SAFETY DATA SHEET

SECTION 1 : IDENTIFICATION

Product identifier used on the label:

Product Name:	**COPPER NICKEL ALLOYS 706, 710, 713, 715, 725**
SDS Manufacturer Number:	226994

Other means of identification:

Recommended use of the chemical and restrictions on use:

Chemical manufacturer address and telephone number:

Manufacturer Name:	PMX Industries, Inc.
Address:	5300 Willow Creek Drive SW Cedar Rapids, Iowa 52404-4303 USA
General Phone Number:	319-368-7700
General Fax Number:	319-368-7701

Emergency phone number:

Emergency Phone Number:	319-368-7700

SECTION 2 : HAZARD(S) IDENTIFICATION

Classification of the chemical in accordance with CFR 1910.1200(d)(f):

Signal Word:	Not applicable.
GHS Class:	Not classified as hazardous according to OSHA Hazard Communication Standard, 29 CFR 1910.1200..

Hazards not otherwise classified that have been identified during the classification process:

Emergency Overview:	Copper alloy products in the natural state do not present a hazard for emergency response personnel.
Route of Exposure:	Inhalation, Eye Contact, Skin Contact
Potential Health Effects:	Copper alloy products in the natural state do not present an inhalation, ingestion, or contact hazard. However, operations such as burning, welding, sawing, brazing, or grinding may release fumes and/or dusts which may present health hazards if occupational exposure limits are exceeded.
Eye:	Short-term exposure to fumes/dust may produce irritation.
Inhalation:	Short-term exposure to fumes/dust may produce irritation of the respiratory system.
Potential Environmental Effects:	None known. Product has not been tested for environmental properties.
Signs/Symptoms:	Metal fume fever - metallic taste in mouth, dryness, and irritation of the throat, and influenza-like symptoms. The effects may be delayed.
Target Organs:	Upper respiratory tract, eyes, skin
Aggravation of Pre-Existing Conditions:	Exposure to fumes or dust may aggravate existing respiratory disease or dermatitis.

Nickel

Ingestion:	Ingestion of large doses of nickel compounds (1-3 mg/kg) has been shown to cause intestinal disorders, convulsions, and asphyxia.
Signs/Symptoms:	Nickel overexposure - effects on nasal sinuses, including inflammation and ulceration.

Tin

Inhalation:	Exposure to high concentrations of tin oxide fumes may cause metal fume fever.

Copper

Skin:	Repeated or prolonged exposure to copper dusts or mists may cause irritant or allergic contact dermatitis.
Inhalation:	Exposure to high concentrations of copper may cause metal fume fever.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

Mixtures:

Chemical Name	CAS#	Ingredient Percent	EC Num.
Nickel	7440-02-0	9.5 - 33% %	231-111-4
Iron	7439-89-6	0.5 - 2.3% %	231-096-4
Tin	7440-31-5	2.3 - 8.5% %	231-141-8
Copper	7440-50-8	63 - 97% %	231-159-6

SECTION 4 : FIRST AID MEASURES

Description of necessary measures:

Eye Contact: Flush with water for at least 15 minutes.

Skin Contact: Wash with soap and water.

Inhalation: If exposed to excessive levels of metal fumes, remove to fresh air. Seek medical attention.

SECTION 5 : FIRE FIGHTING MEASURES

Suitable and unsuitable extinguishing media:

Suitable Extinguishing Media: Use extinguishing media appropriate to the surrounding material.

Fire Fighting Instructions: Copper alloy products in the solid state present no fire or explosion hazard, but may react with strong acids, bases, or oxidizing agents.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Methods and materials for containment and cleaning up:

Spill Cleanup Measures: LEAKS, OR RELEASES: Not applicable

SECTION 7 : HANDLING and STORAGE

Precautions for safe handling:

Handling: In welding, precautions should be taken for airborne contaminants that may originate from components of the welding rod.

SECTION 8: EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE GUIDELINES:

Nickel :

Guideline ACGIH: TLV-TWA: 1.5 mg/m3 Inhalable fraction (I)

Guideline OSHA: PEL-TWA: 1 mg/m3
PEL-TWA: 1 mg/m3
PEL-TWA: 1 mg/m3

Tin :

Guideline OSHA: PEL-TWA: 2 mg/m3

Copper :

Guideline ACGIH: TLV-TWA: 1 mg/m3
TLV-TWA: 0.2 mg/m3

Guideline OSHA: PEL-TWA: 1 mg/m3
PEL-TWA: 0.1 mg/m3

Appropriate engineering controls:

Engineering Controls: Local exhaust ventilation should be utilized when welding, burning, sawing, brazing, grinding, or machining when exposure exceeds occupational exposure limits.

