

### Health and Safety Data Sheet

#### 1. Identification of Substance/Preparation and of the Supplier

Description : CEL tin/lead solder wire containing rosin (colophony) free flux 18 and 22swg.

Part No./Code :

CEL Part No.	Anglia Order Code
43B501D/1	680818 / 680918
43B501F/1	680822 / 680922

Supplier : Anglia (refer to sheet 4 for contact details).

#### 2. Composition / Information on Ingredients

Note : Solder wire is considered to be an article and is not subject to the Classification (Hazard Information and Packaging for Supply) Regulations 1994, because it is not hazardous as supplied. However, this product may become hazardous in use and the information in this data sheet reflects the hazards associated with solder reflow operations.

Chemical Breakdown : Tin 63%, Lead 37% typical values.  
Flux level typically 2%, Halide content 0%

Component	CAS No.	Classification Symbol	Risk Phrases
Lead metal	7439-92-1	-	-

#### 3. Hazards Identification

Inhalation of the flux fumes given off at soldering temperatures will irritate the nose, throat and respiratory system. Solder alloys containing lead give off negligible lead fumes at normal soldering temperatures and at temperatures up to 500°C. Lead is harmful if absorbed into the body and can cause lead poisoning, birth defects and other reproductive harm.

#### 4. First Aid Measures

Inhalation : Flux fumes emitted during soldering will irritate the nose, throat and lungs. Remove patient to fresh air. Obtain medical attention if there is any respiratory distress.

Ingestion : Not relevant.

Skin Contact : Flux fumes produced during soldering may cause a irritation of exposed skin. Wash hands with soap and water after handling solder wire. If any skin irritation develops seek medical attention.

Eye Contact : Flux fumes may irritate the eyes. The fluxes may spit during soldering. Flush immediately with plenty of water. In cases where spitting flux has entered the eye seek medical attention.

#### 5. Fire Fighting Measures

Extinguishers : Suitable - dry chemical, carbon dioxide, water spray or foam.  
Unsuitable - water jet.

Temperatures above 500°C may produce heavy metal dust, fumes and/or vapours. The flux will give rise to irritating fumes. Fire fighters should wear full protective clothing and positive pressure breathing apparatus.

### 6. **Accidental Release Measures**

Not applicable.

### 7. **Handling and Storage**

Handling:

The fumes produced during soldering should be extracted away from the breathing zone of the operators. Avoid inhaling flux fumes. Ensure that the general area is well ventilated. Wash hands with soap and water after handling solder, particularly before eating, drinking or smoking.

Storage:

The products should be stored in a cool, dry area. Keep out of reach of children and away from food and drink.

### 8. **Exposure Controls / Personal Protection**

In normal soldering operations where the temperature is below 500°C the exposure to lead will be minimal and the risks from the toxic effects of lead insignificant. (Ref: Approved Code of Practice supporting the Control of Lead at Work Regulations.) Although rosin free fluxes will remove the risk of respiratory sensitisation, controls such as local exhaust ventilation will continue to be required to eliminate or minimise exposure to flux fumes. Suitable examples include bench top, soldering iron tip extraction or an extraction arm.

Occupational Exposure Limits :

Substance	Long-term exposure limit (8 hour TWA)	Short term exposure limit (15 minute)
Lead*	0.15mg/m <sup>3</sup> (MEL)	-

\* From Appendix 1 of the Approved Code of Practice supporting the Control of Lead at Work Regulations.

Employees should be under medical surveillance if the risk assessment made under the Control of Lead at Work Regulations indicates they are likely to be exposed to significant concentrations of lead, or if an Employment Medical Advisor or appointed doctor so certifies. A woman employed on work which exposes her to lead should notify her employer as soon as possible if she becomes pregnant. The Employment Medical Advisor/Appointed Doctor should be informed of pregnancy. Under the Management of Health and Safety at Work (Amendment) Regulations, employers are required to assess the particular risks to health at work of pregnant workers and workers who have recently given birth or who are breast feeding.

Respiratory Protection : Necessary if there is a risk of exposure to flux fumes.

Eye Protection : Operators should wear safety glasses or goggles to protect the eyes from spitting flux.

### 9. **Physical and Chemical Properties**

Appearance : Solder alloy wire, grey in colour.

Odour : Not perceptible at ambient temperatures.

Melting Range : 183°C to 185 °C. Flux chars above 250°C.  
The vapour pressure of lead may be significant above 500°C.

