

General; local exhaust ventilation as necessary to control any air contaminants to within their PELs or TLVs during the use of this product.

PROTECTIVE EQUIPMENT

Refer to ANSI/ASC Z49.1-88 (Safety in Welding, Cutting and Allied Processes), published by the American Welding Society, for further information on the selection of personal protective equipment. Safety glasses (with side shields). Body protection as necessary to prevent skin contact.

PERSONNEL SAMPLING PROCEDURE

For METALLIC COMPONENTS: Refer to NIOSH Manual of Analytical Methods (NMAM), 3rd Edition, Method 7300.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Metallic wire, rod or strip
Odor: Odorless
Boiling Point: Not Determined
Specific Gravity (H₂O=1): 8.0 - 10.0
Melting Point: 607 - 632 ° C
Vapor Pressure (mm Hg): Not Applicable
Vapor Density (Air=1): Not Applicable
Evaporation Rate (Butyl Acetate=1): Not Applicable
% Solubility In Water: Insoluble
pH: Not Applicable

SECTION 10: STABILITY AND REACTIVITY

Stability: Generally considered stable.

Avoid: None expected.

INCOMPATIBILITY (Materials to Avoid)

Strong acids and bases, strong oxidizers, acetylene, ammonia, hydrogen peroxide, magnesium metal, ammonium nitrate, hydrogen sulfide, elemental sulfur, selenium, tellurium, chlorinated rubber.

Silver. Acetylene and ethylenimine form explosive compounds with silver. If silver is treated with nitric acid in the presence of ethyl alcohol, silver fulminate can be formed which can be detonated. Fine powder and hydrogen peroxide solutions may explode.

Incompatible with oxalic and tartaric acid. Bromoazide explodes on contact with silver foil.

Nickel. Nickel may react with flourine, ammonium nitrate, hydrogen+dioxane, performic acid, selenium, sulfur, ammonia, hydrazine phosphorus, and titanium+potassium chlorate, and with oxidants.

Copper. Copper is incompatible with ammonium nitrate, bromates, iodates, chlorates, ethylene oxide, hydrazoic acid, potassium oxide, dimethyl sulfoxide+trichloroacetic acid, hydrogen peroxide, sodium peroxide, sodium azide, sulfuric acid, hydrogen sulfide + air, lead azide, and acetylenic compounds. Copper ignites on contact with chlorine, flourine, chlorine trifluoride, and hydrazinium nitrate.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS

Toxic metal oxides are emitted when heated above the melting point. The amount of fume evolved increases as the temperature rises.

Polymerization: Polymerization is not expected to occur.

Avoid: Not applicable.

SECTION 11: TOXICOLOGICAL INFORMATION

CHEMICAL NAME	% Wt.	LD50	LC50
CADMIUM			
CAS NO.: 7440-43-9	18	225 mg/kg RAT, oral	Not Available
COPPER			
CAS NO.: 7440-50-8	26	3.5 mg/kg MOUSE, intraperitoneal	Not Available
NICKEL (in 50N)	1	None	None
CAS NO. 7440-02-0			
SILVER			
CAS NO.: 7440-22-4	35	Not Available	Not Available
ZINC (AS OXIDE)			
CAS NO.: 7440-66-6	21	7,950 mg/kg MOUSE, oral	2,500 mg/kg MOUSE

NOTE: See Sections 3, 8 and 12 for additional information.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY

No data available.

ENVIRONMENTAL FATE

No data available.

SECTION 13: DISPOSAL CONSIDERATIONS

US EPA Waste Number: D006/D011

This product may be a hazardous waste under EPA waste regulations (see EPA WASTE above). Before disposal, this product or mixtures containing this product should be tested for toxicity characteristics (TC) under the current EPA Hazardous Waste Regulations TCLP testing procedures 40 CFR Part 261 et seq. Disposal/recycling/reclamation requirements will vary by location and type of disposal selected. Consult with state and local regulatory authorities .

****NOTE**** Chemical additions, processing or otherwise altering this material may make the waste management information presented above incomplete, inaccurate or otherwise inappropriate.

As local regulations may vary; all waste must be disposed/recycled/reclaimed in accordance with federal, state, and local environmental control regulations.

SECTION 14: TRANSPORT INFORMATION

INTERNATIONAL

UN Number: Not Regulated

UNITED STATES

EPA Waste Number: D006/D011

DOT Classification: Not Regulated

CANADA

PIN Number: Not Regulated

TDG Class: Not Regulated

EC: DGL: Not Determined

SECTION 15: REGULATORY INFORMATION

US FEDERAL REGULATIONS

TSCA: IN TSCA

SARA 311 AND 312 HAZARD CATEGORIES

IMMEDIATE (Acute) Health Hazard: YES

DELAYED (Chronic) Health Hazard: YES

FIRE Hazard: NO

REACTIVITY Hazard: NO

Sudden Release of PRESSURE: NO

SARA SECTION 313 NOTIFICATION

This product contains a toxic chemical (or 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.

CHEMICAL NAME	CAS Number	% Wt.
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CADMIUM	7440-43-9	16 - 24
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COPPER	7440-50-8	15 - 45
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NICKEL	7440-02-0	0 - 1
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SILVER	7440-22-4	20 - 50
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ZINC (AS OXIDE)	7440-66-6	16 - 30
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OZONE DEPLETING SUBSTANCES (ODS)

This product neither contains nor is manufactured with an ozone depleting substance subject to the labeling requirements of the Clean Air Act Amendments 1990 and 40 CFR Part 82.

VOLATILE ORGANIC COMPOUNDS (VOC)

None

US STATE REGULATIONS

CALIFORNIA: The State of California has a regulation (Proposition 65) which identifies specific chemicals known to the State of California to cause cancer or birth defects. Proposition 65 requires a disclosure for products sold within the State of California containing an identified chemical. The following information is required by the State of California for the product:

*WARNING: This product contains chemicals known to the State of California to cause cancer.

VOLATILE ORGANIC COMPOUND (CARB): Not Determined

CANADIAN REGULATIONS

DSL/NDSL: Not Determined

WHMIS Classification: Not Determined

EUROPEAN REGULATIONS

EINECS: Not Determined

OTHER REGULATIONS

MITI (Japan) : Not Determined

AICS (Australia) : Not Determined

SECTION 16: OTHER INFORMATION

REVISIONS

Revision Number: 4

This MSDS has been revised in the following section(s):

SECTION 3: HAZARDS IDENTIFICATION

SECTION 15: REGULATORY INFORMATION

PREPARATION INFORMATION

Prepared By: Corporate Environment, Health & Safety Group

Phone Number: See Section 1

The information in this Material Safety Data Sheet should be provided to all who will use, handle, store, transport, or otherwise be exposed to this product. This information has been prepared for the guidance of plant engineering, operations, and management and for persons working with or handling this product. The information presented in the MSDS is premised upon proper handling and anticipated uses and is for the material without chemical additions/alterations. We believe this information to be reliable and up-to-date as of the date of publication, but make no warranty that it is. Additionally, if this Material Safety Data Sheet is more than three years old, please contact the supplier at the phone number listed in Section I to make certain that this sheet is current. End of MSDS.