

Safety Data Sheet (SDS)

SDS No. NSMAT-SDS-SS111

NIPPON STEEL & SUMIKIN MATERIALS CO., LTD.

Metal Foil Company

Revised on 28-Dec-16

1 Chemical product and company identification

◇Chemical name Stainless steel (Ni < 10%, 10% ≤ Cr < 20%)
(Product name) Stainless steel foil product
(SUS301, SUS301L, SUS304, NSSC27AS, SUS430, NSSC190(SUS444 equivalent),
HOM125, YUS205M1, FW1, FW2)

◇Company name NIPPON STEEL & SUMIKIN MATERIALS CO., LTD.
◇Address 3434, Shimata, Hikari-City, Yamaguchi Japan
◇Division in charge Metal Foil Company Sales group
◇Telephone number +81-833-71-5028
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◇Emergency address Same as above

2 Hazards identification

◇GHS classification :

<Health hazard>

Hazard class	Category	Hazard statements
Skin corrosion and irritation	Category 3	H316 Mild skin irritation
Serious eye damage/eye irritation	Category 2B	H320 Causes eye irritation
Respiratory sensitization	Category 1	H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled
Skin sensitization	Category 1	H317 May cause an allergic skin reaction
Germ cell mutagenicity	Category 2	H341 May cause genetic defects (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)
Carcinogenicity	Category 2	H351 Suspected of causing cancer (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)
Reproductive toxicity	Category 1B Category 2	H360/H361 May damage fertility or the unborn child (state specific effect if known)(state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)
Specific target organ toxicity <Single exposure>	Category 1	H370 Causes damage to organs (or state all organs affected, if known)(state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)
	Category 2	H371 May cause damage to organs (or state all organs affected, if known)(state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)"
	Category 3	H335 May cause respiratory irritation (respiratory tract irritation)
Specific target organ toxicity <Repeated>	Category 1	H372 Causes damage to organs (state all organs affected, if known)
	Category 2	H373 May cause damage to organs (state all organs affected, if known)

<Environmental hazard>

Hazard class	Category	Hazard statements
Hazardous to the aquatic	Category 4	H413 May cause long lasting harmful effects to aquatic life

◇GHS label elements:

< Pictograms >



< Signal Word >

Danger

< Precautionary Statements

(Prevention)

- Do not handle until all safety precautions have been read and understood. (P202)
- Do not breathe dust/fume/gas/mist/vapors/spray. (P260)
- Wash ...thoroughly after handling. (P264)
- Do not eat, drink or smoke when using this product. (P270)
- Use only outdoors or in a well-ventilated area. (P271)
- Contaminated work clothing should not be allowed out of the workplace. (P272)
- Avoid release to the environment. (P273)
- Wear protective gloves. (P280)
- [In case of inadequate ventilation] wear respiratory protection. (P284)

(Response)

- IF ON SKIN: Wash with plenty of soap and water. (P302+P352)
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. (P304+P340)
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. (P305+P351+P338)
- IF exposed or concerned: Get medical advice/attention. (P308+P313)
- Call a POISON CENTER or doctor/physician if you feel unwell. (P312)
- If skin irritation or rash occurs: Get medical advice/attention. (P333+P313)
- If eye irritation persists: Get medical advice/attention. (P337+P313)
- If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician. (P342+P311)
- Take off contaminated clothing and wash it before reuse. (P362+P364)

(Disposal)

- Dispose of contents/container to ... in accordance with local/regional/national/international regulations (to be specified). (P501)

3 Composition/Information on ingredients

◇Substance or Mixture : Mixtures (Alloy)

◇Main ingredients :

Chemical Name	Weight %	CAS No.
Silicon [Si]	1.0 or less	7440-21-3
Manganese [Mn]	2.0 or less	7439-96-5
Nickel [Ni]	less than 10	7440-02-0
Chromium [Cr]	10 or more but less than 20	7440-47-3
Molybdenum [Mo]	3.0 or less	7439-98-7
Copper [Cu]	3.0 or less	7440-50-8
Niobium [Nb]	1.0 or less	7440-03-1
Titanium [Ti]	1.0 or less	7440-32-6
Aluminum [Al]	6.0 or less	7429-90-5
Tungsten [W]	1.0 or less	7440-33-7
Cobalt [Co]	1.0 or less	7440-48-4
Tin [Sn]	1.0 or less	7440-31-5
Iron [Fe]	balance	7439-89-6

4 First-aid measures

In case of inhalation of, ingestion of, or skin contact with the dust or fumes generated during processing of steel materials, immediately give first aid described below, and then seek medical attention or treatment if necessary.