Solubility in Water : Insoluble.

### **10. Stability and Reactivity**

Conditions to avoid :

If solder is exposed to temperatures above 500°C then lead dust, fumes and/or vapour may be produced.

Materials to avoid :

Solder will react with concentrated nitric acid to release toxic fumes of nitric oxide, which oxidises to nitrogen dioxide, a red gas with a pungent odour. If personnel are exposed to these gases then immediate medical attention should be sought, as symptoms can be delayed for a considerable time and can be fatal.

### **11. Toxicological Information**

Acute :

The flux fumes produced during soldering will irritate the nose, throat and respiratory system. Skin exposed to flux fumes may be affected by irritation and rash. Lead can cause weakness, pains in the joints, vomiting, loss of appetite and stupor.

Chronic :

Lead can cause weakness, insomnia, headache and possible paralysis. Chronic overexposure to lead may result in damage to the blood-forming, nervous, urinary and reproductive systems. Lead is classified as a 2B carcinogen by the IARC (1987) i.e. evidence for carcinogenicity is adequate in animals but inadequate in humans. Severe lead toxicity has long been known to cause sterility, abortion and neonatal mortality and morbidity.

### **12. Ecological Information**

Lead is not degradable and will persist in the environment. Lead is insoluble in water and is not attacked by most inorganic acids and bases.

### **13. Disposal Considerations**

Wherever possible unwanted solder should be recycled for recovery of metal. Otherwise disposal should be in accordance with local and national legislation. In the UK this is the Control of Pollution Act 1974, the Environmental Protection Act 1990 and regulations made under them.

### **14. Transport Information**

Solder wire is not classified as hazardous for transport.

### **15. Regulatory Information**

Classification according to the Chemicals (Hazard Information and Packaging for Supply) Regulations 1994:

Flux-cored solder wire is considered to be an article and is not subject to the above regulations. However, it is recommended that the following information be included on labels:

Contains lead which may harm your health. Lead can cause birth defects and other reproductive harm. Regulations forbid the use of lead containing solder in any private or public drinking water supply system. Avoid breathing fumes given out during soldering. Flux fumes may irritate the nose, throat and lungs. After handling solder wash hands with soap and water before eating, drinking and smoking. Keep out of reach of children.

Applicable EC Directives :

Directive 82/605/EEC on the protection of workers from the risks related to the exposure to metallic lead and its ionic compounds at work.

Directive 80/1107/EEC on the protection of workers from the risk related to exposure to physical, chemical and biological agents at work.

Directive 92/85/EEC on the introduction of measures to encourage improvements in the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding.

Applicable UK Legislation :

The Health and Safety at Work etc. Act 1974

The Control of Lead at Work Regulations 1998

The Control of Substances Hazardous to Health Regulations 1994

The Management of Health and Safety at Work Regulations 1992

The Management of Health and Safety at Work (Amendment) Regulations 1994

The information provided in this Health & Safety Data Sheet is accurate to the best of our knowledge and belief. As we cannot anticipate all conditions under which this information and our products, or the products of other manufacturers in combination with our products, are used this Data Sheet cannot constitute the user's assessment of workplace risk. Users are advised to make their own tests to determine the safety and suitability of each product or product combination for their own purposes.

### 16. Other Information

Recommended Uses :

Reference should be made to Anglia Product Data covering CEL Rosin Free Flux-Cored Solder Wire.

Further Detailed Guidance from the UK Health and Safety Executive :

HS(G) 37 An Introduction to Local Exhaust Ventilation

HS(G) 53 Respiratory Protective Equipment - a Practical Guide for Users

HS(G) 97 A Step by Step Guide to the COSHH Regulations

Approved Code of Practice - Management of Health and Safety at Work

General Approved Code of Practice to the COSHH Regulations

Health Surveillance Under COSHH: Guidance for Employers

This Health and Safety Data Sheet is based on the requirements of the Chemicals (Hazard Information and Packaging for Supply) Regulations 1994, (Commission Directive 91/155/EEC, as amended by Directive 93/112/EEC). It was revised on April 16th 2007, and replaces all previous editions.

---

# anglia

---

Tel : +44 (0)1945 47 47 47

Fax : +44 (0)1945 47 48 49

[www.anglia.com](http://www.anglia.com)

[info@anglia.com](mailto:info@anglia.com)

Sandall Road, Wisbech, PE13 2PS UK.