

SAFETY DATA SHEET

Version: 2.0
Date of Issue: 24-Apr-2017
Date of First Issue: 07-Aug-2012


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ACCORDING TO OSHA HCS (29 CFR 1910.1200)

SECTION 1: IDENTIFICATION

Product identifier used on the label	M-Line 450-20R Solder
Other means of identification	
Chemical Name	Mixture
CAS No.	Mixture
EINECS No.	Mixture
Recommended use of the chemical and restrictions on use	
Recommended use	PC38 Welding and soldering products (with flux coatings or flux cores.), flux products
Restrictions on use	None known.
Details of the supplier of the safety data sheet	
Supplier	VISHAY MEASUREMENTS GROUP, INC.
Address of Supplier	Post Office Box 27777 Raleigh, NC 27611 USA
Telephone	+1 919-365-3800
Fax	+1 919-365-3945
E-Mail (competent person)	mm.us@vishaypg.com
Emergency telephone number	1-800-424-9300 CHEMTREC (24 hours)

SECTION 2: HAZARD(S) IDENTIFICATION

Classification of the substance or mixture in accordance with paragraph (d) of 29 CFR 1910.1200	
Physical hazards	Not classified
Health hazards	Skin Sensitisation, Category 1
Environmental hazards	Not classified
Hazard Symbol	
Signal Word(s)	Warning
Hazard Statement(s)	May cause an allergic skin reaction.
Precautionary Statement(s)	Avoid breathing fumes. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse. Dispose of contents in accordance with local, state or national legislation.
Other hazards	None known.
Percent of the mixture consists of ingredient(s) of unknown acute toxicity:	0%

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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substances Not applicable

Mixtures Substances in preparations / mixtures

Chemical identity of the substance	%W/W	CAS No.	EC No.	Hazard classification
Tin	92 - 98	7440-31-5	231-141-8	Not classified
Antimony	< 10	7440-36-0	231-146-5	Not classified
Rosin	1-3	8050-09-7	232-475-7	Skin Sensitisation, Category 1

SECTION 4: FIRST AID MEASURES



Description of first aid measures

Self-protection of the first aider

Inhalation

Skin Contact

Eye Contact

Ingestion

Most important symptoms and effects, both acute and delayed

Indication of any immediate medical attention and special treatment needed

Wear suitable protective clothing, gloves and eye/face protection.

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical advice/attention if you feel unwell.

IF ON SKIN: Remove contaminated clothing and wash all affected areas with plenty of water. Contaminated clothing should be thoroughly cleaned. If skin irritation or rash occurs: Get medical advice/attention.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if eye irritation develops or persists.

If swallowed, rinse mouth with water (only if the person is conscious). Do not induce vomiting. Get medical advice/attention if you feel unwell.

May cause an allergic skin reaction. Flux fumes during soldering may cause irritation and damage of mucous membranes and respiratory system. Smoke produced during soldering will contain rosin which is an allergen and can cause pulmonary irritation and damage.

Treat symptomatically. In case of burns immediately cool affected skin as long as possible with cold water.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media

Suitable Extinguishing Media

Unsuitable extinguishing Media

Special hazards arising from the substance or mixture

Special protective equipment and precautions for fire fighters

As appropriate for surrounding fire.

Do not use water on fires when molten metal is present.

When heated to soldering temperatures, the solvent in the flux will boil away and carry up droplets of rosin and thermal degradation products such as aliphatic aldehydes, acids and terpenes. Flux in cored solder may ignite when the solder melts in a fire. Oxides of carbon.

Fire fighters should wear complete protective clothing including self-contained breathing apparatus. Do not breathe fumes. Keep containers cool by spraying with water if exposed to fire. Avoid run off to waterways and sewers.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Methods and material for containment and cleaning

Ensure adequate ventilation. Use personal protective equipment as required. See Section: 8. Melted solder will solidify on cooling and can be scraped up. Avoid breathing smoke fumes during soldering. Use caution to avoid breathing fumes if a gas torch is used to cut up large pieces.

Allow product to cool/solidify and pick up as a solid. Transfer to a container for

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disposal. Recover or recycle if possible.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin, eyes or clothing. Avoid breathing smoke fumes during soldering. Use caution to avoid breathing fumes if a gas torch is used to cut up large pieces. When molten: Keep from any possible contact with water. Ensure adequate ventilation. Use personal protective equipment as required. See Section: 8. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work.

