



## MATERIAL SAFETY DATA SHEET

### SECTION 1 IDENTITY

**NAME OF PRODUCT:**

Diamond Plated Guide Shoe with D or DX suffix (Example VB-BD or UA-B-752DX). Single Stroke Honing Unit (Example A14A-437S) or Diamond Valve Seating Wheel (Example VS-2250-45-D5) or Diamond Honing Tool (Example VG-344-D5) or Super Mandrel with D or DX suffix (Example K6-185CSD or K6-189CSDX) or Diamond Dresser MAN-700 or Cross Grinding Tool with CGT prefix.

**MANUFACTURER'S NAME AND ADDRESS:**

SUNNEN PRODUCTS COMPANY  
7910 MANCHESTER  
ST. LOUIS, MO 63143

**CONTACT:**

CHUCK KORN

**DATE:**

NOVEMBER 28, 1996

**EMERGENCY TELEPHONE NUMBER:**

314-781-2105

### SECTION 2 INGREDIENTS/IDENTITY (PER 29 CFR 1910.1200(g))

CHEMICAL AND (COMMON) NAME OF COMPONENTS	MAX Wt%	CAS NO.	OSHA TWA Z1-A mg/cu m	ACGIH TWA	CARCINOGENIC
cobalt (metal) as dust/fume	1.5	7440-48-4	0.05	0.05	N
phosphorus	13 (1)	7723-14-0	0.1	0.1	N
nickel (metal)	95	7440-02-0	1.0	1	N (2)
nickel (metal) as					
soluble compounds			0.1	1	N (2)

(2) I.A.R.C. & N.T.P. REPORT THAT ALL COMPOUNDS CONTAINING NICKEL ARE POTENTIALLY CARCINOGENIC. FOR FURTHER SAFETY AND HEALTH INFORMATION REGARDING THE COMPOSITION OF THIS MATERIAL CONTACT SUNNEN PRODUCTS. This mixture contains toxic chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372. (1) Phosphorus used only in D-8 Valve Seat Wheel.

These mixture ingredients are cited on the following lists:

NAME	CAS	CITATIONS
Cobalt	7440-48-4	2,4,8,10,11,12,13,14,15,16,17,18,19,20,21,22,23
Phosphorus	7723-14-0	2,4,5,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22
Nickel	7440-02-0	1,2,3,4,5,7,8,10,11,12,13,14,15,16,17,18,19,20,21,22,23

1=IARC 2=OSHA 3=NTP 4=ACGIH 5=NFA49 6=NFA325M 7=DOT HMT 49CFR172.101 8=EPA, SARA III 9=RTECS 10=MA RTK 11=AK RTK 12=CA RTK 13=FL RTK 14=IL RTK 15=ME RTK 16=MN RTK 17=NH RTK 18=NJ RTK 19=Cincinnati, Ohio RTK 20=Norwood, Ohio RTK 21=PA RTK 22=RI RTK 23=WV RTK

## SECTION 3 PHYSICAL & CHEMICAL CHARACTERISTICS

SPECIFIC GRAVITY (WATER=1) .....7.0 (APPROX.)  
MELTING POINT.....>1700 F  
PERCENT VOLATILE BY WEIGHT...NOT VOLATILE  
VAPOR PRESSURE (mm Hg).....NOT VOLATILE  
VAPOR DENSITY (Air=1).....NOT VOLATILE  
EVAPORATION RATE .....NOT VOLATILE  
SOLUBILITY IN WATER.....NOT SOLUBLE  
REACTIVITY IN WATER.....NOT REACTIVE  
APPEARANCE AND ODOR.....SOLID METAL OBJECT

## SECTION 4 SPECIAL PRECAUTIONS

NONE Refer to Section 7.

## SECTION 5 CORROSIVELY AND REACTIVITY DATA

Material is stable under normal conditions of transport and storage. POLYMERIZATION: Hazardous polymerization will not occur. INCOMPATIBILITY (MATERIALS TO AVOID): Concentrated acids such as nitric or hydrochloric. HAZARDOUS DECOMPOSITION PRODUCTS: Hydrogen gas. Toxic gases and vapors (such as nickel carbonyl and oxides of nitrogen) may be released in a fire involving nickel or in a decomposition of nickel compounds.

