

GROSVENOR ELECTRONICS SUPPLIES U.K.

MATERIAL SAFETY DATA SHEET

**Recommendations for the Control of Substances that could constitute a
Hazard to Safety and Health**

Safety Data Sheet compliant with regulation of (CHIP 2)
Chemical (Hazard Information and Packaging for Supply) Regulations 1994.

Product Names :- Pureflow – P containing Tin/Lead

Supplier Details :- Farnell InOne
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COMPOSITION/INFORMATION ON INGREDIENTS

Note : Base 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 Phases
Lead metal	7439-92-1	-	-
Tin metal	7440-31-5	-	-

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.

FIRST AID MEASURES

Inhalation	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	Not relevant
Skin contact	No harmful effects will occur. Wash hands with soap and warm water after handling solder alloys.
Eye contact	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 immediate medical attention.

FIRE FIGHTING

Extinguishers Suitable : dry chemical, carbon dioxide, water spray or foam.
 Un-suitable : 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.

ACCIDENTAL RELEASE MEASURES

Not applicable

HANDLING – 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 the reach of children and away from food and drink.

EXPOSURE CONTROLS/PERSONEL 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.

OCCUPATIONAL EXPOSURE LIMITS

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

* 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 women 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 the 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 also 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.

PHYSICAL AND CHEMICAL DATA

Appearance : Silver – white to grey alloy wire.
Odour : Odourless at ambient temperatures
Boiling Range : The vapour pressure of lead may be significant above 500°C

Solubility in water : Insoluble

STABILITY – REACTIVITY

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..

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 over exposure 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) ie 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.

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.

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 1998 and the regulations contained therein.

TRANSPORT INFORMATION

Solder alloys are not classified as hazardous for transport.

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 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, wash hands with soap and water before eating drinking and smoking.

Keep out of the 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 risks related 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

The Health and Safety at Work 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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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 Breath Freely – A workers 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).