

SMT International, LLC

MATERIAL SAFETY DATA SHEET (MSDS)

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Amtech Core Wire, Series: 4300, No-Clean, Rosin Activated (RA), Rosin Mildly Activated (RMA), Water-Soluble (WS)
SYNONYMS: Core Wire, Solder Wire

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CHEMICAL NAME: N/A
CHEMICAL FAMILY: Inorganic Metals
CHEMICAL FORMULA: N/A

REVISION DATE: December 17, 2010
DOCUMENT NAME: MSDS-Core Wire-011

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Ingredients ⁽¹⁾	C.A.S. Number	Weight Percent	OSHA PEL mg/m ³	ACGIH TLV TWA mg/m ³	LD 50 Ingested g/Kg	LD 50 Inhaled g/m ³
Modified Rosins ⁽²⁾	NA	<45	NE	NE	NE	NE
Terpineol	8000-41-7	<15	NE	NE	NE	NE
Mixed Carboxylic Acids ⁽²⁾	NA	<4	NE	NE	NE	NE
Lead	7439-92-1	Product contains one or more of these metallic elements in varying percentages	0.05	0.15	NE	NE
Tin	7440-31-5		2.00	2.00	NE	NE
Silver	7440-22-4		0.01	0.10	NE	NE
Bismuth	7440-69-9		NE	NE	NE	NE
Antimony	7440-36-0		0.50	0.50	7.0 Rat	NE
Indium	7440-74-6		NE	0.10	NE	NE
Copper	7440-50-8		1.00	1.00	NE	NE

Non-Hazardous Ingredients

Surfactants	NA	<4	OSHA: Occupational Safety and Health Administration PEL: Permissible Exposure Limit ACGIH: American Conference of Gov. Indus. Hygienists TLV: Threshold Limit Values STEL: Short-Term Exposure Limit TWA: Time Weighted Average C.A.S.: Chemical Abstract Service
Rheological Modifier	NA	<5	

SECTION 2 NOTES:

(1) Per 29 CFR 1910 the mixture has not been tested as a whole. All hazardous components, which comprise 1% of the mixture (0.1% carcinogenic), are listed. Percentages of individual components are not listed as this information is considered a trade secret.

(2) The identity of the specific chemical(s) is being withheld as a trade secret per 29 CFR 1910.1200. The hazardous properties of these ingredients are disclosed in this MSDS.

SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Moderate eye irritant, will not burn. Toxic by inhalation. Gastrointestinal and respiratory tract irritant. May cause skin irritation.

ROUTES OF ENTRY: Inhalation, Ingestion, Skin/Eye Contact

SECTION 3: HAZARDS IDENTIFICATION (continued)

Target Organs: Blood; Kidneys; Skin; Respiratory System; Nasal; Septum; Liver; Eyes

Carcinogenicity: None known. Lead is listed as a possible carcinogen.

MEDICAL CONDITIONS POSSIBLY AGGRAVATED BY EXPOSURE:

Diseases of the blood-forming organs, kidneys, nervous and possibly reproductive systems.

POTENTIAL HEALTH EFFECTS

Eye Contact: May cause moderate irritation, tearing, and reddening. Contact with fumes from molten metal may cause irritation.

Inhalation: Inhalation of fumes or dust may cause local irritation to the respiratory system, dizziness, weakness, fatigue, nausea, and/or headache.

Skin Contact: May cause mild skin irritation.

Ingestion: Harmful if swallowed. May cause irritation to the mouth, throat, and stomach. May cause abdominal discomfort, nausea, vomiting, and/or diarrhea.

POTENTIAL HEALTH EFFECTS (CHRONIC)

Tin: Dust or fumes may cause irritation of the skin mucous membranes and may result in a benign Pneumoconiosis (Stannosis).

Silver: May cause discoloration of eyes and skin (Argyria).

Bismuth: May cause foul breath, a blue-black line on the gums, and Stomatitis.

Antimony: May cause gastrointestinal upset, sleeplessness, irritability, and muscular pain.

Indium: May cause weight loss, pulmonary edema, blood damage and degenerative changes in liver and kidneys.

CHRONIC/ ACUTE HEALTH HAZARDS: Lead: Women of child-bearing age should avoid exposure to lead and its inorganic compounds due to post-natal effects. Lead can cause potential injury to a developing fetus and possible effects on reproduction. Exposure to high levels of airborne or ingested lead may produce symptoms of anemia, weakness, constipation, nausea, and abdominal pain. Prolonged exposure may result in kidney and/or nervous system involvement.

