



MATERIAL SAFETY DATA SHEET

COMPLIES WITH 29 CFR 1910.1200.
OSHA HAZARD COMMUNICATION RULE

CHEMICAL IDENTITY

LABEL IDENTITY	Cobalt-Zirconium		
CHEMICAL NAME/SYNONYMS	Cobalt-Zirconium		
FORMULA	Co90Zr10% (weight %)		
CHEMICAL FAMILY	Metal blend		
CAS REGISTRY NUMBER	NA		
HAZARDOUS INGREDIENTS	C/O	TLV	OSHA/PEL
Cobalt	ND	0.1mg/m3	0.1mg/m3
Zirconium	ND	5mg/m3	5mg/m3

PHYSICAL AND CHEMICAL PROPERTIES

COLOR, FORM AND ODOR	Metallic, no odor
BOILING POINT	Unknown
DENSITY (gm/cc)	ca. 8.68
VAPOR PRESSURE @ 20°	NA
% VOLATILE BY VOLUME (%)	NA
REACTION WITH WATER	None
EVAPORATION RATE (H2O=1)	NA
SOLUBILITY IN WATER	None
MELTING POINT	Unknown

FIRE AND EXPLOSION HAZARD DATA

FLASH POINT	NA
AUTOIGNITION TEMPERATURE (°C)	NA
FLAMMABILITY	Non-flammable in piece form
EXTINGUISHING MEDIA	None
SPECIAL FIRE FIGHTING PROCEDURES	None
UNUSUAL FIRE & EXPLOSION HAZARDS	None

HEALTH HAZARD INFORMATION

TOXICITY DATA: **ND**

HMS RATING:

HEALTH: **na** FLAMMABILITY: **na** REACTIVITY: **na** PERSONAL PROTECTION: **na**



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HEALTH HAZARD INFORMATION CONTINUED

ROUTES OF ENTRY	INHALATION:	Yes
	SKIN:	Yes
	INGESTION:	NA

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: **No data**

EFFECTS OF OVEREXPOSURE (acute and chronic):

INHALATION: **inhalation of: cobalt can cause coughing, wheezing, shortness of breath and interstitial pneumoitis. Asthma-like conditions can occur in severe overexposure. Zirconium compounds are not considered a respiratory hazard.**

DERMAL/EYE: **cobalt is a mild transient to skin and eyes. Zirconium can also cause dermatitis upon repeated contact.**

INGESTION: **of cobalt will cause nausea, vomiting and diarrhea.**

OTHER: **repeated skin contact with cobalt can cause allergic type dermatitis with cross sensitivity to chromium and nickel.**

CARCINOGENICITY: No NTP: No IARC MONOGRAPHS: No OSHA REGULATE: No

EMERGENCY FIRST AID PROCEDURES:

INGESTION: **Not applicable**

INHALATION: **remove to fresh air**

SKIN CONTACT: **flush with soap and water**

EYE CONTACT: **flush with plenty of water for at least 15 minutes.**

REACTIVITY DATA

STABILITY	No data
CONDITIONS CONTRIBUTING TO UNSTABILITY	No data
INCOMPATIBILITY (MATERIALS TO AVOID)	No data
HAZARDOUS DECOMPOSITION PRODUCTS	Cobalt fume upon heating to decomposition
HAZARDOUS POLYMERIZATION	No data
CONDITIONS TO AVOID	No data



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SAFE HANDLING AND USE

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

Sweep or scoop up and remove.

WASTE DISPOSAL METHOD:

Dispose of waste as a hazardous material.

SPECIAL PROTECTIVE INFORMATION

RESPIRATORY PROTECTION	filter dust-mist-fume
LOCAL EXHAUST	Maintain below TLV
MECHANICAL (general)	NA
SPECIAL	NA
OTHER	NA
PROTECTIVE GLOVES	Neoprene
EYE PROTECTION	Safety glasses
OTHER PROTECTIVE EQUIPMENT	Wear protective clothing to prevent contamination of skin and clothes

SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING/STORAGE:

Cobalt and zirconium are not classified as hazardous, wash thoroughly after handling, do not breath dust, vapor, mist or gas.

TRANSPORTATION REQUIREMENTS	DOT CLASS:	Not Classified
	UN NUMBER:	Not Classified
	IMCO CLASS:	Not Classified
	OTHER:	No data

PRECAUTIONARY LABELING **NONE**

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NA= NOT APPLICABLE

ND= NO DATA FOUND