

# Material Safety Data Sheet

## Section I – Product Identification

This MSDS applies to all grades of stainless steels processed by Techalloy Co. Inc, Division of Central Wire.

## Section II – Hazardous Ingredients

The Occupational Health and Safety Administration (OSHA) publish Permissible Exposure Limits (PEL) and the American Chemical Governmental Industrial Hygienists (ACGIH) publishes Threshold Limit Values (TLV) for stainless steels. Values shown below are applicable to major component elements. These elements may appear in some or various combinations in any particular grade of stainless steel.

Component	%	CAS Number		OSHA PEL (mg/m <sup>3</sup> ) <sup>1</sup>	ACGIH TLV (mg/m <sup>3</sup> )
Aluminum	< 3.5	7429-90-5		5	10
Arsenic	0	7440-38-2		0.01	0.01
Barium	0	7440-39-3		0.5 <sup>2</sup>	-
Bismuth	< 0.3ppm	7440-69-6		-	-
Boron	< 0.010	7440-42-8		-	-
Cadmium	0	7440-43-9		0.005	0.01
Calcium	< 0.010	7440-70-2		-	-
Carbon	< 0.20	1333-86-4	As Carbon Black	3.50	3.50
Chromium	< 30.0	7440-47-3		1.00	.050
Cobalt	> 30.0	7440-48-4		0.10	0.10
Copper	< 34.0	7440-50-8	Dust	1.00	1.00
Iron	< 85.0	7439-8-6		-	-
Lead	< 0.006	7439-92-1		0.05	0.05
Manganese	< 10.0	7439-96-5		5	5
Mercury	0	7439-97-6		0.1	0.1
Molybdenum	< 18.0	7439-98-7	Insol. Cmpd	15	10
Nickel	< 80.0	7440-02-0		1	1.5
Nitrogen	< 0.25	7737-27-9		-	-
Selenium	< 3ppm	7782-49-2		0.2	0.2
Silicon	< 4.50	7440-21-3	Respirable Dust	10 <sup>2</sup>	10
Sulfur	< 40.0	7704-34-9		-	-
Phosphorus	< 0.06	7723-14-0		0.1	0.1
Titanium	< 3.25	7440-32-6		-	-
Tungsten	< 6.50	7440-33-7	Insol. Cmpd	5	5
Vanadium	< 0.50	1314-62-1		0.05	-
Tantalum	< 5.50	7440-25-7		5	5

<sup>1</sup> Milligrams per cubic meter    <sup>2</sup> National Institute for Occupational Safety and Health and (NOISH) Recommended Exposure Limit (REL)

### **Section III – Physical Data**

<b>Melting Point</b>	2500 Degrees F – 2800 Degrees F
<b>Density</b>	0.28 lb/cu.In
<b>Flash Point</b>	N/A
<b>Boiling Point</b>	N/A
<b>Solubility in Water</b>	Insoluable
<b>Vapor Pressure</b>	N/A
<b>Vapor Density</b>	N/A
<b>Evaporation</b>	N/A
<b>% Volatiles by Volume</b>	N/A
<b>Appearance and Odor</b>	Solid, Odorless Metal

### **Section IV – Fire and Explosion Data**

Stainless Steel Products in the form shipped are not considered combustible. During subsequent processing (cutting, welding, grinding, etc.), the generation of dust in high concentration may present fire and explosion hazards.

### **Section V – Reactivity Data**

Solubility: Insoluble in water and alkalis corrodes in acids and certain salts.

Hazardous Decomposition Products: Metal Fumes.

### **Section VI – Health Hazards Information**

Adequate ventilation is required when welding, cutting, grinding or burning this product. Dust/fume respirators are required if the fume levels exceed TLV values.

### **Section VII – Emergency and First Aid Procedures**

<b>Inhalation</b>	Seek medical attention if needed.
<b>Skin</b>	If irritation develops, remove contaminated clothing immediately and wash the contaminated skin with soap and water. Seek Medical attention if irritation persists.
<b>Eyes</b>	If eyes become irritated from dust or fumes, wash with large quantities of water. Seek medical attention when necessary.
<b>Ingestion</b>	Seek medical attention when necessary.

## **Section VIII – Spill or Leak Procedures**

<b>Spills</b>	Not Applicable
<b>Waste Disposal</b>	Solids – Recycle as Scrap Dusts – Dispose of dusts according to local, state and federal regulations.

## **Section IX – Special Protection Information**

No Toxic effects are expected from the alloy in the inert solid form. Excessive inhalation of fumes or dusts from burning, welding, grinding and cutting can produce an acute reaction known as metal fume fever. Nickel and chromium must be considered possible carcinogens under OSHA 29CFR1910.1200. However, studies of workers melting or working alloys containing these elements have been found to have no increased risk of cancer.

## **Section X – Additional Information and Precautions**

Maintain exposure levels below PEL/TLV using the proper ventilation and safety equipment. This MSDS shall be used in conjunction with the chemical analysis as supplied by the rod mill.

Information herein was obtained from sources that are believed to be authoritative and valid (<http://www.osha.gov/dts/chemicalsampling/toc/chmccas.html>). However no warranty, expressed or implied, can be made.

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