

**SWAN SECURE PRODUCTS**

7525 Perryman Court  
Baltimore, MD 21226  
Toll Free (800) 966-2801  
Fax (410) 360-2288

**MATERIAL SAFETY DATA SHEET****I PRODUCT IDENTIFICATION**

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**Trade Name:** Stainless Steel**Synonyms:** Nickel-Iron Alloys**II HAZARDOUS INGREDIENTS**

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<b>Ingredient</b>	<b>CAS #</b>	<b>Form</b>	<b>OSHA/PEL (mg/m<sup>3</sup>)</b>	<b>ACGIH/TLV (mg/m<sup>3</sup>)</b>
Aluminum	7429-90-5	Dust, fumes	--	10.00, 5.00
Carbon	1333-86-4	As carbon black	3.50	3.50
Chromium	7440-47-3		1.00	.50
Cobalt	7440-48-4		.10	.10
Copper	7440-50-8	Dust, fumes	1.00, .10	1.00, .20
Iron	1309-37-1	PEL-iron, oxide fumes, TLV-as Fe	10.00	5.00
Manganese	7439-96-5	Dust, fumes	5.00, --	5.00, 1.00
Molybdenum	7439-98-7	Insoluble compound	15.00	10.00
Nickel	7440-02-0		1.00	1.00
Niobium	7440-03-1		5.00	5.00
Phosphor	7723-14-0	Yellow	.10	.10
Silicon	7440-21-3	Respirable dust	--	5.00
Sulfur	7446-09-5	As sulfur dioxide	--	5.00
Tin	7440-31-5		2.00	2.00
Titanium	13463-67-7	As titanium dioxide	15.00	5.00
Tungsten	7440-33-7	Insoluble compound	--	5.00
Vanadium	1314-62-1	Dust, fumes (as vanadium pentoxide)	.50, .10	.05, .05

**III PHYSICAL DATA**

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**Boiling Point:** High  
**Specific Gravity:** 7.5 - 8.5  
**Melting Point:** 2400 - 2800 °F  
**Appearance and Odor:** Solid, odorless metal

**Vapor Density:** Nil  
**Vapor Pressure:** Nil  
**Solubility:** Insoluble



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### IV FIRE AND EXPLOSION HAZARDS DATA

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**Flash Point:** N/A

**Autoignition Temperature:** N/A

**Flammable Limits: Lower:** N/A **Upper:** N/A

**Extinguishing Media:** Use suitable extinguishing media for surrounding materials and type fire.

**Special Firefighting Procedures:** Firefighters must wear full face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes.

**Fire and Explosion Hazards:** None

### V HEALTH HAZARD INFORMATION

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**Acute Effects:** Welding and high temperature cutting may produce dust and fumes. Short-term exposure may cause nausea, fever, irritation of eyes, nose, throat, skin; metallic taste.

**Chronic Effects:** Long-term exposure to welding fumes, gases or dust may result in skin sensitization, neurological damage and respiratory disease.

#### **Effects of Exposure:**

**Inhalation:** Inhalation of excessive fume or dust concentrations may result in respiratory tract irritation.

**Eyes:** Mechanical irritation may result from an accumulation of dust particles in the eye.

**Skin:** Some skin irritation may result from exposure to dust.

**Ingestion:** Some constituents may be harmful if swallowed.

**Symptoms of Exposure:** Metallic taste, fever, loss of consciousness due to welding gases.

**Carcinogenicity:** Chromium, nickel and chromium-cobalt alloys have been identified by the international agency for research on cancer as potential cancer-causing agents.

### **EMERGENCY AND FIRST AID PROCEDURES**

**INHALATION:** Move person to fresh air until recovered.

**INGESTION:** While ingestion of large enough quantities to cause health effects is unlikely, consult a physician if it occurs.

**SKIN:** Wash with water and a mild detergent.

**EYES:** Flush thoroughly with water.



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### VI REACTIVITY DATA

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**Stability:** Stable

**Incompatibility (Material to Avoid):** Reacts with strong acids to produce hydrogen gas.

**Hazardous Decomposition Products:** Metallic dust or fumes may be produced during welding, burning, grinding and possibly machining.

### VII SPILL OR LEAK PROCEDURES

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**Steps to be Taken in Case Material is Released or Spilled:** No potential for spill or leak as delivered. Gather dust and residue from machining.

**Waste Disposal:** In accordance with state, federal and local regulations.

### VIII SPECIAL PROTECTION INFORMATION

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**Ventilation:** Use adequate ventilation to keep fume or dust concentration below the occupational exposure limits shown in section II.

**Respiratory Protection:** If your process causes a release of dust or fume in excess of PEL, NIOSH approved respirators should be worn in accordance with 29CFR 1910.134.

**Protective Equipment:** If your process causes a release of dust or fume, approved safety glasses or goggles should be worn. Gloves are recommended.