POTENTIAL HEALTH EFFECTS (Overexposure):

Tin: Dust or fumes may cause irritation of the skin mucous membranes and may result in a benign Pneumoconiosis (Stannosis).

Silver: May cause discoloration of eyes and skin (Argyria).

Bismuth: May cause foul breath, a blue-black line on the gums, and Stomatitis.

Antimony: May cause gastrointestinal upset, sleeplessness, irritability, and muscular pain.

Indium: May cause weight loss, pulmonary edema, blood damage and degenerative changes in liver and kidneys.

CARCINOGENICITY:

OSHA: N/A

ACGIH: N/A

NTP: N/A

IARC: Lead (Pb)-Group 2B

SECTION 3 NOTES:

SMT International, LLC does not recommend, manufacture, market, or endorse any of its products for human consumption.

Chronic Toxicity-Proposition 65, State of California: Warning! This product contains lead, known to the state of California to cause birth defects or other reproductive harm.

SECTION 4: FIRST AID MEASURES

EYES: Flush with water, contact a physician. Dust and/or fumes may cause irritation. If contact lenses can be removed easily, flush eyes without contact lenses.

SKIN: For hot metal burns, exposed area should be cooled with water and medical attention sought. After handling material wash hands thoroughly with soap and water. Dust, vapor, and/or fumes are not readily absorbed through the skin.

INGESTION: Seek medical attention immediately. Do not induce vomiting.

INHALATION: Remove to fresh air. If breathing is difficult, seek immediate medical attention.

OTHER: Lead: Excessive overexposure may result in an acute or chronic illness. If symptoms are present, the individual should be immediately removed from exposure and a physician consulted.

SECTION 5: FIRE-FIGHTING MEASURES

FLAMMABLE LIMITS IN AIR:

N/A

FLASH POINT:

N/A (°F/°C)

AUTOIGNITION TEMPERATURE:

N/A (°F/°C)

EXTINGUISHING MEDIA:

Use extinguishers appropriate for conditions

SPECIAL FIRE FIGHTING PROCEDURES: Use NIOSH-approved self-contained Breathing Apparatus and full protective clothing if involved in a fire. Do not use water on fire where molten metal is present.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Moderate in the form of dust when exposed to heat or flame. When heated to high temperatures, lead emits highly toxic fumes.

HAZARDOUS DECOMPOSITION PRODUCTS: Lead oxide fumes and/or Lead particulate may be evolved.

SECTION 5: FIRE-FIGHTING MEASURES (continued)

SECTION 5 NOTES:

Molten solder alloys consisting of Antimony, Bismuth, Copper, Indium, Lead, Silver, and/or Tin do not produce significant quantities of fumes below 900° F.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PRECAUTIONS AND EQUIPMENT: Exposure to the spilled material may be irritating. Follow on-site personal protective equipment recommendations.

ACCIDENTAL RELEASE MEASURES: Follow directions listed under HANDLING/STORAGE.

SECTION 6 NOTES:

See Sections 3, 4, and 7 for additional information.

SECTION 7: HANDLING AND STORAGE

HANDLING: Avoid inhalation of solder fumes or dust. Vacuuming is recommended. Do not use dry sweeping or compressed air cleaning systems. Wear protective gloves to pick up solid metal pieces. Dispose of following Federal, State/Provincial, and Local regulations. Metal may have reclaim value.

Storage: Store in a cool, dry place. Keep away from food and drinking water. Keep away from heat and flames.

OTHER PRECAUTIONS: Empty containers may retain product residues in vapor, liquid, and/or solid form. All labeled hazard precautions should be observed.

SECTION 7 NOTES:

For industrial use only.

Keep out of reach of children.

Not for internal consumption.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION: Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLVs.

RESPIRATORY PROTECTION: A NIOSH-approved dust/fume respirator should be worn when applicable limits may be exceeded. General and local exhaust ventilation is the preferred means of protection.

EYE PROTECTION: Safety glasses and/or face protection is recommended for exposures where there is a risk of dust or hot metal splashing.

SKIN PROTECTION: Protective gloves should be worn to reduce burn exposure.

PROTECTIVE CLOTHING OR EQUIPMENT: Work clothes should be worn and laundered in accordance with current OSHA Lead (Pb) standards.

