

# SAFETY DATA SHEET

## "On Line" 60/40 tin/lead alloy solder

CP1048 v2.5 RS 399-240, 399-256, 514-4981, 514-5007, 514-5192

### 1. Identification of the preparation and of the company

**Product:** "On Line" 60/40 tin/lead alloy solder

**Article Numbers:** 399-240, 399-256, 514-4903, 514-4981, 514-5007, 514-5192

**Application:** Soldering

**Supplier:** RS Components Ltd,  
Birchington Road,  
Corby,  
Northants,  
NN17 9RS,

**Tel:** +44 (0) 1536 402888 (8am to 8pm)

**Fax:** +44 (0) 1536 401588

**Email:** technical.help@rs-components.com

### 2 Hazards identification

The preparation is not classified as dangerous according to Directive 1999/45/EC and its amendments.

**Classification** : Not classified.

#### Effects and symptoms

**Inhalation** : May be harmful by inhalation after often repeated exposure.

**Ingestion** : May be harmful if swallowed.

**Skin contact** : Slightly hazardous by the following route of exposure: of skin contact (irritant).

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#### **Toxicity data**

: **lead:** Warning. Contains lead.

Over-exposure signs/symptoms:- blood formation impairment, central nervous system depression

May cause harm to the unborn child.

Repeated or prolonged exposure to the substance can produce reproductive system damage.

**rosin:** CAUTION: Certain sensitive individuals may develop eczema and/or occupational asthma on exposure to this material.

Sensitised persons may subsequently show asthmatic symptoms when exposed to atmospheric concentrations well below the OEL.

**Additional warning phrases** : Contains rosin. May produce an allergic reaction. Safety data sheet available for professional user on request.

See section 11 for more detailed information on health effects and symptoms.

### 3 Composition/information on ingredients

**Substance/preparation** : Preparation

Ingredient name	CAS number	%	EC number	Classification
Europe				

**Date of issue** : 07/03/2008.

1/9

### 3 Composition/information on ingredients

tin	7440-31-5	40 - 60	231-141-8	Not classified. Repr. Cat. 1; R61 Repr. Cat. 3; R62 Xn; R20/22 R33 N; R50/53 R43
lead	7439-92-1	30 - 40	231-100-4	
rosin	8050-09-7	1 - 5	232-475-7	
See section 16 for the full text of the R-phrases declared above				

\* Occupational Exposure Limit(s), if available, are listed in Section 8

\* The classifications listed, indicate the potential hazards of the ingredients

### 4. First-aid measures

#### First-aid measures

- Inhalation** : Obtain medical attention if symptoms occur. If unconscious, place in recovery position and get medical attention immediately.
- Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Obtain medical attention if symptoms occur. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Obtain medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.
- Notes to physician** : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

See section 11 for more detailed information on health effects and symptoms.

### 5. Fire-fighting measures

#### Extinguishing media

- Suitable** : Use an extinguishing agent suitable for the surrounding fire.
- Not suitable** : None known.
- Special exposure hazards** : No specific fire or explosion hazard.  
Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Hazardous combustion products** : Decomposition products may include the following materials:  
metal oxide/oxides
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

### 6. Accidental release measures

- Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).
- Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

## 6. Accidental release measures

- Large spill** : Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor. Note: see section 1 for emergency contact information and section 13 for waste disposal.
- Small spill** : Move containers from spill area. Vacuum or sweep up material and place in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor.

## 7. Handling and storage

- Handling** : Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not ingest. Avoid contact with eyes, skin and clothing. Do not reuse container.
- Storage** : Store in accordance with local regulations. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
- Packaging materials**
- Recommended** : Use original container.