Individual protection measures:

Eye/Face Protection: Safety glasses or goggles should be utilized as required by exposure. Other protective equipment should be utilized as required by welding standards.

Skin Protection Description: Wear appropriate personal protective clothing to prevent skin contact with copper dusts and mists.

Respiratory Protection: NIOSH-approved dust or fume respirator should be used to avoid excessive inhalation of particulates when exposure exceeds occupational exposure limits.

Other Protective: Do not eat, drink, or smoke during work. Wash hands before eating or smoking.

SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES

PHYSICAL AND CHEMICAL PROPERTIES:

Physical State:	Solid APPEARANCE: Lustrous metal
Color:	Salmon-colored
Odor:	None
Melting Point:	> 2,050 deg F
Density:	LB/IN3: Not available
Specific Gravity:	8.94
Vapor Density:	(Air = 1): Not applicable
Vapor Pressure:	Not Applicable
Percent Volatile:	Not Applicable
Evaporation Rate:	Not Applicable
pH:	Not Applicable
Flash Point:	Not Applicable
Lower Flammable/Explosive Limit:	(%): None
Upper Flammable/Explosive Limit:	(%): None
Auto Ignition Temperature:	Not Applicable

SECTION 10 : STABILITY and REACTIVITY

Reactivity:

Reactivity:	POSSIBILITY OF HAZARDOUS REACTIONS: Will not occur.

Chemical Stability:

Chemical Stability:	Stable.

Conditions To Avoid:

Conditions to Avoid:	None

Incompatible Materials:

Incompatible Materials:	Mercury, ammonia, acetylene acids. Contact with strong acids, bases, or oxidizing agents.

Hazardous Decomposition Products:

Special Decomposition Products:	Metallic dust or fumes may be produced during welding, burning, grinding, and machining.

SECTION 11 : TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION:

Nickel :

Acute Toxicity:	LD50: 250 mg/kg (rodent, intraperitoneal)

Copper :

Acute Toxicity:	LD50: 0.07 mg/kg (mouse, intraperitoneal)

Nickel :

ACGIH:	No
IARC:	Yes
NTP:	Yes

Iron :

ACGIH:	Oxide dust and fume: No
IARC:	Oxide dust and fume: No
NTP:	Oxide dust and fume: No

Tin :

ACGIH:	(Metal/oxide): No
IARC:	(Metal/oxide): No
NTP:	(Metal/oxide): No

Copper :

ACGIH:	(Fume, dusts & mists): No
IARC:	(Fume, dusts & mists): No
NTP:	(Fume, dusts & mists): No

Nickel :

Chronic Effects:	Hypersensitivity to nickel is common and may cause allergic contact dermatitis, pulmonary asthma, and conjunctivitis.

Iron :

Ingestion:	TDLo: 77 mg/kg (human, oral-behavioral and gastrointestinal effects) LD50: 30 gm/kg (rat, oral) LD50: 20 gm/kg (guinea pig, oral)

Tin :

Ingestion:	TDLo: 250 mg/kg (human, oral-gastrointestinal effects)
Chronic Effects:	Repeated or prolonged overexposure to tin dusts or fumes may cause stannosis.

Copper :

Ingestion:	TDLo: 120 µg/kg (human, oral-gastrointestinal effects)
Chronic Effects:	Repeated or prolonged overexposure to copper fume may cause the skin and hair to change color.

SECTION 12 : ECOLOGICAL INFORMATION

Ecotoxicity:

Ecotoxicity:	Not Applicable

SECTION 13 : DISPOSAL CONSIDERATIONS

Description of waste:

Waste Disposal:	According to local, state, and federal regulations.

SECTION 14 : TRANSPORT INFORMATION

DOT Shipping Name:	Not restricted as a dangerous good.
DOT UN Number:	Not restricted as a dangerous good.

SECTION 15 : REGULATORY INFORMATION

Safety, health and environmental regulations specific for the product:

Nickel :

TSCA Inventory Status:	Listed
Section 313:	EPCRA - 40 CFR Part 372 - (SARA Title III) Section 313 Listed Chemical.
California PROP 65:	Listed: cancer.
Canada DSL:	Listed
EC Number:	231-111-4

Iron :

TSCA Inventory Status:	Listed
Canada DSL:	Listed
EC Number:	231-096-4

Tin :

TSCA Inventory Status:	Listed
Canada DSL:	Listed
EC Number:	231-141-8

Copper :

TSCA Inventory Status:	Listed
Section 313:	EPCRA - 40 CFR Part 372 - (SARA Title III) Section 313 Listed Chemical.
Canada DSL:	Listed
EC Number:	231-159-6

SECTION 16 : ADDITIONAL INFORMATION

HMIS Ratings:

SDS Creation Date:	May 13, 1999
SDS Revision Date:	September 09, 2015

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