MATERIAL SAFETY DATA SHEET

MetaPaste™ RMA-100

Metallic Resources, Inc.
2368 Enterprise Pkwy.
Twinsburg, Ohio 44087
Phone: 330-425-3155

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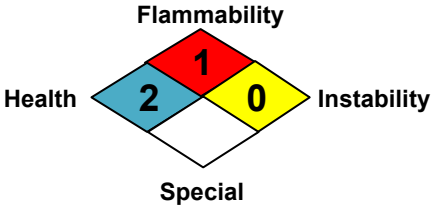
NFPA



HMIS

Health	2
Flammability	1
Reactivity	0
Protection	B

Section 1: GENERAL INFORMATION

TRADE NAME (Common Name or Synonym)	*CHEMICAL NAME*	*FORMULA*	*PREPARED BY*
MetaPaste RMA-100	Tin/Lead Alloy Solder Paste	Sn63/Pb37	H. Stevens

ADDRESS (No., STREET, CITY, STATE AND ZIP CODE)
Metallic Resources, Inc., 2368 Enterprise Parkway, Twinsburg, OH 44087

CONTACT	*PHONE NUMBER*	*ISSUED DATE:*	*REVISED DATE:*
Metallic Resources, Inc.:	(330) 425-3155	11/23/1985	8/1/2011
Chemtrec:	(800) 424-9300		

or contact any emergency room within 15 minutes of your location.

Section 2: COMPOSITION/INFORMATION ON INGREDIENTS

MATERIAL OR SUBSTANCE	*C.A.S. #*	*WT. %*
Tin	7440-31-5	60.5-63.5%
Lead	7439-92-1	34.5-37.5%
Glycol Ether	112-34-5	<1.5%
Modified Rosin	65997-05-9	<3%

Section 3: HAZARDS IDENTIFICATION

PHYSICAL STATE : Paste.

ODOR: None.

OSHA/HCS STATUS: This product is considered "Hazardous" by the OSHA Hazard Communication Standard 29 CFR 1910.1200.

EMERGENCY OVERVIEW: WARNING! Toxic if swallowed or by inhalation. Irritating to eyes, respiratory organs, and skin. Do not ingest. Avoid contact with skin, eyes, and clothing. Contains substances that may cause cancer. The risk of cancer depends upon duration and level of exposure. Contains substances which may cause heritable genetic defects. Contains substances which may cause birth defects and/or developmental abnormalities. Avoid exposure during pregnancy. Contains material which may affect or impair both male and female fertility. Use only with adequate ventilatoin. Wash thoroughly after handling.

ROUTES OF ENTRY: Skin contact, inhalation, ingestion.

Section 3: HAZARDS IDENTIFICATION (Continued)

POTENTIAL ACUTE HEALTH EFFECTS:

INHALATION:	Toxic by inhalation. May cause target organ damage. Irritating to the respiratory system.
INGESTION:	Toxic if swallowed. May cause target organ damage. Ingestion may cause diarrhea or stomach irritation.
SKIN:	Can cause skin irritation. Inflammation may occur due to reddening, itching, scaling, or blistering of the skin.
EYES:	Irritating to eyes. Redness, itching, swelling and pain may result from eye irritation.
POTENTIAL CHRONIC HEALTH EFFECTS:	Adverse effects may include one or more of the following: TIN: prolonged or repeated exposure may cause benign pneumoconiosis (Stannosis). LEAD: Poison. May cause abdominal cramps, nausea, or vomiting, headache, muscle weakness, metallic taste, loss of appetite, insomnia, high lead levels in blood and/or urine, loss of consciousness, coma, and/or death. Irritability, visual disturbances, elevation of blood pressure, and skin discoloration may occur.
TARGET ORGANS:	Upper respiratory tract, skin, eyes. May cause damage to blood, kidneys, mucous membranes, reproductive system, central nervous system, and and gastrointestinal tract
CARCINOGENICITY:	Contains substances that may cause cancer. Risk of cancer depends upon duration and level of exposure.
MUTAGENICITY:	Contains substances which may cause heritable genetic defects (based on animal data).
TERATOGENICITY:	Contains substances which may cause birth defects (based on animal data).
DEVELOPMENTAL DEFECTS:	Contains substances which may cause developmental abnormalities.
FERTILITY EFFECTS:	May impair both male and female fertility.
CALIFORNIA PROP. 65:	WARNING! This product contains a substance known to the State of California to cause cancer.
MEDICAL CONDITIONS AGGREVATED BY EXPOSURE:	Any pre-existing disorders previously mentioned in this section may be aggrevated by over-exposure to this product.

Section 4: FIRST AID MEASURES

EYE CONTACT:	Remove any contact lenses. Keep eyelids open and flush with running water for at least 30 minutes. Get medical attention if irritation occurs.

