

# SAFETY DATA SHEET

## SECTION 1 : IDENTIFICATION

### Product identifier used on the label:

**Product Name:** COPPER ALLOYS C19010 (PMC-102), C19015 (PMC-102M)  
**SDS Manufacturer Number:** 227015

### 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.

**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 TLVs are exceeded.

**Eye:** Short-term exposure to fumes/dust may produce irritation.

**Skin:** Repeated or prolonged exposure to copper dusts or mists may cause irritant or allergic contact dermatitis.

**Inhalation:** Short-term exposure to fumes/dust may produce irritation of the respiratory system. High concentrations of oxide fumes of copper or magnesium may cause metal fume fever.

**Ingestion:** Ingestion of large doses of nickel compounds (1-3 mg/kg) has been shown to cause intestinal disorders, convulsions, and asphyxia.

**Chronic Health Effects:** Repeated or prolonged overexposure to copper fume may cause the skin and hair to change color. Hypersensitivity to nickel is common and can cause allergic contact dermatitis, pulmonary asthma, and conjunctivitis. Chronic overexposure to phosphorus fumes may cause osteomyelitis of the jaw bones ("phossy" jaw).

**Carcinogenicity:** See Toxicological Information (Section #11)

**Signs/Symptoms:** Metal fume fever - metallic taste in mouth, dryness and irritation of the throat, and influenza-like symptoms. The effects may be delayed. Nickel overexposure - effects on nasal sinuses, including inflammation and ulceration.

## SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

### Mixtures:

Chemical Name	CAS#	Ingredient Percent	EC Num.
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SILICON	7440-21-3	OF MIXTURE: 1.0% (maximum) by Mole	231-130-8
COPPER	7440-50-8	OF MIXTURE: 99.93% (maximum) by Mole	231-159-6
MAGNESIUM	7439-95-4	OF MIXTURE: 0.2% (maximum) by Mole	231-104-6
NICKEL	7440-02-0	OF MIXTURE: 3.0% (maximum) by Mole	231-111-4
PHOSPHORUS	7723-14-0	OF MIXTURE: 0.16% (maximum) by Mole	231-768-7

## SECTION 4 : FIRST AID MEASURES

### Description of necessary measures:

<b>Eye Contact:</b>	Flush with water for at least 15 minutes.
<b>Skin Contact:</b>	Wash with soap and water.
<b>Inhalation:</b>	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:

<b>Suitable Extinguishing Media:</b>	Use extinguishing media appropriate to the surrounding material.
<b>Fire Fighting Instructions:</b>	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:

<b>Spill Cleanup Measures:</b>	STEPS TO BE TAKEN IN THE EVENT OF SPILLS, LEAKS, OR RELEASES: Not applicable
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## SECTION 7 : HANDLING and STORAGE

### Precautions for safe handling:

<b>Handling:</b>	In welding, precautions should also be taken for airborne contaminants that may originate from components of the welding rod.
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## SECTION 8: EXPOSURE CONTROLS, PERSONAL PROTECTION

### EXPOSURE GUIDELINES:

#### **SILICON :**

<b>Guideline OSHA:</b>	PEL-TWA: 15 mg/m3 Total particulate/dust (T) PEL-TWA: 5 mg/m3 Respirable fraction (R)
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#### **COPPER :**

<b>Guideline ACGIH:</b>	TLV-TWA: 1 mg/m3 TLV-TWA: 0.2 mg/m3
<b>Guideline OSHA:</b>	PEL-TWA: 1 mg/m3 PEL-TWA: 0.1 mg/m3

#### **NICKEL :**

<b>Guideline ACGIH:</b>	TLV-TWA: 1.5 mg/m3 Inhalable fraction (I)
<b>Guideline OSHA:</b>	PEL-TWA: 1 mg/m3 PEL-TWA: 1 mg/m3 PEL-TWA: 1 mg/m3

### Appropriate engineering controls:

### Individual protection

measures:

<b>Eye/Face Protection:</b>	Safety glasses or goggles should be utilized as required by exposure. Other protective equipment should be utilized as required by welding standards.
<b>Respiratory Protection:</b>	NIOSH/MSHA - Approved dust and fume respirator should be used to avoid excessive inhalation of particulates when exposure exceeds TLVs.
<b>Other Protective:</b>	OTHER PREVENTIVE MEASURES: Do not eat, drink, or smoke during work. Wash hands before eating or smoking.

