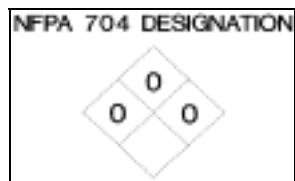


# MATERIAL SAFETY DATA SHEET MSDS 3.410



**C. M. W. INC.**  
70 S. Gray Street  
P.O. Box 2266  
Indianapolis, IN 46206  
Telephone: 317-634-8884  
Fax: 317-638-2706



## SECTION I

CHEMICAL FAMILY: Metal Alloy  
CHEMICAL NAME: Precipitation Hardened Silver  
TRADE NAME: CMW® D63X

## SECTION II - INGREDIENTS AND HAZARDS

INGREDIENT		CAS REGISTRY #	%	ACGIH TLV/TWA mg/m <sup>3</sup>	OSHA PEL/TWA mg/m <sup>3</sup>
Silver	(Ag)	7440-22-4	99.34	0.1	0.01
Magnesium Oxide	(MgO)	1309-48-4	0.41	10	10
				(fume)(Tot. particulate)	
Nickel oxide	(NiO)	1313-99-1	0.25	0.05	1

Silver and nickel oxide are subject to reporting requirements of Section 313 of SARA Title III.

## SECTION III - PHYSICAL DATA

MELTING POINT °C: Ag 962, MgO 2800, NiO 1990  
VAPOR PRESSURE AT ROOM TEMPERATURE: N/A  
VAPOR DENSITY: N/A  
SOLUBILITY IN WATER: Insoluble  
PERCENT VOLATILE (BY VOLUME %): N/A  
SPECIFIC GRAVITY (g/cc): 10.38  
APPEARANCE: Silver white metal

## SECTION IV - FIRE AND EXPLOSIVE DATA

FLASH POINT AND METHOD: N/A  
AUTOIGNITION TEMPERATURE °C: N/A  
FLAMMABILITY LIMITS IN AIR: UPPER: N/A LOWER: N/A  
EXTINGUISHING MEDIA: Type C or type ABC extinguisher  
FIRE FIGHTING PROCEDURES: Use self contained breathing apparatus with a full face piece operated in a pressure demand or positive pressure mode.  
UNUSUAL FIRE AND EXPLOSION HAZARDS: If this material is reduced to powder form, caution must be used to prevent fire or explosion. To extinguish a metal powder fire use dry sand, dry graphite or other class "D" fire extinguishing powder.

References: *Threshold Limit Values and Biological Exposure Indices*, ACGIH, 1991-1992  
*Code of Federal Regulations - Labor #29*, Rev. July 1, 1990  
*Pocket Guide to Chemical Hazards*, NIOSH, 1990  
*Chemical Regulatory Cross Reference*, 3<sup>rd</sup> Edition, J. J. Keller, 1990  
"NFPA Hazard Rating Index Chart", Labor Safety Supply Co., 1987  
*Fire Protection Guide on Hazardous Materials*, 9<sup>th</sup> Edition, Quincy, MA, 1986  
*Registry of Toxic Effects of Chemical Substances*, NIOSH, 1985-1986  
*Occupational Health Guidelines for Chemical Hazards*, NIOSH/OSHA, 1981  
*Dangerous Properties of Industrial Materials*, 5<sup>th</sup> Edition, Van Nostrand Reinhold Co., 1979

## SECTION V - REACTIVITY DATA

STABILITY: Stable HAZARDOUS POLYMERIZATION: Will not occur  
 HAZARDOUS DECOMPOSITION PRODUCTS: Melting may generate harmful fumes.  
 INCOMPATIBILITY AND CONDITIONS TO AVOID:  
 Stable in normal environments. Reacts with acetylene, ammonia, hydrogen peroxide, bromoazide, chlorine, trifluoride, ethyleneimine, oxalic acid, tartaric acid.

## SECTION VI - HEALTH HAZARD INFORMATION

## EFFECTS OF OVEREXPOSURE:

Silver: Inhalation - argyria, a blue-gray discoloration of the skin, mucous membrane and eyes may result. Ingestion - generalized argyria may result. Skin - localized argyria from silver particles imbedded during handling. Eyes - severe irritation or conjunctivitis may occur. Health hazards - discoloration may become permanent.

Magnesium Oxide: Inhalation - fumes produce cough, chills, and shortness of breath. Skin - metal produces caustic burn with ulceration if in contact with open wound. Health hazards - acute "metal fume fever". Caustic burn of open wound.

Nickel: Inhalation - lung irritant, coughing, shortness of breath, chest pain. Skin - rash and itching - "Nickel itch". Health hazards: Allergic dermatitis, pneumonitis.

CARCINOGENICITY:		NTP	IARC	OSHA
	Silver	No	No	No
	Magnesium (or oxide)	No	No	No
	Nickel	Yes	Yes	Yes

## EMERGENCY AND FIRST AID PROCEDURES:

Remove victim to fresh air. Flush skin and eyes with water. For inhalation or ingestion, seek immediate medical assistance.

## SECTION VII - SPILL OR LEAK PROCEDURES

## STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Scoop up large quantities. Use sweeping compound to remove the rest. Avoid creating airborne particles.

WASTE DISPOSAL METHOD: Precipitation hardened silver can be recycled.

STORING AND HANDLING: N/A

OTHER PRECAUTIONS: Avoid generating dust or fumes.

## SECTION VIII - SPECIAL PROTECTIVE INFORMATION

RESPIRATORY PROTECTION: NIOSH approved cartridge respirator.

VENTILATION: Ventilate operations when producing dust or fumes.

PROTECTIVE GLOVES: Recommend hand protection when handling metals for prevention of cuts from slivers and edges.

EYE PROTECTION: Wear safety glasses or goggles, if fumes, chips or dust are generated.

-----  
 The information contained herein is believed to be correct, but no guarantee or warranty with respect to accuracy, completeness, or results is implied and no liability is assumed.

Rev. November 2, 1992