Section 4: FIRST AID MEASURES (Continued)

SKIN CONTACT:	Remove contaminated clothing and shoes. Flush contaminated skin for 15 minutes. Get medical attention of irritation occurs.
INHALATION:	Move person to fresh air and get medical attention immediately. Wear protective mask if fumes are present. Ventilate area. Keep the person warm and at rest. If not breathing, administer artificial resipiration by trained personnel. If unconscious, get medical attention immediately. Keep airway open. Loosen tight clothing (ties, belts, collars, etc.),
INGESTION:	Get immediate medical attention. Wash mouth with water. Move exposed person to fresh air. Keep the person warm and at rest. Do not induce vomiting unless directed by a physician. If vomiting occurs, keep the head low so as to prevent vomitus from entering the lungs. Maintain an open airway. Loosen ties, belts, collars, etc.). If not breathing, administer artificial respiration by trained personnel.

Section 5: FIRE FIGHTING MEASURES

FLAMMABILITY OF PRODUCT:	Does not burn at operating temperatures. No specific fire or explosion hazard.
EXTINGUISHING AGENTS:	No specific agents recommended. Use extinguishing agents applicable to the surrounding fire.
EXTINGUISHING AGENTS TO AVOID:	No specific agents.
SPECIAL FIRE FIGHTING PRECAUTIONS:	Use NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing.
HAZARDOUS DECOMPOSITION:	At temperatures above the melting point, metal oxide and/or metal oxide fumes may occur.

Section 6: ACCIDENTAL RELEASE MEASURES

PERSONNEL PRECAUTIONS:	Take no action unless previously training has occurred. Evacuate the surrounding area. Keep other personnel from entering surrounding areas unless previously trained. Provide ventilation. Wear appropriate respir-rator if ventilation is inadequate. Wear appropriate personal protective clothing.

Section 6: ACCIDENTAL RELEASE MEASURES Continued)

ENVIRONMENTAL PRECAUTIONS:	Avoid contact of spilled material with soil, waterways, drains and sewers. If contact has occurred, inform the relevant authorities.
LARGE OR SMALL SPILL:	Prevent spill from contact with or entry into soil, waterways, drains, and sewers. Move containers from spill area. Vacuum or sweep up spilled material into closed containers and label as waste. Dispose of in accordance with local ordinances. See Section 13.

Section 7: HANDLING AND STORAGE

HANDLING:	Wear appropriate clothing. Use only with adequate ventilation. The use of approved respirators is required for applications where adequate ventilation cannot be provided. Eating, drinking, and smoking must be prohibited in areas where the product is stored, handled, or used. Workers should wash their hands and face before eating, drinking, or smoking. Avoid exposure during pregnancy. Do not allow to come into conatat with skin, eyes, and clothing. Do not swallow.
STORAGE:	Refrigerate upon receipt. Keep refrigerated until ready for use. Then allow to come up to ambient temperature before opening. Do not add used paste back into jar with unused paste.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TIN:	OSHA PEL (United States, 9/2005). TWA: 2 mg/m³ 8 hours. ACGIH TLV (United States, 1/2005). TWA: 2 mg/m³ 8 hours. NIOSH REL (United States, 6/2008). TWA: 2 mg/m³ 10 hours. (Note: The REL and PEL also apply to other inorganic tin compounds (as Sn) except for tin oxides.)
LEAD:	OSHA PEL (United States, 5/2005). TWA: 0.05 mg/m³ (as Pb) 8 hours. ACGIH TLV (United States, 1/2008). TWA: 0.05 mg/m³ 8 hours. NIOSH REL (United States, 6/2008). TWA: 0.05 mg/m³ 10 hours. (Note: The REL and PEL also apply to other inorganic lead compounds (as Pb).)
Monitoring of Hazardous Substances:	Monitoring the workplace air space may be necessary to assure proper ventilation and the possible need for protective respiratory equipment. Emissions into the environment should be checked to make sure all emission levels comply with all local, state, and felderal regulations.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION Continued)

Engineering Controls:	Local exhust ventilation is required for melting, grinding, screening, soldering,or other operations where excessive exposures may occur. Airborne contaminants must be kept below the recommmended or lawfully designated exposure limits.
Personal Hygiene Controls:	Thoroughly wash hands, arms, and face after handling and prior to eating, drinking, smoking, as well as when using the lavatory or at work shift end. Wash contaminated clothing thoroughly before re-use. Eyewash stations and safety showers must be close to the workstation. Eating, drinking, and smoking must be prohibited in areas where the product is stored, handled, or used. Do not wear contaminated clothing home. Do not use compressed air to blow dust off clothing.
PERSONAL PROTECTION	
Respiratory:	The use of approved respirators is required for applications where adequate ventilation cannot be provided. NIOSH/MSHA approved respirators can be used for exposure to toxic dust and/or fumes.
Hands:	Wear heat resistant and chemical resistant gloves when handling if possible.
Eyes:	Avoid contact with eyes. Safety glasses should be worn at all times.
Skin:	Avoid contact with skin and clothing. Wear protective clothing to avoid skin contact.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Paste	***Flash Point:***	>116°C (240°F)	***Auto Ignition Temperature:***	>227°C (440°F)
Flammable Limits:	NA	***Color:***	Silver gray.	***Odor:***	Mild.
pH	NA	***Melting Point:***	361°F (182°C)	***Solubility:***	Partially Soluble in water
Vapor Density:	Not Determined	***Vapor Pressure:***	Not Determined	***Specific Gravity:***	1.031 - 1.033 (water = 1)
VOC:	Not Determined	***Evaporation Rate:***	NA		

Section 10: STABILITY AND REACTIVITY

Stability:	Stable	***Incompat-ibility (Materials to Avoid)***	Halogen gases, oxidizers, or acid, hydrogen peroxide may react violently or explode.	***Hazardous Decompo-sition:***	At temperatures above the melting point, metal oxide fumes may occur.
Conditions to Avoid:	N/A	***Hazardous Polymerization:***	Will not occur.		

