

HEAPS, ARNOLD & HEAPS LTD

Manufacturers of Lead, Tin & Solder Products

Quintec Court
Barbot Hall Industrial Estate
Rotherham
South Yorkshire
S61 4RN

T: +44 (0) 1709 837669

F: + 44 (0) 1709 837671

E: heaps@heapsarnold.com

W: www.heapsarnold.com

MSDS: Soft Solders in Bar/Stick/Ingot or Solid Wire Form containing lead

1. IDENTIFICATION OF SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

Product Name: Soft Solders in Bar/Stick/Ingot or Solid Wire Form containing lead

Supplier: Heaps, Arnold & Heaps Ltd, Quintec Court, Barbot Hall Industrial Estate, Rotherham, South Yorkshire, S61 4RN. TEL: 01709 837669

2. COMPOSITION/INFORMATION ON INGREDIENTS

Solder wire and bar 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.

Component	CAS No.	Classification Symbol	Risk Phrases
Lead metal	7439-92-1	-	-
Antimony metal	7440-36-0	-	-
Tin metal	7440-31-5	-	-
Silver metal	7440-22-4	-	-

3. HAZARDS IDENTIFICATION

Solder alloys containing lead give off negligible lead fume 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 of Fumes or Dust: Providing soldering temperatures are kept below 500°C these products will not give off harmful fumes. Any flux used with the products may generate irritating or harmful fumes. The safety Data Sheet for the flux should be read to ascertain health hazards and appropriate first aid measures.

Ingestion of Dust: Not relevant

Eye Contact from Dust: Fluxes used with these products may generate fumes which may irritate the eyes. Fluxes may spit during soldering. Flush immediately with plenty of water. In cases where spitting flux has entered the eye seek medical attention.

Skin Contact: No harmful effects will occur. Wash hands with soap and warm water after handling solder alloys.

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. Fire fighters should wear full protective clothing and positive pressure breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Not applicable

7. HANDLING AND STORAGE

Avoid inhaling the fumes emitted by the fluxes used with these products. Ensure that the general area is well ventilated. Wash hands with soap and water after handling solder, particularly before eating, drinking or smoking. 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.) Extraction should be provided to control exposure to flux fumes. Suitable examples include bench top, soldering iron tip extraction or an extraction arm

Component: TWA Lead 8 Hours 0.15mg/m³

Respiratory Protection: Wear approved face masks when melting Lead or working in the vicinity of Lead dust particles make sure the face mask meets the standard required. Employ mechanical ventilation equipment when melting Lead in enclosed areas.

Hand Protection: Wear suitable gloves.

Eye Protection: Wear safety goggles when melting Lead or lead welding.

Skin Protection: Wear gloves and protective clothing. Follow standard personal hygiene procedures.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Silver-white to grey alloy wire

Fuming Temperature: The vapour pressure of lead may be significant above 500°C

Odour: None

Solubility in Water: Insoluble

10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions at low temperature.

Conditions to Avoid: If solder is exposed to temperatures above 500°C then lead dust, fume 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. Under reducing conditions antimony containing alloys may form the toxic gas stibine (antimony trihydride.)

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Lead can cause weakness, pains in the joints, vomiting, loss of appetite and stupor.

Chronic Toxicity

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 for 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:

No restrictions on transportation.

15. REGULATORY INFORMATION

Classification according to the Chemicals (Hazard Information and Packaging for Supply) Regulations 1994: Tin/Lead Solder alloy is considered to be an article and is not subject to the above regulations. However, it is recommended that the following information to 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. 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 1980

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 Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995

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16. OTHER INFORMATION

Recommended Uses

This safety data sheet covers a range of solder alloys in the form of wire, bar and anodes. Reference should be made to the Data Sheets.

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) 61 Surveillance of People Exposed to Health Risks at Work

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

L55 Preventing Asthma at Work: How to control Respiratory Sensitisers

L73 A Guide to the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995

MS24: Health Surveillance of Occupational Skin Diseases

MS25: Medical Aspects of Occupational Asthma

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

EH26: Occupational Skin Diseases: Health and Safety Precautions

EH40: Occupational Exposure Limits (revised annually)

IND(G)248L Solder fume and you

IND(G)95L Respiratory Sensitisers: A guide for Employers

IND(G)172L Breathe Freely - A worker's Information Card on Respiratory Sensitisers

This 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.)