

SDS Report

No. SHAEC2122247205

Date: Oct. 19, 2021

Page 1 of 1

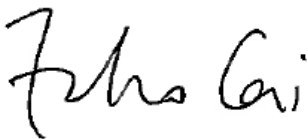
POSCO (ZHANGJIAGANG) STAINLESS STEEL CO., LTD.
Daxin Riverside Road, Zhangjiagang City, Jiangsu Povince, PRC

SGS Ref. No. : SP21-032179-SH
 Sample Name : Stainless Steel304
 End Uses : Others (Home appliance; elevator)
 Composition/Ingredient of sample (as per client submission) : See *Section 3 Composition/information on ingredients* on the SDS report
 Job Receiving Date : Oct 15, 2021
 Last Information Date : Oct 15, 2021
 SDS Preparation Period : Oct 15 – Oct 19, 2021

Service Requested : Preparation of Safety Data Sheet (SDS) for the sample with submitted information.

Summary : As per request, the contents and formats of the SDS are prepared in accordance with European Commission Regulation (EC) No 1907/2006, Regulation (EC) No 1272/2008 and Regulation (EU) No 2015/830, and is provided per attached.

Signed for and on behalf of
SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.



Echo Cai
Approved Signatory



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Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.
Testing Center - Chemical Laboratory

3rd Building, No. 889 Yishan Road Xuhui District, Shanghai China 200233
中国·上海·徐汇区宜山路889号3号楼 邮编: 200233

t E&E (86-21) 61402553 f E&E (86-21) 64953679 www.sgs.com.cn
t HL (86-21) 61402594 f HL (86-21) 61156899 e sgs.china@sgs.com

Safety data sheet
Regulation (EC) No.1907/2006 and 1272/2008

Printing date 18.10.2021

Version number 1

Revision: 18.10.2021

SECTION 1: Identification of the substance/mixture and of the company/undertaking

- **1.1 Product identifier**
- **Trade name:** *Stainless Steel304*
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
- **Application of the substance / the mixture:** *Others (Home appliance; elevator)*
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
POSCO (ZHANGJIAGANG) STAINLESS STEEL CO., LTD.
Daxin Riverside Road, Zhangjiagang City, Jiangsu Povince, PRC
Tel:17372588838
E-mail:jinguanyou@posco.net
- **Only Representative/ other EU contact point:** *Not available*
- **Further information obtainable from:** *POSCO (ZHANGJIAGANG) STAINLESS STEEL CO., LTD.*
- **1.4 Emergency telephone number:**
GERMANY
Poison Center Berlin - Institute of Toxicology
Tel: +49 030 192 40
- **1.5 Reference Number:** *SP21-032179-SH; SHAEC2122247205*

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS08 health hazard

Carc. 2 H351 Suspected of causing cancer.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS07

Skin Sens. 1 H317 May cause an allergic skin reaction.

- **Information concerning particular hazards for human and environment:**
The product has to be labelled due to the calculation procedure of Regulation (EC) No. 1272/2008.
- **Classification system:**
The classification is according to the latest edition of EU Regulation (EC) No. 1272/2008, and extended by company and literature data.
- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS07



GHS08

- **Signal word** *Warning*
- **Hazard-determining components of labelling:**
nickel
- **Hazard statements**
H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer.
H373 May cause damage to organs through prolonged or repeated exposure.

(Contd. on page 2)

Safety data sheet

Regulation (EC) No.1907/2006 and 1272/2008

Printing date 18.10.2021

Version number 1

Revision: 18.10.2021

Trade name: Stainless Steel304

(Contd. of page 1)

- **Precautionary statements**

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **2.3 Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

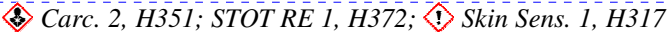
- **3.2 Mixtures**

- **Description:**

Mixture of the substances listed below with nonhazardous additions.

For the wording of the listed hazard statements refer to Section 16.

- **Composition:**

CAS: 7439-89-6 EINECS: 231-096-4	iron	71.85%
CAS: 7440-47-3 EINECS: 231-157-5	chromium substance with a Community workplace exposure limit	18.2%
CAS: 7440-02-0 EINECS: 231-111-4 Index number: 028-002-00-7	nickel 	8.1%
CAS: 7439-96-5 EINECS: 231-105-1	Manganese substance with a Community workplace exposure limit	1.1%
CAS: 7440-21-3 EINECS: 231-130-8	silicon substance with a Community workplace exposure limit	0.5%
CAS: 7440-50-8 EINECS: 231-159-6	copper substance with a Community workplace exposure limit	0.2%
CAS: 7440-44-0 EINECS: 231-153-3	carbon substance with a Community workplace exposure limit	0.05%

SECTION 4: First aid measures

- **4.1 Description of first aid measures**

- **General information:**

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

- **After inhalation:**

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

- **After skin contact:**

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

- **After eye contact:**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

- **After swallowing:**

Rinse out mouth with water.

