



1. Identification of the Substance/Preparation and of the Company/Undertaking

Product Name Lead Free Solder Alloys/Casting Alloys
Alloys: 95A, 96S, 99C, Sn96CI, SN100C, SN100Ce, SN100CL, SN100CLe, SN100Cle5, 92J, OJ92, Alloy 24, EQ96TSC, EQ96TS, EQ97TSC, EQ97TS, EQ99SC, E-Qual Lowsac, SN97C, SN97Ce, SAC300, SAC305, SAC387
Supplier: DKL Metals Ltd
Avontoun Works
Linlithgow
West Lothian
EH49 6QD
Telephone Number +44 (0)1506 847710
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2. Composition/Information on Ingredients

Note: 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 included in this data sheet reflects the hazards associated with solder reflow operations.

3. Hazards Identification

Inhalation of the fumes given off at soldering temperatures will irritate the nose and throat. Repeated or prolonged exposure to flux fumes may cause an allergic reaction leading to occupational asthma.

4. First-Aid Measures

Inhalation Flux fumes emitted during soldering will irritate the nose and throat and may cause an asthmatic type reaction. Remove patient to fresh air. Obtain medical attention if there is any respiratory distress.

Ingestion Not regarded as normal occupational hazard. Seek medical attention.

Skin Contact Lead free solder alloys are not likely to have a harmful effect on the skin. Wash hands with soap and water after handling solder. If any skin irritation develops seek medical attention.

Eye Contact Fumes from fluxes used with these alloys may irritate the eyes. The flux 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

6. Accidental Release Measures

Not applicable

7. Handling and Storage

Any fumes from fluxes used with these alloys 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. This product should be stored in a cool, dry area.

8. Exposure Controls/Personal Protection

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: Not applicable to lead free solder alloys.

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

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

9. Physical and Chemical Properties

Appearance	Silver-white metal alloy
Odour	Odourless at ambient temperatures
Solubility in water	Insoluble

10. Stability and Reactivity

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.

Alloys S-Sn9595Sb5 and 95A contain antimony and under reducing condition may generate the toxic gas stibine (antimony trihydride.) The gas has an unpleasant smell and has an 8 hour TWA OES of 0.5mg/m^3 and a 15 minute exposure limit of 1.5mg/m^3 .

11. Toxicological Information

Acute Toxicity

The fumes from fluxes used with these alloys may irritate the respiratory tract.

Chronic Toxicity

There are no known chronic effects from exposure to lead free solder alloys.

12. Ecological Information

These products have little adverse effects on aquatic or terrestrial life.

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 alloys are not classified as hazardous for transport.

15. Regulatory Information

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

Solder alloy is considered to be an article and is not subject to the above regulations.

Applicable EC Directives

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

Applicable UK Legislation

The Health and Safety at Work etc. Act 1974

The Control of Substances Hazardous to Health Regulations 1994

The Management of Health and Safety at Work Regulations 1992

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16. Other Information

Recommended Uses

This safety data sheet covers a range of lead-free solder alloys. For information on application and use reference should be made to the DKL 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) 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

EH40: Occupational Exposure Limits (revised annually)

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.)