

# MATERIAL SAFETY DATA SHEET (MSDS)

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Material Name:** Stainless Steel

**CAS No.:** Not applicable

**Synonyms:** Includes all pipe fitting, flange, valve products

**Use/Description:** Manufacture of products

**Company Identification:**

HAITIMA Corporation

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## 2. COMPOSITION / INFORMATION ON INGREDIENTS

Components	CAS No.	Weight %
<b>Base Metal:</b>		
Iron (Fe)	7439-89-6	Balance
<b>Alloying Elements:</b>		
Carbon (C)	7440-44-0	<0.08
Silicon (Si)	7440-21-3	<1.5
Manganese (Mn)	7439-96-5	<1.5
Phosphorus (P)	7723-14-0	<0.04
Sulfur (S)	7446-09-05	<0.04
Nickel (Ni)	7440-02-0	9-12
Chromium (Cr)	7440-47-3	18-21
Molybdenum (Mo)	7439-98-7	2-3

NOTE: No permissible exposure limits (PEL) or threshold limit values (TLV) exist for steel. The above listing is a summary of elements used in normal HAITIMA Steel Products. Various grades of steel will contain different combinations of these elements and/or trace materials. Exact specifications for specific products may be available upon request.

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## 3. PHYSICAL DATA

Physical state: Solid	Density: 7.86
Odor: N/A	Boiling point: N/A
Evaporation Rate: N/A	Appearance: silver grey metallic
Vapor pressure: N/A	Flash point: N/A
Vapor density: N/A	Explosion limits: N/A
Melting point: 1370 - 1400 °C	

## 4. STABILITY AND REACTIVITY DATA

Not applicable  
Chemical Stability: yes  
Incompatibility to other substances: yes  
Hazardous decomposition products: N/A  
Contact with strong acids will release Hydrogen gas.  
Do not store near strong oxidizers.

## 5. PREVENTIVE MEASURES

Personal Protective Equipment: Dependent upon process being performed on material.  
Each operation must be addressed for suitable equipment and or engineering controls.  
Gloves: Leather faced/ cut protection Eyes: Safety glasses or face shield as appropriate  
Footwear: Safety shoes/ boots where required Other: Barrier cream may be used when handling  
Respiratory: Approved respiratory protection where applicable.  
Engineering Controls (eg. Ventilation, enclosures): General or local exhaust ventilation during welding.  
Leak and spill procedures: N/A  
Water disposal: N/A  
Storage Requirements: Keep stored material dry to prevent corrosion.  
Special Shipping Information: N/A

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## 6. FIRST AID MEASURES

### Eye Contact

In case of overexposure to dusts or fumes, immediately flush eyes with plenty of water for at least 15 minutes occasionally lifting the eye lids. Get medical attention if irritation persists. Thermal burns should be treated as medical emergencies.

### Skin Contact

In case of overexposure to dusts or particulates, wash with soap and plenty of water. Get medical attention if irritation develops or persists. If thermal burn occurs, flush area with cold water and get immediate medical attention.

### Inhalation

In case of overexposure to dusts or fumes, remove to fresh air. Get immediate medical attention if symptoms described in this MSDS develop.

### Ingestion

Not considered an ingestion hazard. However, if excessive amounts of dust or particulates are swallowed, treat symptomatically and supportively. Get medical attention.

### Notes to Physician

Inhalation of metal fume or metal oxides may produce an acute febrile state, with cough, chills, weakness, and general malaise, nausea, vomiting, muscle cramps, and remarkable leukocytosis. Treatment is symptomatic, and condition is self limited in 24-48 hours.

Chronic exposure to dusts may result in pneumoconiosis of mixed type.

## 7. TOXICOLOGICAL INFORMATION

### Route of entry

Prolonged skin contact with coated steel may cause skin irritation in sensitive individuals. Inhalation of metal particulate or elemental oxide fumes generated during welding, burning, grinding or machining may pose acute or chronic effects.

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## Acute exposure

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Inhalation of overexposure may cause metal fume fever characterized by fever and chills (flu like symptoms) appears to 6 hours after exposure with no know long term effects.

## Chronic exposure

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Chronic inhalation of metal fume may cause a benign pneumonconconiosis (siderosis) with few or no symptoms. Chronic inhalation of fumes may affect the digestive system, nervous system, respiratory system, muscles and joints.

Sensitisation to product: Unknown

Synergistic materials: Unknown

Reproductive effects: No known effect

Teratogenicity: No known effect

Mutagenicity: No known effect

Carcinogenicity of material: IARC lists Hexavalent Chromium compounds under its group 1 category.

Confirmed Human Carcinogen

## Note

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Iron-welding fume has an exposure limit of  $5\text{mg}/\text{m}^3$ , welding fume may also contain contaminants from fluxes or welding consumables.