Section 11: TOXICOLOGICAL INFORMATION

Acute Toxicity:	***Result***	***Species***	***Dose***	***Exposure***
Lead	LDLo Intraperitoneal	Rat	1 g/kg	-
	TDLo Oral	Rat	0.2 mg/kg	-

Carcinogenicity Classification:	***ACGIH***	***IARC***	***EPA***	***NIOSH***	***NTP***	***OSHA***
Lead	A3	2B	-	-	Possible	-

Mutagenicity:	***Test***	***Experiment***	***Result***
Lead	-	Mammalian-Animal	Equivocal

Teratogenicity:	***Result***	***Species***	***Dose***	***Exposure***
Lead	Equivocal-Inhalation.	10 mg/m³	10 mg/m³	24 hours per day
	Equivocal-Oral	2118 mg/kg	2118 mg/kg	-

Reproductive Toxicity:	***Maternal Toxicity***	***Fertility***	***Develop-ment Toxin***	***Species***	***Dose***	***Exposure***
Lead	-	Equivocal	-	Mouse	Oral: 4099.2 mg/kg	-
	Equivocal	-	-	Mouse- female	Oral: 300 mg/kg	-
	-	-	Equivocal	Rat- female	-	24 hours/day
	-	-	Equivocal	Rat- female	Oral: 520 mg/kg	-

(Note: Metallic Resources has not conducted any specific studies regarding the toxicity of lead.)

Section 12: ECOLOGICAL INFORMATION

Aquatic Exotoxicity:	*Species*	*Period*	*Result*
Lead	Oncorhynchus mykiss (LC50)	96 hour/hours	1.17 mg/l
	Oncorhynchus mykiss (LC50)	96 hour/hours	471 mg/l
	Oncorhynchus mykiss (LC50)	96 hour/hours	542 mg/l

Octano/water partition coefficient: Lead is insoluble in water and Octanol.

Bioconcentration factor: Not Available.

Products of Degradation: Some metallic oxides.

Toxicity of the Products of Degradation: The substance and its products of degradation are not toxic.

Section 13: DISPOSAL CONSIDERATIONS

Waste Disposal: The disposer must comply with all federal, state, and local disposal or discharge laws. It is the resonsibility of the waste generator to determine the toxicity of the material generated as waste so as to properly identify the waste as either hazardous or non-hazardous. Avoid dispersal of spilled material and prevent contact with soil, waterways, drains, and sewers. Dispose of waste and non-recyclable products with a licensed waste disposal firm.

Section 14: TRANSPORT INFORMATION

DOT Classification:	*UN #*	*Proper Shipping Name*	*Classes*	*Packing Group Label*	*Additional Information*
Not Regulated	-	-	-	-	-

Section 15: REGULATORY INFORMATION

UNITED STATES

HCS Classification: Toxic Material, Irritating material, carcinogen, target organ effects.

U.S. Federal Regulations: All ingredients comply with applicable rules or orders under US TSCA.
All components are listed or exempted.
TSCA 6 proposed risk management: LEAD.
TSCA 8(b) inventory: LEAD
TSCA 12(b) annual export notification: LEAD

Section 15: REGULATORY INFORMATION (Continued)

SARA 313	*Substance Name*
Form R - Reporting Requirements:	Lead
Supplier Notification:	Lead
California Prop. 65:	WARNING! This product contains a substance known to the State of California to cause cancer and birth defects or other reproductive harm.
WHMIS (Canada):	Class D-2A: Material causing other toxic effects (very toxic). CEPA DSL: Tin, Lead.
Reach Directive 1907/2006:	Contains Lead, a Substance of Very High Concern (SVHC).

Section 16: OTHER INFORMATION

ABBREVIATION TERMS:

ACGIH	American Conference of Government Industrial Hygienists
CAS	Chemical Abstracts Service
CEPA	Canadian Environmental Protectoin Act
IARC	International Agency for Research on Cancer
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Act
PEL	Permissible Exposure Limit
REL	Recommended Exposure Limit
SARA	Superfund Amendments and Reauthorization Act
TSCA	Toxic Substances Control Act

DISCLAIMER:

Notice: The information contained herein in this Material Safety Data Sheet is believed to be accurate. However, it provides no warranties, either express or implied, and assumes no responsibility for the accuracy or completeness of the data contained herein. The customer/user of this product assumes all liability and risk in the use of this product.