## 8. Exposure controls/personal protection

### Exposure limit values

<u>Ingredient name</u>	<u>Occupational exposure limits</u>
<b>Europe</b>	
tin	<b>ACGIH TLV (United States, 1/2006).</b> TWA: 2 mg/m <sup>3</sup> 8 hour(s).
lead	<b>EU OEL (Europe, 5/2006). Notes: Binding</b> 8 hours: 0.15 mg/m <sup>3</sup> 8 hour(s).
<b>Sweden</b>	
lead	<b>AFS (Sweden, 6/2005).</b> TWA: 0.05 mg/m <sup>3</sup> 8 hour(s). Form: respirable dust TWA: 0.1 mg/m <sup>3</sup> 8 hour(s). Form: total dust
<b>Denmark</b>	
lead	<b>Arbejdstilsynet (Denmark, 4/2005). Notes: Calculated as Pb</b> TWA: 0.05 mg/m <sup>3</sup> , (Calculated as Pb) 8 hour(s). Form: Powder, dust and fumes
<b>Norway</b>	
lead	<b>Arbejdstilsynet (Norway, 10/2003). Notes: Calculated as Pb</b> TWA: 0.05 mg/m <sup>3</sup> , (Calculated as Pb) 8 hour(s). Form: Dust and fumes
<b>France</b>	
lead	<b>INRS (France, 6/2006). Notes: Regulatory binding exposure limits</b> TWA: 0.1 mg/m <sup>3</sup> 8 hour(s).
rosin	<b>INRS (France, 6/2006). Notes: indicative exposure limits</b> TWA: 0.1 mg/m <sup>3</sup> 8 hour(s).
<b>Netherlands</b>	
lead	<b>Nationale MAC-lijst (Netherlands, 7/2006). Notes: Legal indicates a statutory value, Administrative indicates an administrative value that is not legally binding (see background).</b> OEL, 8-h TWA: 0.15 mg/m <sup>3</sup> 8 hour(s). Form: respirable dust and fume
<b>Germany</b>	
lead	<b>EU OEL (Europe, 5/2006). Notes: Binding</b> 8 hours: 0.15 mg/m <sup>3</sup> 8 hour(s).
<b>Finland</b>	

## 8. Exposure controls/personal protection

tin	<p><b>Työterveyslaitos (Finland, 2002).</b> TWA: 2 mg/m<sup>3</sup> 8 hour(s).</p> <p><b>Työterveyslaitos, Sosiaali- ja terveysministeriö (Finland, 4/2005).</b> <b>Notes: Calculated as Sn</b> TWA: 2 mg/m<sup>3</sup>, (Calculated as Sn) 8 hour(s).</p>
lead	<p><b>EU OEL (Europe, 5/2006). Notes: Binding</b> 8 hours: 0.15 mg/m<sup>3</sup> 8 hour(s).</p>
<b>United Kingdom (UK)</b>	
tin	<p><b>EH40-OES (United Kingdom (UK), 2002).</b> TWA: 2 mg/m<sup>3</sup> 8 hour(s). STEL: 4 mg/m<sup>3</sup> 15 minute(s).</p>
lead	<p><b>EH40-OES (United Kingdom (UK), 2002).</b> TWA: 0.15 mg/m<sup>3</sup> 8 hour(s).</p> <p><b>EH40-WEL (United Kingdom (UK), 9/2006).</b> WEL 8 hrs limit: 0.15 mg/m<sup>3</sup> 8 hour(s).</p>
rosin	<p><b>EH40-MEL (United Kingdom (UK), 2002). Skin sensitiser, Inhalation sensitiser</b> TWA: 0.05 mg/m<sup>3</sup> 8 hour(s). Form: Rosin-based solder flux fume STEL: 0.15 mg/m<sup>3</sup> 15 minute(s). Form: Rosin-based solder flux fume</p>
<b>Austria</b>	
tin	<p><b>GKV_MAK (Austria, 6/2006).</b> STEL: 4 mg/m<sup>3</sup>, 4 times per shift, 15 minute(s). Form: Inhalable fraction</p>
lead	<p><b>GKV_MAK (Austria, 6/2006).</b> STEL: 0.4 mg/m<sup>3</sup>, 4 times per shift, 15 minute(s). Form: Inhalable fraction TWA: 0.1 mg/m<sup>3</sup> 8 hour(s). Form: Inhalable fraction</p>
<b>Switzerland</b>	
lead	<p><b>EU OEL (Europe, 5/2006). Notes: Binding</b> 8 hours: 0.15 mg/m<sup>3</sup> 8 hour(s).</p>
<b>Belgium</b>	
tin	<p><b>Lijst Grenswaarden / Valeurs Limites (Belgium, 3/2006). Skin</b> TWA: 2 mg/m<sup>3</sup> 8 hour(s).</p>
lead	<p><b>Lijst Grenswaarden / Valeurs Limites (Belgium, 3/2006). Notes: As Pb</b> TWA: 0.15 mg/m<sup>3</sup>, (As Pb) 8 hour(s). Form: dust and fumes</p>
<b>Spain</b>	
tin	<p><b>INSHT (Spain, 1/2006).</b> TWA: 2 mg/m<sup>3</sup> 8 hour(s).</p>
lead	<p><b>INSHT (Spain, 1/2006).</b> TWA: 0.15 mg/m<sup>3</sup> 8 hour(s).</p>
<b>Turkey</b>	
lead	<p><b>EU OEL (Europe, 5/2006). Notes: Binding</b> 8 hours: 0.15 mg/m<sup>3</sup> 8 hour(s).</p>
<b>Czech Republic</b>	
lead	<p><b>178/2001 (Czech Republic, 6/2004).</b> STEL: 0.2 mg/m<sup>3</sup> 10 minute(s). TWA: 0.05 mg/m<sup>3</sup> 8 hour(s).</p>
<b>Ireland</b>	
lead	<p><b>NAOSH (Ireland, 3/2002).</b> OELV-8hr: 0.15 mg/m<sup>3</sup> 8 hour(s).</p>
<b>Italy</b>	
lead	<p><b>Ministero della Salute (Italy, 3/2004).</b> TWA: 0.15 mg/m<sup>3</sup> 8 hour(s).</p>
<b>Estonia</b>	