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## SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES

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PHYSICAL AND CHEMICAL PROPERTIES:

<b>Physical State:</b>	Solid
<b>Physical State Appearance:</b>	LUSTROUS METAL
<b>Color:</b>	Salmon-colored
<b>Odor:</b>	None
<b>Melting Point:</b>	1944 - 1994 deg F
<b>Specific Gravity:</b>	8.9
<b>Vapor Density:</b>	(Air = 1): Not applicable
<b>Vapor Pressure:</b>	Not Applicable
<b>Percent Volatile:</b>	Not Applicable
<b>Evaporation Rate:</b>	Not Applicable
<b>pH:</b>	Not Applicable
<b>Flash Point:</b>	Not Applicable
<b>Lower Flammable/Explosive Limit:</b>	(%): None
<b>Upper Flammable/Explosive Limit:</b>	(%): None
<b>Auto Ignition Temperature:</b>	Not Applicable

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## SECTION 10 : STABILITY and REACTIVITY

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Chemical Stability:

**Chemical Stability:** Stable

Possibility of hazardous reactions:

**Hazardous Polymerization:** Will not occur

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.

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## SECTION 11 : TOXICOLOGICAL INFORMATION

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TOXICOLOGICAL INFORMATION:

**SILICON :**

**ACGIH:** No

**IARC:** No

**NTP:** No

**COPPER :**

ACGIH: No

IARC: No

NTP: No

**MAGNESIUM :**

ACGIH: No

IARC: No

NTP: No

**NICKEL :**

ACGIH: No

IARC: Yes

NTP: Yes

**PHOSPHORUS :**

ACGIH: No

IARC: No

NTP: No

**COPPER :**

Ingestion: TDLo: 120 µg/kg (human, oral-gastrointestinal effects)

**NICKEL :**

Ingestion: LDLo: 5 g/kg (rat, oral)

**PHOSPHORUS :**

Ingestion: LDLo: 22 mg/kg (woman, oral-cardiac effects)  
TDLo: 11 mg/kg (woman, oral-gastrointestinal effects)  
LD50 3,030 µg/kg (rat, oral)  
LD50 4,820 µg/kg (mouse, oral)

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**SECTION 12 : ECOLOGICAL INFORMATION**

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Ecotoxicity:

Ecotoxicity: Not Applicable

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**SECTION 13 : DISPOSAL CONSIDERATIONS**

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Description of waste:

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

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**SECTION 14 : TRANSPORT INFORMATION**

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DOT Shipping Name: Not restricted as a dangerous good.

DOT UN Number: Not restricted as a dangerous good.

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**SECTION 15 : REGULATORY INFORMATION**

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Safety, health and environmental regulations specific for the product:

**SILICON :**

TSCA Inventory Status: Listed

Canada DSL: Listed

EC Number: 231-130-8

**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

**MAGNESIUM :**

TSCA Inventory Status: Listed  
Canada DSL: Listed  
EC Number: 231-104-6

**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

**PHOSPHORUS :**

TSCA Inventory Status: Listed  
Section 302 EHS: EPCRA (SARA Title III) Section 302 (40 CFR Part 355) Extremely Hazardous Substances (EHS) Threshold Planning Quantity (TPQ) in pounds.: 100  
Section 313: EPCRA - 40 CFR Part 372 - (SARA Title III) Section 313 Listed Chemical.  
Canada DSL: Listed  
EC Number: 231-768-7

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**SECTION 16 : ADDITIONAL INFORMATION**

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**HMIS Ratings:**

SDS Creation Date: December 23, 1998  
SDS Revision Date: September 09, 2015  
MSDS Author: Prepared by: Cindy Baldwin, CIH<br> Pointer Environmental, Inc.<br> 6305 Silver Creek Drive<br> Davenport, Iowa 52806  
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