SAFETY DATA SHEET

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SAFETY DATA SHEET ACCORDING TO EC-REGULATIONS 1907/2006 (REACH), 1272/2008 (CLP) & 2015/830

1. SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product Name	M-Line 450-20R Solder
CAS No.	Mixture
EINECS No.	Mixture
REACH Registration No.	None assigned.

1.2 Recommended use of the chemical and restrictions on use

Identified Use(s)	PC38 Welding and soldering products (with flux coatings or flux cores.), flux products
Uses Advised Against	None known.

1.3 Supplier's details

Company Identification	VISHAY MEASUREMENTS GROUP UK LTD Stroudley Road Basingstoke Hampshire RG24 8FW United Kingdom
Telephone	+44 (0) 1256 462131
Fax	+44 (0) 1256 471441
E-Mail (competent person)	mm.uk@vishaypg.com

1.4 Emergency Phone No. (00-1) 703-527-3887 – CHEMTREC
Languages spoken 24 hours, English spoken

2. SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

2.1.1 Regulation (EC) No. 1272/2008 (CLP) Skin Sens. 1; H317

2.2 Label elements According to Regulation (EC) No. 1272/2008 (CLP)
Product Name M-Line 450-20R Solder

Hazard Pictogram(s)

Signal Word(s) WARNING

Contains: Rosin

Hazard Statement(s) H317: May cause an allergic skin reaction.

Precautionary Statement(s)
P261: Avoid breathing fume.
P272: Contaminated work clothing should not be allowed out of the workplace.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352: IF ON SKIN: Wash with plenty of water.
P333+P313: If skin irritation or rash occurs: Get medical advice/attention.
P363: Wash contaminated clothing before reuse.

Additional Information None.

2.3 Other hazards None.

3. SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances Not applicable.

3.2 Mixtures Substances in preparations / mixtures

EC Classification Regulation (EC) No. 1272/2008 (CLP)

Chemical identity of the substance	%W/W	CAS No.	EC No.	REACH Registration No.	Hazard Statement(s)
Antimony*	< 10	7440-36-0	231-146-5	Not yet assigned in the supply chain	Not classified
Rosin	1-3	8050-09-7	232-475-7	Not yet assigned in the supply chain	Skin Sens. 1; H317

For full text of H/P Statements see section 16. *Substance with a Community workplace exposure limit.

4. SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

Self-protection of the first aider: Use personal protective equipment as required. Wear appropriate personal protective equipment, avoid direct contact. Avoid contact with skin, eyes or clothing. Contaminated clothing should be laundered before reuse.

Inhalation: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical advice/attention if you feel unwell. Call a POISON CENTER/doctor if you feel unwell.

Skin Contact: 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.

Eye Contact: 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.

Ingestion: IF SWALLOWED: Rinse mouth. Make victim drink plenty of water. Do not give anything by mouth to an unconscious person. Do not induce vomiting. Get medical advice/attention if you feel unwell.

4.2 Most important symptoms and effects, both acute and delayed 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.

4.3 Indication of any immediate medical attention and special treatment needed Treat symptomatically. In case of burns immediately cool affected skin as long as possible with cold water.

5. SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable Extinguishing media: As appropriate for surrounding fire. Foam, CO_2 or dry powder.

Unsuitable extinguishing media: Do not use water on fires when molten metal is present. Direct water jet may spread the fire.

5.2 Special hazards arising from the substance or mixture 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.

5.3 Advice for fire-fighters 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.

6. SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
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.

6.2 Environmental precautions
Avoid release to the environment. Do not allow to enter drains, sewers or watercourses.

6.3 Methods and material for containment and cleaning up
Allow product to cool/solidify and pick up as a solid. Transfer to a container for disposal. Recover or recycle if possible.

6.4 Reference to other sections
See Section: 8, 13

7. SECTION 7: HANDLING AND STORAGE

7.1 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.

7.2 Conditions for safe storage, including any incompatibilities
Store in a well-ventilated place.

Storage temperature: Ambient.

Storage life: Stable under normal conditions.

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

7.3 Specific end use(s)
See Section: 1.2

8. SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

8.1.1 Occupational Exposure Limits

SUBSTANCE	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m³)	STEL (ppm)	STEL (mg/m³)	Note
Rosin-based solder flux fume	8050-09-7	-	0.05	-	0.15	WEL
Antimony	7440-36-0	-	0.5	-	-	WEL

Note: WEL: Workplace Exposure Limit (UK HSE EH40)

8.1.2 Biological limit value
Not established.

8.1.3 PNECs and DNELs
Not established.

8.2 Exposure controls

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

8.2.2 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: 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: 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.

