

SANDMEYER STEEL COMPANY

ONE SANDMEYER LANE, PHILADELPHIA, PA 19116, 215-464-7100

MATERIAL SAFETY DATA SHEET

SECTION I

JANUARY 15, 2000

Manufacturer's Name	Sandmeyer Steel Company	Emergency Telephone No.	(215) 464-7100
Address (number, city, state, & zip code)	One Sandmeyer Lane, Philadelphia, PA 19116		
Product Name	Nickel Base Alloys	Chemical Family	Nonferrous Alloys
Grades	Nickel and Nickel Alloys		

SECTION II - CHEMICAL COMPONENTS

	C A S Number	Range %	TLV (UNITS)	OSHA PEL
Nickel	7440-02-0	24-99	1 mg/m3	1 mg/m3
Iron (limits for iron oxide fumes)	1309-37-1	0-50	5 mg/m3	10 mg/m3
Copper (limits for fume)	7440-50-8	0-34	0.2 mg/m3	0.1 mg/m3
Chromium	7440-47-3	0-33	0.5 mg/m3	1 mg/m3
Molybdenum	7439-98-7	0-30	5 mg/m3	5 mg/m3
Columbium	None	0-6	None Listed	None Listed
Tungsten	7440-33-7	0-5	5 mg/m3	None Listed
Cobalt	7440-48-4	0-5	0.1 mg/m3	0.1 mg/m3
Titanium	7439-98-7	0-2	None Listed	None Listed
Manganese (limits for dust)	7439-96-5	0-2	5 mg/m3	5 mg/m3
(limits for fume)			1 mg/m3	None Listed
Silicon	7440-21-3	0-2	None Listed	None Listed

SECTION III - PHYSICAL DATA

Boiling Point ("F.)	N/A	Specific Gravity (H20.1)	8
Vapor Pressure (MM HG.)	N/A	Percent Volatile by Volume (%)	N/A
Vapor Density (Air= 1)	N/A	Evaporation Rate (_____ = 1)	N/A
Solubility in Water	N/A	Melting Point	2600-2800F
Appearance & Odor	Metallic and odorless solid		

SECTION IV- FIRE AND EXPLOSION HAZARD DATE

Flash Point (Method Used)	N/A	Flammable Limits	N/A	LEL	UEL
Extinguishing Media	N/A				
Special Fire Fighting Procedures	N/A				
Unusual Fire Explosion Hazards	N/A				

N/A = Not Applicable

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SECTION V -- HEALTH HAZARD DATA

(X) MAJOR EXPOSURE HAZARD:	INHALATION <input checked="" type="checkbox"/>	SKIN CONTACT <input type="checkbox"/>	SKIN ABSORPTION <input type="checkbox"/>	INGESTION <input type="checkbox"/>
NOTE: Steel products in the natural state do not present an inhalation, injection, or contact hazard. However, operations such as burning, welding, sawing, brazing or grinding may result in the following effects if exposures exceed permissible limits.				
Symptoms: ACUTE: Excessive inhalation of fumes from many metals can produce an acute reaction known as "metal fume fever". Symptoms consist of chills and fever (very similar to and easily confused with flu symptoms) which come on a few hours after exposure. Dermatitis due to sensitization may occur in some individuals.				
CHRONIC: Excessive and repeated overexposure of nickel and chromium can cause various forms of dermatitis, inflammation and/or ulceration of upper respiratory tract. Both chromium and nickel have been associated with upper respiratory cancer. Excessive and repeated overexposure of iron fumes can cause siderosis. Excessive and prolonged inhalation of manganese fumes can cause bronchitis, pneumonitis, lack of coordination. Excessive and prolonged overexposure of cobalt may cause an asthma-like disease with cough and dyspnea. Copper – pulmonary effects.				
EMERGENCY FIRST AID PROCEDURES In case of excessive exposure, remove to fresh air, administer oxygen and seek physician's assistance.				

SECTION VI -- REACTIVITY DATA

STABLE <input checked="" type="checkbox"/>	UNSTABLE <input type="checkbox"/>	CONDITIONS TO AVOID N/A
INCOMPATIBILITY (MATERIALS TO AVOID)		N/A
DECOMPOSITION PRODUCTS		N/A
HAZARDOUS POLYMERZATON	MAY OCCUR <input type="checkbox"/> WILL NOT OCCUR <input checked="" type="checkbox"/>	CONDITIONS TO AVOID N/A

SECTION VII -- SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED	N/A
WASTE DISPOSAL METHOD	N/A
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE	N/A

SECTION VIII -- PERSONNEL PROTECTION INFORMATION

RESPIRATORY PROTECTION	For welding, burning, grinding, and cutting operations, local exhaust ventilation should be provided. If fumes or dusts cannot be controlled with exhaust ventilation, an appropriate NIOSH-approved respirator should be used to prevent excessive inhalation exposure.
GLOVES	Gloves may be necessary to prevent skin sensitization and dermatitis.
EYE PROTECTION	Approved safety glasses or goggles should be worn when working with dusty metals.

WHILE THE INFORMATION AND RECOMMENDATIONS SET FORTH ON THIS SHEET ARE BELIEVED TO BE ACCURATE AS OF THE PRESENT DATE, THE COMPANY MAKES NO REPRESENTATION OR WARRANTY WITH RESPECT THERETO AND DISCLAIMS ALL LIABILITY FROM RELIANCE THEREON.

PREPARED BY:
Sandmeyer Steel Company