## SECTION 6 HEALTH, FIRST AID AND MEDICAL DATA

### ACUTE AND CHRONIC HEALTH EFFECTS AND EFFECTS OF OVEREXPOSURE

As a solid object the plated abrasive tool presents no hazard at normal temperatures. However, if modified for use (by abrading, melting, welding, cutting or processing in any other fashion that creates potentially hazardous dust or fumes) the operator will be exposed to air-borne metal particles or fumes which can be inhaled, swallowed, or come in contact with the skin or eyes. Metal dusts or fumes, may cause irritation to the eyes, nose, or throat; leave a metallic taste in the mouth; result in metal fume fever (flu-like symptoms). Symptoms may be aggravated for sensitive individuals with respiratory conditions (such as emphysema). Persons with light skin, sensitive skin or large amounts of body hair may experience skin disorders from increased sensitivity to contact with metal fumes, dust or fines suspended in the honing oil or coolant.

ABBREVIATIONS USED IN THE FOLLOWING SECTION: NAIF=NO APPLICABLE INFORMATION FOUND, SKIN=SKIN ABSORPTION, EYE=EYE CONTACT, INHAL=INHALATION, INGEST=INGESTION. THE INFORMATION PRESENTED AND CONCLUSIONS DRAWN ARE FROM OTHER THAN DIRECT TEST DATA.

COBALT: ACUTE\_ SKIN: Cobalt is an allergen. Sensitization dermatitis may occur in persons who are previously exposed. A rash may develop, usually in the areas of folded skin of the elbow, neck, and face. Cross sensitization can occur between cobalt and nickel and cobalt and chromium. Some cobalt salts are photosensitizers. Cobalt insoluble salts can form soluble complexes with body fluid on eczematous skin and sensitizes the skin. Cobalt in ionized form is known to react with proteins. EYE: May cause irritation with redness, pain, and itching. May cause lesions similar to contact dermatitis. INHAL: May cause shortness of breath, asthma, difficult breathing during exertion, wheezing, interstitial pneumonitis (inflammation of lung), and/or lung densities. Loss of sense of smell. Headaches, weakness, irritability, and changes to the electrical activity of the brain. INGEST: May cause hypertension (low blood pressure), pain, vomiting, weight loss, inflammation of nerves, nerve deafness, and sensations of hotness or nausea. Severe exposure may cause pericardial effusion (heart problem), convulsions, or enlargement of the thyroid. Cobalt reacts with alcohol to produce severe cardiac effects. CHRONIC\_ SKIN: May cause contact dermatitis. Sensitization dermatitis may follow inhalation or prolonged contact. EYE: May cause inflammation. See acute effects. INHAL: May cause pneumoconiosis (a progressive lung disease), sensitization of the respiratory tract, obstructed airways syndrome (difficult breathing), interstitial lung disease (a disease affecting the connecting tissue between cells), and density of the lung with symptoms as described in acute exposure. Produces gastric disturbances and blood in the urine. INGEST: May adversely affect the pancreas, thyroid gland (goiter), heart (enlarged), or bone marrow. Increased red blood cell count.

NICKEL: ACUTE: SKIN: May cause swelling and irritation. Skin sensitization may occur upon repeated exposure. "nickel itch", a type of dermatitis resulting from sensitization to nickel may begin with a sensation of burning and itching at the place of contact and usually occurs seven days before the characteristic skin eruptions appear. The primary skin eruption is erythematous (red spots) or follicular (cavity); it may be followed by superficial discrete ulcers which discharge and become crusted. The eruption may spread to areas related to the activity of the primary site. Pigmented or depigmented plaques may be formed. This sensitization reaction may be accompanied by fever, inflammation of the mouth (stomatitis), gums (gingivitis), eyes (conjunctivitis), sudden asthmatic attacks and eosinophilic pneumonitis (inflammation of lungs). Recovery usually occurs within 7 days after exposure. Eczema was more severe in individuals with simultaneous sensitivity to nickel and cobalt than to a single metal. Nickel is not absorbed through the unbroken skin in amounts sufficient to cause intoxication. Metal may be affected by cutting oils or coolants and converted to a form that can penetrate the skin. EYE: May cause inflammation and irritation. Shown to be toxic to rabbit eye. INHAL: May cause respiratory irritation, cough, pneumonitis (inflammation of lung), and fever. Pulmonary edema (fluid in lungs) may be a delayed symptom. Pulmonary sensitization reaction or anaphylaxis (allergic shock) may occur causing eosinophilic pneumonitis (inflammation of lungs), asthma and host rejection of nickel containing prostheses. Poisoning may affect the heart, blood, liver, kidneys, and brain. Persons with pre-existing breathing disorders or a history of asthma, allergies or known sensitization to nickel may be at an increased risk from exposure. INGEST: Literature reports nausea, vomiting, diarrhea, giddiness. Produced blood, heart and liver damage. CHRONIC: SKIN: May cause sensitization dermatitis with symptoms as described under acute effects. EYE: May cause inflammation. Classified as moderately-to-severely toxic to rabbit eye. INHAL: May cause mucous membrane irritation and pulmonary sensitization (acquired sensitivity). All air-borne Nickel contaminating dusts should be regarded as carcinogenic. INGEST: Prolonged feeding studies with rats caused effects on the embryo. Nickel can potentially causes adverse affects on the immune system.