Conditions for safe storage, including any incompatibilities

Store in a well-ventilated place.

Storage temperature
Incompatible materials

Ambient.

Store away from sources of sulfur. Keep away from: Strong Acids, Alkalis, Chlorine and Strong oxidising agents.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

SUBSTANCE	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m ³)	STEL (ppm)	STEL (mg/m ³)	Note
Tin and inorganic compounds (as Sn) except tin oxides	7440-31-5	-	2	-	-	NIOSH, OSHA, ACGIH
Antimony	7440-36-0	-	0.5	-	-	NIOSH, OSHA, ACGIH

Note: OSHA PELs 1910.1000 TABLE Z-1 / NIOSH RELs / ACGIH TLVs

The other components listed in Section 3 do not have occupational exposure limits.

Biological Exposure Indices

Not established

Appropriate engineering controls

Ensure adequate ventilation or use appropriate containment. Atmospheric levels should be controlled in compliance with the occupational exposure limit.

Individual protection measures, such as personal protective equipment (PPE)

General hygiene measures for the handling of chemicals are applicable. Avoid all contact. Avoid breathing smoke fumes during soldering. Use caution to avoid breathing fumes if a gas torch is used to cut up large pieces. Wash hands before breaks and after work. Keep work clothes separately. Contaminated clothing should be thoroughly cleaned. Do not eat, drink or smoke at the work place.

Eye/face protection



When molten: Goggles or full face shield.

Skin protection



Hand protection: (When molten) Wear impervious gloves (EN374). The gloves type used must be chosen based on the work activity and duration as well as concentration/quantity of material being handled. Breakthrough time of the glove material: refer to the information provided by the gloves' producer.

Body protection: (When molten) Wear impervious protective clothing, including boots, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Respiratory protection

In case of inadequate ventilation wear respiratory protection. Open system(s): Wear suitable respiratory protective equipment.

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Silver - Grey metal in wire form
Odor	Not available.
Odor Threshold	Not available.
pH	Not available.
Melting Point/Freezing Point	Not available.
Initial boiling point and boiling range	Not available.
Flash Point	Not applicable.
Evaporation rate (Butyl acetate = 1)	Not applicable.
Flammability (solid, gas)	Non-flammable.
Upper/lower flammability or explosive limits	Not applicable.
Vapour pressure	Not available.
Vapour density	Not available.
Relative density	>1 (H ₂ O = 1)
Solubility(ies)	Insoluble in water.
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature	Not available.
Decomposition Temperature	Not available.
Viscosity	Not available.

SECTION 10: STABILITY AND REACTIVITY

Reactivity	Stable under normal conditions.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	Flux in cored solder may ignite when the solder melts in a fire. Reacts vigorously with chlorine and oxidising agents.
Conditions to avoid	When molten: Keep from any possible contact with water.
Incompatible materials	Keep away from: Strong Acids, Alkalis, Chlorine and Strong oxidising agents. Store away from sources of sulfur.
Hazardous decomposition product(s)	When heated to soldering temperatures, the solvent in the flux will boil away and carry up droplets of rosin and thermal degradation products such as aliphatic aldehydes, acids and terpenes.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on toxicological effects (Substances in preparations / mixtures)

Acute toxicity - Ingestion	Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC ₅₀ > 2000 mg/kg bw/day.
Acute toxicity - Inhalation	Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC ₅₀ > 20.0 mg/l.
Acute toxicity - Skin Contact	Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC ₅₀ > 2000 mg/kg bw/day.
Skin corrosion/irritation	Based upon the available data, the classification criteria are not met.
Serious eye damage/irritation	Based upon the available data, the classification criteria are not met.
Respiratory or skin sensitization	Skin Sensitisation, Category 1: May cause an allergic skin reaction.
Germ cell mutagenicity	Based upon the available data, the classification criteria are not met.
Carcinogenicity	Based upon the available data, the classification criteria are not met.
Reproductive toxicity	Based upon the available data, the classification criteria are not met.
STOT - single exposure	Based upon the available data, the classification criteria are not met.

