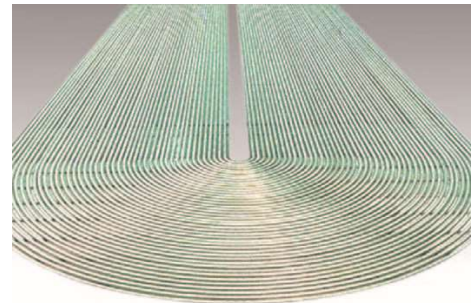


## High Ni alloy / Ni-based alloy Seamless Tubes and Pipes for the Chemical Industry and Boilers



### Functional unit

1 t

### System boundary

final products       intermediate products

Production Stage

(Raw material supply, Transport, Manufacturing)

### Main specifications of the product

Production sites : Kansai Works (Amagasaki)

Main standards :

NCF800H, NCF825, N08810, N08825

NCF600, NCF625, N06600, N06625

N10276, N02200, NEXAGE™HR24

Sizes : outside diameter : 15.9mm~216.3mm

thicknes : 1.2mm~39.0mm

### Company Information

NIPPON STEEL CORPORATION

Specialty Tubular Products Marketing Dept.

Energy Tubular Products Marketing Div.

Pipe and Tube Unit

<https://www.nipponsteel.com>

<b>Registration#</b>	JR-BO-24007E
<b>PCR number</b>	PA-187000-BO-03
<b>PCR name</b>	Stainless steel products
<b>Publication date</b>	3/10/2025
<b>Verification date</b>	2/19/2025
<b>Verification method</b>	Product-by-product
<b>Verification#</b>	JV-BO-24007
<b>Expiration date</b>	2/18/2030
<b>PCR review was conducted by:</b>	
<b>Approval date</b>	12/4/2023
<b>PCR review panel chair</b>	Ken Yamagishi Sustainable Management Promotion Organization

### Third party verifier\*

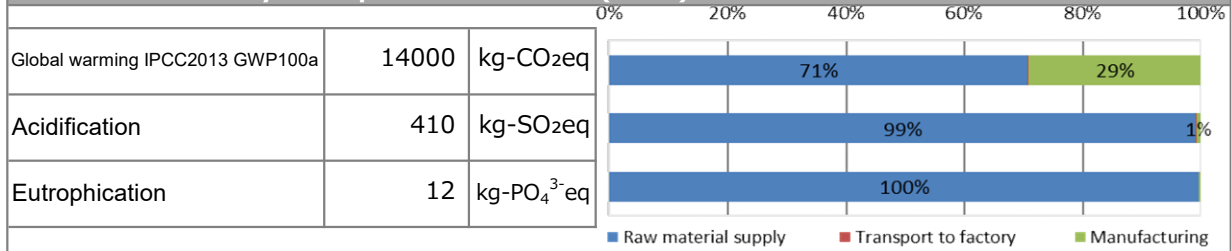
Kazuo Naito

Independent verification of data & declaration in accordance with ISO14025 and ISO21930

internal       external

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

### 1. Results of life cycle impact assessment (LCIA)



Parameter	stage	Unit	Total	Raw material supply	Transport to factory	Manufacturing
Global warming IPCC2013 GWP100a		kg-CO <sub>2</sub> eq	1.4E+04	9.9E+03	2.4E+01	4.1E+03
Ozone layer destruction		kg-CFC-11eq	8.4E-04	8.3E-04	2.0E-10	7.5E-06
Acidification		kg-SO <sub>2</sub> eq	4.1E+02	4.0E+02	8.1E-02	3.5E+00
Photochemical ozone		kg-C <sub>2</sub> H <sub>4</sub> eq	1.8E+00	1.7E+00	1.5E-04	7.2E-02
Eutrophication		kg-PO <sub>4</sub> <sup>3-</sup> eq	1.2E+01	1.2E+01	1.7E-13	4.4E-02

### 2. Life cycle inventory analysis (LCI)

Parameter	Unit
Non-renewable material resources	5.0E+03 kg
Non-renewable energy resources	2.2E+05 MJ
Renewable material resources	1.3E+03 kg
Renewable primary energy	7.2E+03 MJ
Consumption of freshwater	1.4E+01 m <sup>3</sup>

### 3. Material composition

Material	Unit
C	≤0.20 %
Si	≤1.00 %
Mn	≤2.50 %
P	≤0.045 %
S	≤0.03 %
Ni	≥30.0 %
Cr	≥14.0 %
Mo	≤17.0 %

### 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

- Scenarios of transport to site follow the PCR. For the inter-factory transportation for intermediate products, distances were measured using mapping software.
- Each item in table 3 is the maximum value of all product standards covered by this EPD. Ni and Cr content are minimum values, and are adjusted by the contents of other components.
- Primary data collected in 2022. The source of the unit power consumption is the average of 10 electric power suppliers of Japan in 2014.
- For metallurgical coal and alloys, the inventory data include transport, so the transport of these items is not counted.



SuMPO EPD

Type III Environmental Declaration (EPD)

Registration number : JR-BO-24007E

Japan EPD Program by SuMPO

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

#### 6-1. Supplementary environmental information

Production site is certified to ISO 14001.

#### 6-2. Regulated hazardous substances

Substance	CAS No.	Reference to standards or regulations
Manganese [Mn]	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

The IDEA2.1.3 data is 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/>)

Registration number : JR-BO-24007E