(Contd. on page 3)

Safety data sheet
Regulation (EC) No.1907/2006 and 1272/2008

Printing date 18.10.2021

Version number 1

Revision: 18.10.2021

Trade name: Stainless Steel304

(Contd. of page 2)

Never give anything by mouth to an unconscious person.
 Seek medical treatment.

- **4.2 Most important symptoms and effects, both acute and delayed**
 No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
 No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
- **5.2 Special hazards arising from the substance or mixture**
 During heating or in case of fire poisonous gases are produced.
- **5.3 Advice for firefighters**
- **Protective equipment:**
 Mouth respiratory protective device.
 Wear fully protective suit.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
 Avoid contact with eyes.
 Avoid contact with skin.
 Avoid formation of dust.
 Use respiratory protective device against the effects of fumes/dust/aerosol.
 Ensure adequate ventilation.
 Mouth respiratory protective device.
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
 Dispose contaminated material as waste according to item 13.
 Ensure adequate ventilation.
 Pick up mechanically.
- **6.4 Reference to other sections**
 See Section 7 for information on safe handling.
 See Section 8 for information on personal protection equipment.
 See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
 Avoid contact with eyes and skin.
 Prevent formation of dust.
 Ensure good ventilation/exhaustion at the workplace.
 Open and handle receptacle with care.
 For the general occupational hygienic measures refer to Section 8.
- **Information about fire - and explosion protection:**
 Normal measures for preventive fire protection.
 Keep respiratory protective device available.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Requirements to be met by storerooms and receptacles:**
 Store only in the original receptacle.

(Contd. on page 4)

Safety data sheet
Regulation (EC) No.1907/2006 and 1272/2008

Printing date 18.10.2021

Version number 1

Revision: 18.10.2021

Trade name: Stainless Steel304

(Contd. of page 3)

- Store in a cool location.
- **Information about storage in one common storage facility:**
Store away from foodstuffs.
Do not store together with oxidising and acidic materials.
 - **Further information about storage conditions:**
Keep container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
 - **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· 8.1 Control parameters

· Ingredients with limit values that require monitoring at the workplace:

7440-47-3 chromium (18.2%)

IOELV (EU)	Long-term value: 2 mg/m ³ as Cr
AGW (Germany)	Long-term value: 2 E mg/m ³ 1(I);10, EU
VLEP (France)	Long-term value: 2 mg/m ³ en Cr

7440-02-0 nickel (8.1%)

AGW (Germany)	Long-term value: 0.006A; 0.030E* mg/m ³ 8(II);AGS, 24, Sh, Y, 10*, 31*
VLEP (France)	Long-term value: 1 mg/m ³ C2

7439-96-5 Manganese (1.1%)

IOELV (EU)	Long-term value: 0.2* 0.05** mg/m ³ as Mn; *inhalable, **respirable fraction
AGW (Germany)	Long-term value: 0.02A; 0.2E mg/m ³ 8(II);DFG,Y,10, 20
VLEP (France)	Long-term value: 0.05* 0.20** mg/m ³ *fraction alvéolaire **inhalable; en manganèse

7440-21-3 silicon (0.5%)

VLEP (France)	Long-term value: 10 mg/m ³
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7440-50-8 copper (0.2%)

MAK (Germany)	Long-term value: 0.01 A mg/m ³ als Cu
VLEP (France)	Short-term value: 2** mg/m ³ Long-term value: 0.2* 1** mg/m ³ *fumées **poussières, en Cu

7440-44-0 carbon (0.05%)

AGW (Germany)	Long-term value: 1.25* 10** mg/m ³ 2(II);*alveolengängig**eintembar; AGS, DFG
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· Regulatory information

- IOELV (EU): (EU) 2019/1831
AGW (Germany): TRGS 900
VLEP (France): ED 1487 12.2020
MAK (Germany): MAK- und BAT-Liste
- **DNELs:** Data not available.
 - **PNECs:** Data not available.

(Contd. on page 5)

EU

Safety data sheet
Regulation (EC) No.1907/2006 and 1272/2008

Printing date 18.10.2021

Version number 1

Revision: 18.10.2021

Trade name: Stainless Steel304

(Contd. of page 4)

· Ingredients with biological limit values:	
7439-96-5 Manganese	
BGW (Germany)	20 µg/l
<i>Untersuchungsmaterial: Vollblut Probennahmezeitpunkt: bei Langzeitexposition: am Schichtende nach mehreren vorangegangenen Schichten, Expositionsende bzw. Schichtende Parameter: Mangan</i>	

· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**

· **Based on the composition shown in Section 3, the following measures are suggested for occupational safety measure**

· **Appropriate engineering controls**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

See Section 7 for information about design of technical facilities.

· **Personal protective equipment**

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

· **Material of gloves:**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material:**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

· **Environmental exposure controls:**

Control measures must be made in accordance with Community environmental protection legislation.

EU

(Contd. on page 6)

Safety data sheet
Regulation (EC) No.1907/2006 and 1272/2008

Printing date 18.10.2021

Version number 1

Revision: 18.10.2021

Trade name: Stainless Steel304

(Contd. of page 5)

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Solid

Colour: Silver

· **Odour:** Odourless

· **Odour threshold:** Data not available.