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STOT - repeated exposure	Based upon the available data, the classification criteria are not met.
Aspiration hazard	Based upon the available data, the classification criteria are not met.
Information on likely routes of exposure	
Inhalation	Possible – accidental exposure
Ingestion	Unlikely – accidental exposure
Skin Contact	Possible – accidental exposure
Eye Contact	Unlikely – accidental exposure
Early onset symptoms related to exposure	Heated product may cause burns. May cause an allergic skin reaction. Flux fumes during soldering may cause irritation and damage of mucous membranes and respiratory system. Smoke produced during soldering will contain rosin which is an allergen and can cause pulmonary irritation and damage.
Delayed health effects from exposure	None known
Other information	
NTP Report on Carcinogens	Not Listed
IARC Monographs	Not Listed
OSHA Designated Carcinogen	Not Listed

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity	Based upon the available data, the classification criteria are not met. Estimated Mixture LC50 >100 mg/l (Fish)
Persistence and degradability	The organic part of the product is biodegradable.
Bioaccumulative potential	The product has low potential for bioaccumulation (metal in wire form).
Mobility in soil	The product is predicted to have low mobility in soil (metal in wire form).
Other adverse effects	None known.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods	Solder can be reclaimed. Dispose of contents in accordance with local, state or national legislation.
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SECTION 14: TRANSPORT INFORMATION

Not classified according to the United Nations 'Recommendations on the Transport of Dangerous Goods'

	ADR/RID / IMDG / IATA
UN number	Not classified as dangerous for transport.
UN proper shipping name	Not classified
Transport hazard class(es)	Not classified
Packing group	Not classified
Environmental hazards	Not classified as a Marine Pollutant.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.
Special precautions for user	See Section: 2

SECTION 15: REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture	
US Federal Regulations	
TSCA (Toxic Substance Control Act)	Tin: Subject to 25,000 lb reporting threshold Antimony: Subject to 25,000 lb reporting threshold Rosin: Subject to 25,000 lb reporting threshold
EPCRA/SARA Section 302 Extremely Hazardous Substances	Not Listed
EPCRA Section 313 Toxics Release Inventory (TRI)	Antimony: De Minimis limit: 1%

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Program	
NIOSH Occupational Carcinogen List	Not Listed
OSHA List of highly hazardous chemicals, toxics and reactives	Not Listed
NTP Report on Carcinogens (RoC) List	Not Listed
Poison Prevention Packaging Act	Not Listed
US State Regulations	
California State, Proposition 65 List	Not Listed
California State, Safer Consumer Products Regulations	Tin: Initial Candidate Chemicals List Antimony: Candidate Chemicals List, Group Member List: Antimony and Antimony Compounds
Maine State, Toxic Chemicals in Children's Products Act	Not Listed
New Jersey State Worker and Community RTK Act	Tin: RTKHSL. SHHSL Antimony: RTKHSL
Pennsylvania State, Worker and Community RTK Act	Tin: Hazardous Substance List Antimony: Hazardous Substance List. Environmental Hazard List
Rhode Island State, Hazardous Substances RTK Act	Tin: Hazardous Substance List Antimony: Hazardous Substance List
Non-Regional	
IARC Monographs, List of Classifications	Not Listed

SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: New SDS Regulation compliant with HazCom 2012 format, all sections have been updated to include new information. Please review SDS with care.

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References:

Existing Safety Data Sheet (SDS).
EU Data: Existing ECHA registration(s) for Tin (CAS# 7440-31-5), and Antimony (CAS# 7440-36-0). Existing ECHA registration(s) for and Harmonised Classification(s) for Rosin (CAS# 8050-09-7)

GHS Classification of the substance or mixture	Classification Procedure
Skin Sensitisation, Category 1	Threshold Calculation

LEGEND

ACGIH: American Conference of Governmental Industrial Hygienists
BEI: Biological Exposure Indices (ACGIH)
IARC: International Agency for Research on Cancer
Irr: Irritation
NIOSH: National Institute of Occupational Safety and Health
NTP: National Toxicology Program
OSHA: The Occupational Safety & Health Administration
PBT: Persistent, Bioaccumulative and Toxic
PEL: Permissible exposure limit

REL: Recommended exposure limit
SCL: Specific Concentration Limit
Skin^o: Risk of overexposure via dermal contact
STEL: Short Term Exposure Limit
TLV: Threshold Limit value
TSCA: Toxic Substance Control Act
TWA: Time Weighted Average
URT: Upper respiratory tract
vPvB: very Persistent and very Bioaccumulative

Training advice: Consideration should be given to the work procedures involved and the potential extent of exposure as they may determine whether a higher level of protection is required.

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