Thermal hazards — Not applicable.

8.2.3 Environmental Exposure Controls — Avoid release to the environment.

9. SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Silver - Grey metal in wire form
Odour	Not available.
Odour 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	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_2O = 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.
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.

9.2 Other information — None.

10. SECTION 10: STABILITY AND REACTIVITY

10.1 Stability and reactivity — Stable under normal conditions.

10.2 Chemical stability — Stable under normal conditions.

10.3 Possibility of hazardous reactions — Flux in cored solder may ignite when the solder melts in a fire. Reacts vigorously with chlorine and oxidising agents.

10.4 Conditions to avoid — When molten: Keep from any possible contact with water.

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

10.6 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.

11. SECTION 11: TOXICOLOGICAL INFORMATION

11.1 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 LC50 > 2000 mg/kg bw/day.
Inhalation	Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 5.0 mg/l.
Skin Contact	Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 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 Sens. 1: May cause an allergic skin reaction.
Rosin	Skin Sens. 1; H317 Harmonised Classification Skin sensitization: Negative
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.
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.

11.2 Other information None.

12. SECTION 12: ECOLOGICAL INFORMATION

12.1	**Toxicity**	Based upon the available data, the classification criteria are not met. Estimated Mixture LC50 >100 mg/l (Fish)
12.2	**Persistence and degradability**	The organic part of the product is biodegradable.
	Antimony	Not applicable for inorganic substances
	Rosin	Readily biodegradable (according to OECD criteria).
12.3	**Bioaccumulative potential**	The product has low potential for bioaccumulation (Metal in wire form).
	Antimony	BCF: ~40 (ECHA registration dossier)
	Rosin	Low bioaccumulation potential.
12.4	**Mobility in soil**	The product is predicted to have low mobility in soil (Metal in wire form).
	Antimony	The substance is predicted to have moderate mobility in soil. Log Kp: 2.07
	Rosin	QSAR: log Koc: 0.87 – 5.37
12.5	**Results of PBT and vPvB assessment**	Not classified as PBT or vPvB.
12.6	**Other adverse effects**	None known.

13. SECTION 13: DISPOSAL CONSIDERATIONS

13.1	**Waste treatment methods**	Solder can be reclaimed. Dispose of contents in accordance with local, state or national legislation.
13.2	**Additional Information**	Dispose of contents in accordance with local, state or national legislation.

14. SECTION 14: TRANSPORT INFORMATION

		ADR/RID	**IMDG**	**IATA**
14.1	**UN number**	Not classified as dangerous for transport.	Not classified as dangerous for transport.	Not classified as dangerous for transport.
14.2	**Proper Shipping Name**	Not classified	Not classified	Not classified
14.3	**Transport hazard class(es)**	Not classified	Not classified	Not classified

14.4	**Packing group**	Not classified	Not classified	Not classified
14.5	**Environmental hazards**	Not classified	Not classified as a Marine Pollutant.	Not classified
14.6	**Special precautions for user**	See Section: 2		
14.7	**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**	Not applicable.		
14.8	**Additional Information**	None.		

15. SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1 EU regulations

Authorisations and/or Restrictions On Use	No components of the mixture are listed
Substance(s) of Very High Concern (SVHCs)	No components of the mixture are listed
CoRAP Substance Evaluation	Antimony: Substance identified for evaluation in 2018

15.1.2 National regulations

Wassergefährdungsklasse (Germany)	Water hazard class: 1

15.2 Chemical Safety Assessment A chemical safety assessment is not required under REACH.

16. SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: V2.0
Updated Sections: 1.4, 2, 3.2, 4, 11.1, 12, 13.2, 15.2, 16.

References: Existing Safety Data Sheet (SDS), Harmonised Classification(s) for Rosin (CAS No. 8050-09-7) and Existing ECHA registration(s) for Rosin (CAS No. 8050-09-7), and Antimony (CAS No. 7440-36-0).

Classification of the substance or mixture According to Regulation (EC) No. 1272/2008 (CLP)	Classification Procedure
Skin Sens. 1; H317	Threshold Calculation

LEGEND

LTEL: Long Term Exposure Limit
STEL: Short Term Exposure Limit
DNEL: Derived No Effect Level
PNEC: Predicted No Effect Concentration
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
OECD: Organisation for Economic Cooperation and Development

Hazard classification / Classification code:
Skin Sens. 1; Skin sensitization, Category 1

Hazard Statement(s)
H317: May cause an allergic skin reaction.

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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Annex to the extended Safety Data Sheet (eSDS)
No information available.

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