	1.7E-04	7.9E-10	2.5E-06		
Acidification	kg-SO_2eq	1.3E+01	1.2E+01	5.7E-02	1.7E+00		
Photochemical ozone	kg-C_2H_4eq	9.5E-01	7.0E-02	9.1E-04	8.8E-01		
Eutrophication	kg-PO_4^{3-}eq	3.1E-01	2.6E-01	7.1E-13	4.7E-02		

2. Life cycle inventory analysis (LCI)

Parameter		Unit
Renewable primary energy	1.8E+03	MJ
Non-renewable energy resources	8.3E+04	MJ
Renewable material resources	1.5E+03	kg
Non-renewable material resources	2.0E+03	kg
Consumption of freshwater	5.5E+00	m^3

3. Material composition

Material		Unit
Fe	≧69.72	%
C	≦0.03	%
Si	≦1.00	%
Mn	≦1.00	%
Cu	≦0.25	%
Ni	≦6.5	%
Cr	≦14.0	%
Mo	≦7.0	%

4. Waste to disposal

Parameter		Unit
Hazardous waste	0.0E+00	kg
Non-hazardous waste.	2.9E+01	kg

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

5. Additional explanation

1. Primary data collected in 2018. The source of the unit power consumption is the average of 10 electric power suppliers of Japan in 2014.

2. 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.

3. For the transport of metallurgical coal, the amount is double counted due to the characteristics of the inventory database on which this estimation is based.

4. Regarding "3. Material composition", except for steel, the maximum values are given for those that are representative of the steel standard.

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/)