- ◇Inhalation : Move victim to fresh air and keep at rest in position comfortable for breathing.
- ◇Skin contact : Wash skin immediately with plenty of water and soap.
- ◇Eye contact : Rinse carefully with water for several minutes. In case of using contact lenses, remove them if easy to do so. Continue rinsing.
- ◇Ingestion : Rinse mouth out thoroughly with water.
- ◇Others : In case of skin wound such as a cut from edge or chips of steel material, keep wound clean. If skin becomes burned by arcs, etc., cool with water.

5 Fire-fighting measures

Steel materials are nonflammable (solid), ordinary fire extinguishers and/or water can be used to put out any fire. Note that fine powder may lead to combustion or explosion.

- ◇Fire extinguishing agents : Use fire extinguishing agent appropriate for fire situation.
- ◇Unsuitable extinguishing media : None.

6 Accidental Leakage Measures

As product is solid, it is not leaked under general conditions. However, take measures below to prevent hazards by dust or fumes generated during steel material processing :

- ◇Personal precautions : Wear appropriate protective equipment to prevent inhalation of or eye contact with dust or fumes.
- ◇Protective equipment and emergency procedure : Refer to section 8 (exposure controls/personal protection).
- ◇Environmental precautions : Collect promptly any dust, etc. generated during cutting, grinding, etc.
- ◇Methods for containment and cleaning up : Collect generated dust in appropriate manner during steel materials processing, and then prevent dispersion.

7 Handling and Storage

- ◇Handling :

< Technical measures >

Wear appropriate protective equipment in case of generating dust or fumes during welding, weld cutting, or grinding. Moreover, be sure to provide local or general ventilation system.

< Precautions for safe handling >

Heavy weights call for great precautions in handling, against toppling, rolling, and package-collapsing. Cut-ends and cutting chips with burr may be injurious.

Fumes from welding and fine particles from cutting may cause irritation of the mucous membranes of respiratory and other organs, and eyes. Arcing may cause burns.

When cutting bundling and packaging hoops (bands), be careful about bouncing hoops and hoop-tips. Particularly with coils, be very careful about their leading ends which, when unbundled, might spring upward.

- ◇Storage :

< Safety storage conditions >

Avoid contact with water leakage, acid, alkali, or substances containing them.

Avoid environment with high temperature and high humidity. Use sheets or covers to prevent products from rain water infiltration, or pack products, if needed.

8 Exposure Controls/Personal Protection

No limits to exposure prevention and protective measures for steel materials in ordinary circumstances due to solid. However processing such as welding, weld cutting, grinding, and cutting can generate fumes or fine particles, thus take preventive and protective measures below.□

◇Exposure guideline:

		ACGIH*1
Chemical Name	CAS No.	TLVs-TWA [mg/m ³]
Manganese [Mn]	7439-96-5	0.2
Nickel [Ni]	7440-02-0	1.5
Chromium [Cr]	7440-47-3	0.5
Molybdenum [Mo]	7439-98-7	10(I)/3(R)*2
Copper [Cu]	7440-50-8	1*3 / 0.2*4
Aluminum [Al]	7429-90-5	1(R)*2
Tungsten [W]	7440-33-7	5
Cobalt [Co]	7440-48-4	0.02
Tin [Sn]	7440-31-5	2

*1 American Conference of Governmental Industrial Hygienists

*2 (I);Inhalable fraction (R);Respirable fraction

*3 Dust and mists, as Cu

*4 Fume

- ◇Preventive measures : Provide appropriate ventilation to secure safe work environment in case of generating dust or fumes.
- ◇Protective measures : Wear appropriate respiratory protective equipment, protective gloves, protective glasses, protective clothing, and protective shoes, etc. in case of generating dust or fumes.