· **pH-value:** Data not available.

· **Change in condition:**

Melting point/freezing point: Data not available.

Initial boiling point and boiling range: Data not available.

· **Flash point:** Data not available.

· **Flammability (solid, gas):** Data not available.

· **Auto-ignition temperature:** Data not available.

· **Decomposition temperature:** Data not available.

· **Self-igniting:** Product is not selfigniting.

· **Explosive properties:** Product does not present an explosion hazard.

· **Explosion limits**

Lower: Data not available.

Upper: Data not available.

· **Oxidizing properties:** Data not available.

· **Vapour pressure:** Data not available.

· **Density:** Data not available.

· **Relative density:** Data not available.

· **Vapour density:** Data not available.

· **Evaporation rate:** Data not available.

· **Solubility in / Miscibility with water:** Data not available.

· **Partition coefficient: n-octanol/water:** Data not available.

· **Viscosity:**

Dynamic: Data not available.

Kinematic: Data not available.

· **9.2 Other information** No further relevant information available.

SECTION 10: Stability and reactivity

· **10.1 Reactivity** No decomposition if used according to specifications.

· **10.2 Chemical stability** Stable under recommended storage conditions.

· **10.3 Possibility of hazardous reactions** No dangerous reactions known.

· **10.4 Conditions to avoid** No further relevant information available.

· **10.5 Incompatible materials:** No further relevant information available.

· **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

EU

(Contd. on page 7)

Safety data sheet
Regulation (EC) No.1907/2006 and 1272/2008

Printing date 18.10.2021

Version number 1

Revision: 18.10.2021

Trade name: Stainless Steel304

(Contd. of page 6)

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.

- **LD/LC50 values relevant for classification:**

7439-89-6 iron		
Oral	LD50	30,000 mg/kg (rat)
7439-96-5 Manganese		
Oral	LD50	9,000 mg/kg (rat)
7440-21-3 silicon		
Oral	LD50	3,160 mg/kg (rat)

- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation**
May cause an allergic skin reaction.
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity**
Suspected of causing cancer.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure**
May cause damage to organs through prolonged or repeated exposure.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.
- **12.7 Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water.
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation:**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

(Contd. on page 8)

Safety data sheet
Regulation (EC) No.1907/2006 and 1272/2008

Printing date 18.10.2021

Version number 1

Revision: 18.10.2021

Trade name: Stainless Steel304

(Contd. of page 7)

- **Uncleaned packaging**
- **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

- **14.1 UN-Number**
- **ADR/RID/ADN, IMDG, IATA** Not applicable.
- **14.2 UN proper shipping name**
- **ADR/RID/ADN, IMDG, IATA** Not applicable.
- **14.3 Transport hazard class(es)**
- **ADR/RID/ADN, IMDG, IATA**
- **Class** Not applicable.
- **Label** Not applicable.
- **14.4 Packing group**
- **ADR/RID/ADN, IMDG, IATA** Not applicable.
- **14.5 Environmental hazards** Not applicable.
- **14.6 Special precautions for user** Not applicable.
- **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code** Not applicable.
- **14.8 Transport/Additional information:**
- **UN "Model Regulation":** Not applicable.

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

- **MAK(German Maximum Workplace Concentration)**

7440-02-0 nickel

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- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **REGULATION (EU) 2019/1148**

- **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**

None of the ingredients is listed.

- **Annex II - REPORTABLE EXPLOSIVES PRECURSORS**

None of the ingredients is listed.

- **National regulations:**
- **Waterhazard class:** Water hazard class 2 (Self-assessment): hazardous for water.
- **Other regulations, limitations and prohibitive regulations**

- **SVHC Candidate List of REACH Regulation Annex XIV Authorisation (8/7/2021)**

None of the ingredients is listed.

- **REACH Regulation Annex XVII Restriction (25/1/2021)**
- **See Section 16 for information about restriction of use.**

None of the ingredients is listed.

- **REACH Regulation Annex XIV Authorisation List (6/2/2020)**

None of the ingredients is listed.

(Contd. on page 9)

Safety data sheet
Regulation (EC) No.1907/2006 and 1272/2008

Printing date 18.10.2021

Version number 1

Revision: 18.10.2021

Trade name: Stainless Steel304

(Contd. of page 8)

· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

· **Relevant hazard statements**

H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer.

H372 Causes damage to organs through prolonged or repeated exposure.

· **Classification according to Regulation (EC) No 1272/2008**

Skin sensitisation

Carcinogenicity

Specific target organ toxicity (repeated exposure)

The classification of the mixture is generally based on the calculation method using substance data according to Regulation (EC) No 1272/2008.

· *****
 The contents and format of this SDS are in accordance with Regulation (EC) No 1907/2006, 1272/2008 and Regulation (EU) No 2015/830.

DISCLAIMER OF LIABILITY :

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· **Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Skin Sens. 1: Skin sensitisation – Category 1

Carc. 2: Carcinogenicity – Category 2

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

· *****
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