PHOSPHORUS: ACUTE: SKIN: May result in severe burns. EYE: May cause severe irritation or burns. INHAL: Shock may ensue rapidly. INGEST: Literature reports the oral toxicity as LD 50=3030 u gm/kg. Shock may ensue rapidly. CHRONIC: SKIN: Systemic poisoning may follow skin burns. Can cause death of tissue of the jaw. EYE: NAIF. INHAL/INGEST: Systemic poisoning. Can affect the function or cause failure of the liver, kidney, heart or blood vessels.

#### EMERGENCY FIRST AID

INHALATION: Remove to fresh air. If not breathing, begin mouth to mouth resuscitation. Seek medical attention. EYE CONTACT: Remove contact lenses (if wearing) and flush eyes with water to remove particulates. Seek medical attention to check for possible irritation. SKIN CONTACT: Brush off excess dust. Wash hands with mild non-abrasive soap and water. INGESTION: Seek medical attention.

### SECTION 7 HANDLING, STORAGE AND USE PROCEDURES

No special procedures. NORMAL USE: Practice good personal hygiene while honing or grinding. Wash hands thoroughly to remove honing oil and microscopic particles of metal debris (suspended in the oil) before touching other parts of the body, food, drinks or smoking to avoid exposure to metal fines. Refer to acute health effects-Section 6. STEPS TO BE TAKEN IN CASE OF LEAKS OR SPILLS: Treat chips or dust as metal alloys. WASTE DISPOSAL METHODS: Used honing tools, guide shoes and valve seat wheels and honing tools are classified by the EPA as "scrap metal" and are not subject to regulation under 40 CFR parts 262-266 or part 270 or part 124 and are not subject to the notification requirements of Section 3010 of RCRA. Dispose of in accordance with applicable federal, state and local laws, regulations, rules, orders and ordinances. Ref. 40 CFR 261.

### SECTION 8 PERSONAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: Not normally required when machining with oil. If conditions of use (by abrading, melting, welding, cutting or processing in any other fashion that creates potentially hazardous dust or fumes) use NIOSH approved respirator rated for metal dust to maintain levels of dust below ACGIH TLV and OSHA PEL/TLV levels. Normal honing operations using honing oil or coolant does not generate harmful levels of mists or fumes in the operators breathing zone. If unusual conditions of use generate any strong odor or detectable oil or coolant mist use NIOSH approved respirator rated for mineral oil mist to maintain oil mist levels below ACGIH TLV and OSHA PEL/TLV levels. VENTILATION: Normal ventilation is required. Do not use plated abrasive tools within a closed un-ventilated space. If conditions of use (by abrading, melting, welding, cutting or processing in any other fashion that creates potentially hazardous dust or fumes) or if any strong odors or oil mist is detected, use forced ventilation to

maintain levels of fumes or mists below ACGIH TLV and OSHA PEL/TLV levels. SKIN PROTECTION: Not required when handling solid material. Gloves and protective clothes if any operation generates dust. Skin protection is not normally required for short exposures while machining with oil. Oil impervious gloves should be worn in the event any symptoms of skin distress appear. Note that some barrier creams have been shown to increase skin absorption of metallic compounds and also that many people are allergic to chemicals used in protective gloves. EYE PROTECTION: Always wear NIOSH approved safety glasses when honing or operating machinery. OTHER EQUIPMENT: No applicable information found. MEASURES TO BE TAKEN DURING REPAIR AND MAINTENANCE OF CONTAMINATED EQUIPMENT THAT HAS BEEN IN CONTACT WITH THIS MATERIAL: Remove traces of material dust if soldering, welding, brazing, cutting or other process involving ignition sources to prevent a fire hazard.

## **SECTION 9 FIRE AND EXPLOSION HAZARD DATA**

Material in the solid state does not present a fire or explosion hazard. Dust hazards exist under favoring conditions of small particle size. Dispersion in air and strong ignition source may result in an explosion.

### **NOTICE**

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