MATERIAL SAFETY DATA SHEET

Sargent-Welch®
P.O. Box 1026
Skokie, IL 60076-8026
1-800-SARGENT

MSDS No. WLC4273R WLC4276R WLC4276T
Effective Date October 5, 1992

SECTION I NAME

24 HOUR EMERGENCY ASSISTANCE
CHEMTREC
800-424-9300
Day 716-226-6177
Night 716-334-4222

Product	NICKEL, METAL
Chemical Synonyms	Nickel, Metal Shot, Granular, Powder
Formula	Ni
Unit(s) Size	100, 500 grams
C.A.S. No.	7440-02-0

NFPA HAZARD RATING

Health	3
Fire	*4
Reactivity	0

LEAST SLIGHT MODERATE HIGH EXTREME
0 1 2 3 4

SECTION II HAZARDOUS INGREDIENTS OF MIXTURES

Principal Hazardous Component(s)	%	TLV Units
Nickel, Metal Shot, Granular, Powder *	100%	See Section V.

WARNING! MAY CAUSE SKIN IRRITATION. CANCER SUSPECT AGENT. HARMFUL AS DUST OR FUME. FLAMMABLE AS DUST.

SECTION III PHYSICAL DATA

Melting Point (°F)	1452°C (2645°F)	Specific Gravity (H_2O = 1)	8.90 at 20°C
Boiling Point (°F)	2900°C (4950°F)	Percent Volatile by Volume (%)	Non-volatile (NA).
Vapor Pressure (mm Hg)	1 mm at 1810°C	Evaporation Rate (=1)	Non-volatile (NA).
Vapor Density (Air=1)	Data not listed.		
Solubility in Water	Insoluble in water.		
Appearance & Odor	Lustrous white, hard, ferromagnetic metal; shot, granular, powder; no odor.		

SECTION IV FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used)	Non-flammable (NA).	Flammable Limits in Air % by Volume	Lower	Upper
		Unknown	--------	--------
Extinguisher Media	Dry sand; carbon dioxide (CO_2); or dry powder.			

SPECIAL FIREFIGHTING PROCEDURES

In fire conditions, wear a NIOSH-approved self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

* The NFPA Fire Rating of 4 and the Fire HAZARD RATING of 4 apply only to the powder form of nickel; granular and shot rate 0 (zero).

UNUSUAL FIRE AND EXPLOSION HAZARDS

Moderate fire hazard in the form of dust, when exposed to heat or flame. Slight explosion hazard in the form of dust when exposed to flame.

(1990 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5, GUIDE PAGE NO. 32)

D.O.T * FLAMMABLE SOLIDS, N.O.S., (NICKEL POWDER), 4.1, UN 1325

Approved by U.S. Department of Labor "essentially similar" to form OSHA-20

SECTION V HEALTH HAZARD DATA

Threshold Limited Value
OSHA-PEL 8 hr. TWA 1 mg/m^3. ACGIH-TLV 8 hr. TWA 1984-85 1 mg/m^3 as Nickel in fume or respirable particles.

Effects of Overexposure
May cause dermatitis in sensitive individuals. No acute respiratory reaction or conclusive chronic effects from exposure to nickel metal have been observed, but proper laboratory hygiene requires maintenance of working atmosphere at concentrations below the recommended TLV.

Emergency and First Aid Procedures
EYES: Flush well including under eyelids, with running water for 10-15 minutes; if irritation develops or persists get medical attention. INHALATION: Remove to fresh air. If breathing is difficult, give oxygen. If not breathing give artificial respiration. If discomfort or irritation persists, get medical attention. INGESTION: Give one or two glasses of water to drink. Induce vomiting and call physician. SKIN: Flush with water, then wash with mild soap and water. If irritation develops or persists, get medical attention.

SECTION VI REACTIVITY DATA

Stability			Conditions to Avoid
	Unstable		Excessive temperature and heat, storage near mineral acids.
	Stable	X	

Incompatibility (Materials to Avoid) Slowly attacked by dilute hydrochloric acid or sulfuric acid; readily attacked by nitric acid.

Hazardous Decomposition Products Heating nickel metal emits nickel dust or fumes. Reacts with mineral acids to liberate hydrogen. Evolved hydrogen may become explosive hazard.

Hazardous Polymerization		Conditions to Avoid
May Occur	Will Not Occur	
	X	Not applicable.

SECTION VII SPILL OR LEAK PROCEDURES

Steps to be taken in case material is released or spilled
Wearing suitable protective clothing and avoid making dust, sweep, pick up (pellets) by hand or magnet and return to original container for reuse.

Waste Disposal Method
Discharge, treatment, or disposal may be subject to Federal, State or Local laws. These disposal guidelines are intended for the disposal of catalog-size quantities only. This material can be safely disposed of in a landfill but this metal may have scrap value on your local market and this should be investigated before disposing of potentially valuable materials.

SECTION VIII SPECIAL PROTECTION INFORMATION

Respiration Protection (Specify Type) None should be needed in normal laboratory handling. If dusty conditions prevail, work in ventilation hood or wear a NIOSH-approved dust mask.

Ventilation				
	Local Exhaust	Recommended.	Special	No.
	Mechanical (General)	Recommended.	Other	No.

Protective Gloves Rubber. **Eye Protection** Chemical safety glasses.

Other Protective Equipment Lab coat, apron, proper gloves, ventilation hood, eye wash station.

SECTION IX SPECIAL PRECAUTIONS

Precautions to be Taken in Handling & Storing
Keep container tightly closed when not in use.
Store in a cool, dry place away from acids. Wash thoroughly after handling. Remove and wash contaminated clothing.

Other Precautions Read label on container before using. Do not wear contact lenses when working with chemicals.
VENTILATION: The area surrounding the metal furnace (or plating tank) should be suitably ventilated to prevent gases, fumes, and particulate matter evolved from the metal (or plating tank) from collecting to injurious levels.

For laboratory use only. Not for drug, food or household use. Keep out of reach of children.

Rev. No. No. 4 | Date 10/5/92 | Approved Alexander A. Piccirilli | Chemical Safety Coordinator AP