9 Physical and Chemical Properties

- ◇Physical state, Appearance : A silver-white solid under general conditions
- ◇Odor : Metal smell
- ◇Melting point : 1290 °C and over
- ◇Relative Density : 7~9 g/cm³
- ◇Solubility(water) : Insoluble

10 Stability and Reactivity

- ◇Chemical stability : Stable under ordinary circumstances.
- ◇Possibility of hazardous reactions : May cause oxygen deficiency or harmful gases in contact with certain chemical substances such as water and acid.
- ◇Conditions to avoid : Avoid high humidity and contacting with incompatible materials.
- ◇Incompatible materials : Oxidizing substances, etc.
- ◇Hazardous decomposition products : Fumes generated during welding and weld cutting may contain metal compounds.

11 Toxicological Information

Hazard class	[Mn]	[Ni]	[Cr]	[Mo]	[Cu]	[Al]	[W]	[Co]	[Sn]
Acute toxicity	—	—	—	—	—	—	—	—	—
Skin corrosion/Irritation	Category 3	—	—	—	—	—	—	—	—
Serious eye damage/Eye	Category 2B	—	Category 2B	—	—	—	Category 2B	—	—
Respiratory/ Skin sensitization	—	Category 1	Category 1	—	—	—	—	Category 1	—
Germ cell mutagenicity	—	—	Category 2	—	—	—	—	—	—
Carcinogenicity	—	Category 2	—	—	—	—	—	Category 2	—
Reproductive toxicity	Category 1B	—	—	—	—	—	—	Category 2	—
Specific target organ toxicity (single exposure)	Category 1	Category 1	Category 2,3	Category 3	Category 3	—	—	Category 3	—
Specific target organ toxicity (repeated exposure)	Category 1	Category 1	—	—	Category 1	Category 1	—	Category 1	Category 1
Aspiration hazard	—	—	—	—	—	—	—	—	—

Note : The hyphen (-) in the table indicates that the element in question is out of classification or cannot be classified.

12 Ecological Information

Hazard class	[Mn]	[Ni]	[Cr]	[Mo]	[Cu]	[Al]	[W]	[Co]	[Sn]
Hazardous to the aquatic environment(acute)	—	—	—	—	—	—	—	—	—
Hazardous to the aquatic environment(long-term)	Category 4	Category 4	—	—	Category 4	Category 4	—	Category 4	—

Note : The hyphen (-) in the table indicates that the element in question is out of classification or cannot be classified.

13 Disposal Attention

◇Waste disposal method

:Dispose in appropriate environmentally friendly manner in compliance with industrial waste disposal law and related ordinances and regulations established by prefectural government or municipality.

◇Container and package disposal

:In case of container or package with adherent contamination, dispose them in the same way described above.

14 Transport Information

Not classified as internationally controlled substances regarding transport.

15 Regulatory Information

No specific information.

16 Other Information

◇References

- ISO 11014-1 "Safety Data Sheet for Chemical Products", Part 1 "Content and Order of Sections"
- Globally Harmonized System of Classification and Labeling of Chemicals (GHS) (Rev.4)

This data sheet has been drawn up in accordance with ISO 11014-1 "Safety Data Sheet for Chemical Products", Part 1 "Content and Order of Sections" (hereinafter referred to as "ISO"). The definitions of terms conform to ISO.

In this data sheet, the information which is available at NIPPON STEEL & SUMIKIN MATERIALS CO., LTD. at the time of sheet preparation is furnished to the users as the "reference information" for securing safe handling of the product. Referring to this data sheet, users should take appropriate safety measures on their own responsibility depending on the actual state of handling. This data sheet is not intended for assuring the safety of the product. There is a possibility of hazards which are not described in this data sheet and for which our company does not have any specific information.

End of Safety Data Sheet