

Material Safety Data Sheet for Stainless Steel

1. Product and Company Identification

(1) Product Identification : Stainless Steel 200,300,400 series grades Coil and Sheet

(2) Company Information :

Name : TUNG MUNG DEVELOPMENT CO., LTD.

Address : No.155, 13 Lin, Yi-Hsiu, Hsiu-Chang Li, Hsueh-Chia District, Tainan
City, Taiwan, R.O.C.

Telephone : 886-6-782-0280

(3) Date of MSDS Issued : Feb. 28, 2021

2. Composition/Information on Ingredients

Component	Synonym	CAS Number	Percentage by Weight
Iron	Fe	7439-89-6	54~85
Carbon	C	7440-44-0	<0.4
Silicon	Si	7440-21-3	<2.0
Manganese	Mn	7439-96-5	<11.0
Phosphorous	P	7723-14-0	<0.2
Sulfur	S	7704-34-9	<0.2
Nickel	Ni	7440-02-0	<25.0
Chromium	Cr	7440-47-3	11.5~27.0
Molybdenum	Mo	7439-98-7	<6.0
Copper	Cu	7440-50-8	<4.0
Aluminum	Al	7729-90-5	<1.5
Titanium	Ti	7440-32-6	<0.8
Nitrogen	N	10102-44-0	<0.5

3. Hazards Identification

Emergency overview: Odorless solid product in various forms, silver-gray color. This formed solid metal product poses little or no immediate health or fire hazards. When product is subjected to welding, burning, melting, sawing, brazing, grinding, or other similar processes, potentially hazardous airborne particulate and fumes may be generated.

Primary route of entry: Inhalation of dust or fume during welding, burning, melting, cutting, brazing, grinding, machining and other operations.

Acute Effects of Overexposure:

Inhalation:

- 1) Exposures to high concentrations of metallic fumes or dusts may result in irritation of the respiratory tract and/or sensitization of the lungs and other mucous membranes.
- 2) Excessive inhalation of fumes from many metals can produce an acute reaction known as "metal fume fever".

Eye: Exposure to high concentrations of fumes or dusts may cause irritation and/or sensitization.

Skin: Exposure to dust may cause irritation or sensitization, possibly leading to dermatitis.

Ingestion: Ingestion of harmful amounts of product as distributed is unlikely due to its solid, insoluble form.

4. First Aid Measures

Eye : If eyes contact dust/fumes, immediately flush with large amounts of running water for several minutes. Seek prompt medical attention.

Skin : If dust gets on skin, wash contaminated area with soap and water. Remove and wash contaminated clothing. If rash or irritation occurs, seek medical attention.

Inhalation : If inhalation of dust/fumes occurs, immediately remove victim from the adverse environment to fresh air and seek medical attention.

Ingestion : If significant amounts of metal are ingested, seek medical attention immediately.

5. Fire Fighting Measures

Flash point (Method Used): N/A

Flammable limits: N/A

Autoignition temperature: N/A

General fire hazard: None for solid formed product

Flammability classification: N/A

Extinguishing method: For solid formed product, as appropriate for surrounding fire.

Explosion data:

Sensitivity/Mechanical Impact: N/A for solid product

Sensitivity/Static Discharge: N/A for solid product

Hazardous combustion products: N/A for solid formed product.

6. Accidental Release Measures

Steps to be taken in case material is released:

Minimal problems with spills of this product would occur because of its solid form.

7. Handling and Storage

Handling: No specific requirements for solid formed steel product.

Storage: Keep away from incompatible materials. No other specific storage procedures are required for solid formed steel product.

8. Exposure Control and Personal Protection

Gloves: Suitable for protection against physical injury and skin contact during handling and processing.

Eye/Face: Safety glasses or goggles (cutting or grinding) or face shields(welding or burning) when there is a reasonable probability of flying particles or high levels of airborne dust or fume.

Other protective clothing or equipment: Adequate footwear (safety shoes if necessary) and clothing that protects skin from prolonged or repeated contact.

9. Physical and Chemical Properties

Appearance: Silver gray with metallic luster

Physical state: Solid

Boiling Point: NIF for steel product (Fe-5432/Cr-3992/Ni-5252°F)

Specific Gravity (H₂O = 1): 7 - 8

Vapor Pressure: Negligible

Evaporation Rate: N/A

Vapor Density (AIR = 1): N/A

Solubility in water: Insoluble

Melting Point: NIF for steel product (Fe-2797/Cr-3452/Ni-2651°F)

pH: N/A

Freezing Point: N/A

Coeff. Water/Oil Dist.: N/A

Odor Threshold: N/A

10. Stability and Reactivity

Stability: Stable under normal conditions of use, storage and transport for solid formed product.

Conditions to avoid: Contact with incompatible materials. Avoid creating finely divided, concentrated airborne particulates in the presence of ignition sources.

Incompatible materials: Oxidizers. Reacts with strong acids to form explosive hydrogen gas and heat.

Hazardous decomposition products: Extreme heat from fire or processing (e.g. welding, brazing, machining, etc.) may produce toxic or irritating airborne particulate, including metal and metallic oxide fumes.

Reactivity/Hazardous polymerization: Stable at ambient temperatures and pressure

11.Toxicological Information

Lethal concentration (LC50): None established.

Reproductive effects: N/A

Lethal dose (LD50): N/A

Mutagenicity: N/A

Teratogenicity: N/A

Carcinogenic by NTP, IARC or OSHA: N/A (Note: Fumes/dusts/mists from this material may be carcinogenic if inhaled over long periods of time.)

12.Ecological Information

No adverse ecological effects are expected.

13.Disposal Considerations

Waste disposal method: If product as shipped becomes a solid waste, it should be recycled. Product dusts from processing may be classified as a hazardous waste, depending on various properties of the dust (e.g. toxicity, solubility, flammability).

14.Transport Information

No applicable items.

15.Regulatory Information

No particular applicable regulations.

Disclaimer : All information, recommendations, and suggestions appearing herein concerning the product are based upon data believed to be reliable. It is the user's responsibility to determine the safety, toxicity, and suitability for their own use of the product described herein. Appropriate warnings and safe handling procedures should be provided to handlers and users.

This information is not intended to serve as a complete regulatory compliance document. This information is offered as a guide to the MSDS user. No guarantees can be made whether the user will be in complete or correct compliance with all applicable regulations when this MSDS is used.