



**MONARCH METALS, INC.**  
**9551 LEMON STREET**  
**VILLA PARK, CA 92861**

(800) 531-2444

**MATERIAL SAFETY DATA SHET**  
**FOR**  
**DENTAL CASTING ALLOY**

TRADE NAME: *NON PRECIOUS CERAMIC ALLOY*  
MATERIAL IDENTIFICATION: *CHROME-COBALT ALLOY*  
MATERIAL NAME: *MONARCH NBF(NICKEL/BERYLLIUM FREE)*

<u>INGREDIENTS:</u>	<u>CASE#</u>	<u>% COMPOSITION BY WT.</u>
COBALT	7440-48-4	63 - 65 %
CHROMIUM	7440-47-3	27 - 29 %
MOLYBDENUM	7439-98-7	6 - 8 %
SILICON	7440-21-3	1 - 1.5 %
CARBON	7440-44-0	.5 - .95 %
MANGANESE	7439-96-5	1 - 1.5 %

**SOLID FORM:**

- 1) Fire and explosion resistant.
- 2) Insoluble in water.
- 3) No odor.
- 4) Non toxic.
- 5) No special precautions required.

**HAZARD DATA :**

CHROMIUM	EIGHT (8) hr. T1v - 5 mg/m3
MOLYBDENUM	EIGHT (8) hr. T1v - 1mg/m3
SILICON	Twa - 10 mg/m3

**TECHNICAL DATA:**

Melting range	1388 - 1431 C
Yeild strength	500 - 525 MPa
Tensile strength	720 - 735 MPa
Elongation	2 - 3 %
Density	8 - 8.5 (g/cc)

During casting and grinding avoid inhalation of fumes and dust. Exposure to large concentrations of dust may cause industrial dermatitis and respiratory tract irritation. Chronic exposure to cobalt may cause pulmonary hypersensitivity. Wear protective clothing. Melt, grind and polish in the presence of adequate ventilation. Use respirator, goggles, gloves, coveralls or other protective clothing.