## 8. Exposure controls/personal protection

lead	<b>Sotsiaalminister (Estonia, 9/2001).</b> TWA: 0.05 MG/M3 8 hour(s). Form: inhalable dust TWA: 0.1 MG/M3 8 hour(s). Form: total dust
<b>Lithuania</b>	
lead	<b>Del Lietuvos Higienos Normos (Lithuania, 12/2001).</b> TWA: 0.15 MG/M3 8 hour(s). Form: Inhalable fraction TWA: 0.07 MG/M3 8 hour(s). Form: Respirable fraction
<b>Slovakia</b>	
lead	<b>Nariadenie vlády Slovenskej republiky (Slovakia, 5/2006).</b> TWA: 0.15 mg/m <sup>3</sup> 8 hour(s).
<b>Hungary</b>	
lead	<b>EüM-SzCsM (Hungary, 11/2002). Notes: as Pb</b> PEAK: 0.6 mg/m <sup>3</sup> , (as Pb) 15 minute(s). PEAK: 0.2 mg/m <sup>3</sup> , (as Pb) 15 minute(s). Form: Respirable TWA: 0.15 mg/m <sup>3</sup> , (as Pb) 8 hour(s). TWA: 0.05 mg/m <sup>3</sup> , (as Pb) 8 hour(s). Form: Respirable
<b>Poland</b>	
tin	<b>Ministra Pracy i Polityki Społecznej (Poland, 10/2005). Notes: Calculated as Sn</b> TWA: 2 mg/m <sup>3</sup> , (Calculated as Sn) 8 hour(s). Form: smokes and dusts
lead	<b>Ministra Pracy i Polityki Społecznej (Poland, 10/2005). Notes: Calculated as Pb</b> TWA: 0.05 mg/m <sup>3</sup> , (Calculated as Pb) 8 hour(s).
<b>Slovenia</b>	
lead	<b>Uradni list Republike Slovenije (Slovenia, 4/2005).</b> PEAK: 0.4 MG/M3, 4 times per shift, 15 minute(s). Form: Inhalable fraction TWA: 0.1 MG/M3 8 hour(s). Form: Inhalable fraction
<b>Latvia</b>	
lead	<b>LV Nat. Standardisation and Meterological Centre (Latvia, 11/2004).</b> STEL: 0.01 MG/M3 15 minute(s). TWA: 0.005 MG/M3 8 hour(s).
rosin	<b>LV Nat. Standardisation and Meterological Centre (Latvia, 11/2004).</b> TWA: 4 MG/M3 8 hour(s).
<b>Greece</b>	
tin	<b>PD 90/1999 (Greece, 2/2003).</b> TWA: 2 MG/M3 8 hour(s).
lead	<b>PD 90/1999 (Greece, 2/2003).</b> TWA: 0.15 MG/M3 8 hour(s).
<b>Portugal</b>	
tin	<b>Instituto Português da Qualidade (Portugal, 7/2004).</b> TWA: 2 MG/M3 8 hour(s).
lead	<b>Instituto Português da Qualidade (Portugal, 7/2004).</b> TWA: 0.05 MG/M3 8 hour(s).

**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

### Exposure controls

## 8. Exposure controls/personal protection

<b>Occupational exposure controls</b>	: No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.
<b>Hygiene measures</b>	: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
<b>Respiratory protection</b>	: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Recommended: Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
<b>Hand protection</b>	: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. <1 hours (breakthrough time): disposable vinyl
<b>Eye protection</b>	: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. Recommended: safety glasses with side-shields EN 166 1F
<b>Skin protection</b>	: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: overall
<b>Environmental exposure controls</b>	: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## 9. Physical and chemical properties

### General information

#### Appearance

<b>Physical state</b>	: Solid.
<b>Colour</b>	: Silvery.