WORK HYGIENIC PRACTICES: Cosmetics/Food/Drink/Tobacco should not be consumed or used in areas where solder products may be used. Always wash hands after handling soldering products and before applying or using cosmetics/food/drink/tobacco.

OTHER: Maintain eye wash stations in work areas. Avoid the use of contact lenses in high fume or particulate areas. Clean protective equipment regularly. Clean up spills immediately.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Solid silver-gray metal, wire form
ODOR:	Odorless
PHYSICAL STATE:	Solid
pH as SUPPLIED:	N/A
BOILING POINT:	Varies
MELTING POINT:	Varies
FREEZING POINT:	Varies
VAPOR PRESSURE (mmHg):	N/A (°F/°C)
VAPOR DENSITY (AIR = 1):	N/A (°F/°C)
SPECIFIC GRAVITY (H₂O = 1):	Varies according to alloy composition
EVAPORATION RATE:	N/A
SOLUBILITY IN WATER:	Insoluble
PERCENT SOLIDS BY WEIGHT:	Varies according to alloy composition
PERCENT VOLATILE:	N/A (°F/°C)
VOLATILE ORGANIC COMPOUNDS (VOC):	N/A (°F/°C)
MOLECULAR WEIGHT:	N/A
VISCOSITY:	N/A (°F/°C)

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (continued)

SECTION 9 NOTES:

Other physical and chemical properties depend on alloy composition.

Some typical alloy compositions are:

63% Tin/37% Lead	62%Tin/36%Lead/2%Silver
96.5% Tin/3% Silver/0.5% Copper	10%Tin/90%Lead
95% Tin/5% Antimony	95.5%Tin/4.0%Silver/0.5%Copper
42%Tin/58% Bismuth	

SECTION 10: STABILITY AND REACTIVITY

STABILITY:

Stable

CONDITIONS TO AVOID (STABILITY):

Not established

INCOMPATIBILITY (MATERIAL TO AVOID):

Oxidizing materials, acids, hydrogen peroxide, bases

HAZARDOUS DECOMPOSITION/BY-PRODUCTS:

Lead oxide fumes and/or Lead particulate may be evolved.

HAZARDOUS POLYMERIZATION:

Will not occur

CONDITIONS TO AVOID (POLYMERIZATION):

N/A

SECTION 11: TOXICOLOGICAL INFORMATION

Carcinogenicity: None known. Lead is listed as a possible carcinogen.

Irritancy of Product: Not established

Sensitization to Product: Not established

SECTION 11 NOTES:

This product is a solid that has not been tested as a whole to determine its hazards. Synergistic or additive effects of the above chemicals are unknown, as are the effects of exposure to these chemicals in addition to others present in the work place. See Section 3 for additional health hazards.

SECTION 12: ECOLOGICAL INFORMATION

Environmental: Lead: If this is released or deposited on soil it generally will remain in the top 2-5cm of soil.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Scrap and waste solder should be recycled or stored in a dry, sealed container for later disposal. Disposal must be in accordance with standards, regulations, laws, and statutes set forth by Federal, State/Provincial, and Local Regulations.

SECTION 14: TRANSPORT INFORMATION

Transport in accordance with applicable regulations and requirements.

US DOT Hazardous Material Classification:

Core Wire is not listed as a DOT hazardous material

Water Transportation:

Core Wire is not listed as a hazardous material

IATA Hazardous Material Classification:

Core Wire is not listed as IATA hazardous material

SECTION 15: REGULATORY INFORMATION

The information contained in this MSDS meets the requirements of OSHA regulation 29 CFR 1910.1200.

This product is not listed on the EPA TSCA inventory list. All components of this product are on the EPA TSCA inventory list.

SECTION 16: OTHER INFORMATION

This MSDS is a compilation of information supplied by the manufacturers of the chemicals contained in this product.

HMIS Rating: Health=1

Flammability=1

Physical Hazard=0

Personal Protection=X

PREPARATION INFORMATION:

This update supersedes all previously released documents.

DISCLAIMER:

The information contained herein is based on data considered to be accurate but does not purport to be all-inclusive and shall be used only as a guide. No warranty is expressed or implied regarding the accuracy of this data and SMT International, LLC shall not be held liable for any damage resulting from any handling or contact with the above product. Liability is expressly disclaimed for loss or injury arising out of use of this information or the use of any materials designated.

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