

SAFETY DATA SHEET

Revision: 2.0 Date: 07.05.2015

ACCORDING TO EC-REGULATIONS 1907/2006 (REACH),
1272/2008 (CLP) & 453/2010

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

- 1.1 Product identifier**
Product Name M-Line 361-40R Solder
Chemical Name Mixture
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 For professional users only.
- 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

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
Repr. 1A; H360DF
Lact.; H362
- 2.1.2 Directive 67/548/EEC & Directive 1999/45/EC** R43: May cause sensitization by skin contact.
Repr. 1; R60: May impair fertility.
Repr. 1; R61: May cause harm to the unborn child.
R64: May cause harm to breastfed babies.
- 2.2 Label elements**
Product Name According to Regulation (EC) No. 1272/2008 (CLP)
M-Line 361-40R Solder
- Hazard Pictogram(s) 
- Signal Word(s) Danger
- Contains: Lead and Rosin
- Hazard Statement(s) H317: May cause an allergic skin reaction.
H360FD: May damage fertility. May damage the unborn child.
H362: May cause harm to breast-fed children.
- Precautionary Statement(s) P201: Obtain special instructions before use.

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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.
P308+P313: IF exposed or concerned: Get medical advice/attention.

Additional Information

None.

2.3 Other hazards

None.

3. SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2 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)
Tin	60 -70	7440-31-5	231-141-8	None assigned	Not classified
Lead	35-40	7439-92-1	231-100-4	None assigned	Repr. 1A; H360DF Lact.; H362
Rosin	1-5	8050-09-7	232-475-7	None assigned	Skin Sens. 1; H317

H317: May cause an allergic skin reaction. H360FD: May damage fertility. May damage the unborn child. H362: May cause harm to breast-fed children.

Directive 67/548/EEC & Directive 1999/45/EC

Chemical identity of the substance	%W/W	CAS No.	EC No.	REACH Registration No.	EC Classification and Risk Phrases
Tin	60 -70	7440-31-5	231-141-8	None assigned	Not classified
Lead	35-40	7439-92-1	231-100-4	None assigned	Repr. 1; R60 Repr. 1; R61 R64
Rosin	1-5	8050-09-7	232-475-7	None assigned	R43

R43: May cause sensitization by skin contact. R60: May impair fertility. R61: May cause harm to the unborn child. R64: May cause harm to breastfed babies.

4. SECTION 4: FIRST AID MEASURES



4.1 Description of first aid measures

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF exposed or concerned: Get medical advice/attention.

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. IF exposed or concerned: 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 with water (only if the person is conscious). Do not induce vomiting. Get medical advice/attention if you feel unwell. IF exposed or concerned: Get medical advice/attention.

4.2 Most important symptoms and effects, both acute and delayed

May cause an allergic skin reaction. May damage fertility. May damage the unborn child. May cause harm to breastfed babies. Flux fumes during soldering

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- 4.3 **Indication of any immediate medical attention and special treatment needed**
- 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. If thought to be overexposed, the person should have a blood-lead analysis done. Patient should be kept under medical observation for at least 48 hours.

5. SECTION 5: FIREFIGHTING MEASURES

- 5.1 **Extinguishing media**
Suitable Extinguishing media As appropriate for surrounding fire.
Unsuitable extinguishing media Do not use water on fires when molten metal is present.
- 5.2 **Special hazards arising from the substance or mixture** Flux in cored solder may ignite when the solder melts in a fire. 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. Melted solder may liberate carbon monoxide, carbon dioxide, lead oxide fumes.
- 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. Spillages or uncontrolled discharges into watercourses must be alerted to the Environment Agency or other appropriate regulatory body.
- 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. Dispose of this material and its container as hazardous waste (2008/98/EEC).
- 6.4 **Reference to other sections** See Section: 8, 13

7. SECTION 7: HANDLING AND STORAGE

- 7.1 **Precautions for safe handling** Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. 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. 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. Use of strong acid fluxes may result in liberation of toxic lead chloride fumes.
- 7.3 **Specific end use(s)** PC38 Welding and soldering products (with flux coatings or flux cores.), flux products. See Section: 1.2

8. SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

- 8.1 **Control parameters**

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8.1.1 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
Lead and inorganic compounds (as Pb)	7439-92-1	-	0.15	-	-	WEL The Control of Lead at Work Regulations 2002 (UK) No. 2676
Rosin-based solder flux fume	8050-09-7	-	0.05	-	0.15	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.

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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.
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. Use of strong acid fluxes may result in liberation of toxic lead chloride fumes.
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. Melted solder may liberate carbon monoxide, carbon dioxide, lead oxide fumes.

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.
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	Repr. 1A: May damage fertility. May damage the unborn child. Lact.: May cause harm to breastfed babies.
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.
12.3 Bioaccumulative potential	The product has low potential for bioaccumulation (Metal in wire form).

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12.4	Mobility in soil	The product is predicted to have low mobility in soil (Metal in wire form).
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. This material and its container must be disposed of as hazardous waste (2008/98/EEC).
13.2	Additional Information	Disposal of electrical waste must be in accordance with the Waste Electrical and Electronic Equipment Directive (WEEE Directive, 2012/19/EU).

14. SECTION 14: TRANSPORT INFORMATION

		ADR/RID / IMDG / IATA
14.1	UN number	Not classified as dangerous for transport.
14.2	Proper Shipping Name	Not classified
14.3	Transport hazard class(es)	Not classified
14.4	Packing group	Not classified
14.5	Environmental hazards	Not classified as a Marine Pollutant.
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	Lead concentrations in electrical equipment are controlled by Directive 2002/95/EC (commonly referred to as the Restriction of Hazardous Substances Directive or RoHS) and recast Directive 2011/65/EU.
	SVHCs	None
15.1.2	National regulations	
	United Kingdom	The Control of Lead at Work Regulations (2002)
	Germany	Water hazard class: 1
15.2	Chemical Safety Assessment	Not available.

16. SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: 1-16.

References: Existing Safety Data Sheet (SDS), Harmonised Classification(s) for Rosin (CAS# 8050-09-7), Existing ECHA registration(s) for Rosin (CAS# 8050-09-7) and Tin (CAS# 7440-31-5), and the Committee for Risk Assessment (RAC) Opinion (05.12.13) for Lead (CAS# 7439-92-1):
<http://echa.europa.eu/documents/10162/57ceb1ac-aafc-4852-9aa5-db81bcb04da3>

Classification of the substance or mixture According to Regulation (EC) No. 1272/2008 (CLP)	Classification Procedure
Skin Sens. 1; H317	Threshold Calculation
Repr. 1A; H360DF	Threshold Calculation
Lact.; H362	Threshold Calculation

LEGEND

LTEL	Long Term Exposure Limit
STEL	Short Term Exposure Limit
DNEL	Derived No Effect Level

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PNEC	Predicted No Effect Concentration
PBT	PBT: Persistent, Bioaccumulative and Toxic
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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Annex to the extended Safety Data Sheet (eSDS)

No information available.