### Important health, safety and environmental information

<b>Melting point</b>	: 183 to 188°C (361.4 to 370.4°F)
<b>Solubility</b>	: Insoluble in the following materials: cold water and hot water.

## 10. Stability and reactivity

<b>Stability</b>	: The product is stable. Under normal conditions of storage and use, hazardous polymerisation will not occur.
<b>Conditions to avoid</b>	: No specific data.
<b>Materials to avoid</b>	: No specific data.
<b>Hazardous decomposition products</b>	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## 11. Toxicological information

### Potential acute health effects

- Inhalation** : Please refer to toxicity statements for "**lead**" and "**rosin**" in Section 2.
- Ingestion** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Eye contact** : No known significant effects or critical hazards.

### Acute toxicity

### Over-exposure signs/symptoms

- Target organs** : Contains material which causes damage to the following organs: blood, kidneys, gastrointestinal tract, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea.

Product name	List name	Name on list	Classification	Notes
<b>United Kingdom (UK)</b> lead	UK Occupational Exposure Limits EH40 - WEL	lead	Carc. Carc	
<b>Netherlands</b> lead		lood Metallisch	Repro. fertility category 3	
<b>Germany</b> lead	Germany TRGS905	Blei Metall, bioverfügbar	RF3	
<b>France</b> lead	France Occupational Exposure Limits	plomb Métallique	Carc. C1, Carc. C2, Carc. C3, Repro. R1, Repro. R2, Repro. R3	

## 12. Ecological information

### Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
lead	Mortality	Acute LC50 542 mg/L	Fish	96 hours
	Mortality	Acute LC50 471 mg/L	Fish	96 hours
	Mortality	Acute LC50 1.17 mg/L	Fish	96 hours

### Biodegradability

- Other adverse effects** : No known significant effects or critical hazards.



## 13. Disposal considerations

- Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.
- European waste catalogue (EWC)** : 06 04 05\* wastes containing other heavy metals
- Hazardous waste** : Yes.

## 14. Transport information

### International transport regulations

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
ADR/RID Class	Not regulated.	-	-	-		-
IMDG Class	Not regulated.	-	-	-		-
IATA Class	Not regulated.	-	-	-		-

PG\* : Packing group

## 15. Regulatory information

### EU regulations

Classification and labeling have been determined according to EU Directives 67/548/EEC and 1999/45/EC (including amendments) and take into account the intended product use.

- Risk phrases** : This product is not classified according to EU legislation.
- Product use** : Industrial applications.

### Other EU regulations

**Additional warning phrases** : Contains rosin. May produce an allergic reaction. Safety data sheet available for professional user on request.

#### France

**Professional disease or diseases** : lead  
rosin  
RG 1  
65, 66

#### Germany

**Hazard class for water** : nwg Appendix No. 4

**Technical instruction on air quality control** : TA-Luft Number 5.2.1: 62%  
TA-Luft Number 5.2.9: 40%

#### Italy

**Emission control directive** : 102% Not classified.

## 16. Other information

- Full text of R-phrases referred to in sections 2 and 3 - Europe** : R61- May cause harm to the unborn child.  
R62- Possible risk of impaired fertility.  
R20/22- Harmful by inhalation and if swallowed.  
R43- May cause sensitisation by skin contact.  
R33- Danger of cumulative effects.  
R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.



## 16. Other information

**Full text of classifications referred to in sections 2 and 3 - Europe** : Repr. Cat. 1 - Toxic to reproduction Category 1  
Repr. Cat. 3 - Toxic to reproduction Category 3  
Xn - Harmful  
N - Dangerous for the environment

### History

**Date of printing** : 07/03/2008.  
**Date of issue** : 07/03/2008.  
**Date of previous issue** : No previous validation.  
**Version** : 2  
**Prepared by** :

Indicates information that has changed from previously issued version.

### References

The Health and Safety At Work Act 1974, section 6.  
Control of Substances Hazardous to Health (CoSHH) Regulations 2002 and its amendments.

Preparation contains solely TSCA and EINECS listed substances.

This safety data sheet has been prepared in accordance with the requirements of the Chemicals (Hazard Information and Packaging for Supply) Regulations 2002 which implement EC Directives 1999/45/EC and 2001/58/EC and their amendments.

### Notice to reader

*To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.*

*Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.*