

SAFETY DATA SHEET

PAGE: 1 of 4

PRINT DATE: 22/02/1999

REF: SRC-BULK

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Product name: SILICONE REMOVEABLE COATING
Product code: SRC-BULK
Supplier: ELECTROLUBE
H.K. Wentworth Ltd.,
Wentworth House, Blakes Road,
Wargrave, Berkshire, RG10 8AW, United Kingdom.
Emergency telephone number: 0118 9404031 **Fax No:** 0118 9403084

2. COMPOSITION/INFORMATION ON INGREDIENTS

Identification of the preparation

Chemical Name	CAS-No	EC-No	Class	Weight %
XYLENE, MIXTURE OF ISOMERS	1330-20-7	215-535-7	R10 Xn; R20/21 Xi; R38	> 30

NON HAZARDOUS CONSTITUENTS > 30

3. HAZARDS IDENTIFICATION

Most important hazards: Flammable and Harmful
Specific hazards: Harmful by inhalation and in contact with skin. Irritating to eyes and skin. In higher concentrations, xylene is irritating to eyes and the respiratory tract, causes drowsiness and may cause central-nervous effects (headache etc.). Prolonged exposure - Liver and kidney injuries may occur.

4. FIRST AID MEASURES

General advice: Remove from exposure, lie down.
Inhalation: Move to fresh air in case of accidental inhalation of vapours.
Skin contact: Remove immediately adhering matter.
Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists, consult a specialist.
Ingestion: Immediately give large quantities of water to drink. Consult a physician if necessary.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Extinguish with carbon dioxide, dry chemical, foam or waterspray.
Extinguishing media which must not be used for safety reasons: Do not use a solid water stream as it may scatter and spread fire.
Specific hazards: Highly flammable. Cool containers / tanks with spray water.
Special protective equipment for firefighters: In the event of fire, wear self-contained breathing apparatus.
Specific methods: Standard procedure for chemical fires.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Use personal protective equipment.
Environmental precautions: Do not flush into surface water or sanitary sewer system.

Product name:

**SILICONE REMOVEABLE
COATING**

PAGE: 2 of 4

PRINT DATE: 22/02/1999

REF: SRC-BULK

Methods for cleaning up:

Soak up with inert absorbent material. Shovel into suitable container for disposal.

7. HANDLING AND STORAGE

- Handling:** Use only in area provided with appropriate exhaust ventilation. Avoid contact with the skin and the eyes. Do not breath vapours or spray mist. When using, do not eat, drink or smoke.
- Storage:** Keep away from heat and sources of ignition. Keep in a cool, well-ventilated place Store in a cool and shaded area.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION**Chemical Name:**

XYLENE, MIXTURE OF ISOMERS

NON HAZARDOUS CONSTITUENTS

**National occupational exposure limits:
HSC(EH40)**Long term (8 hrs) = 100ppm / 441mgm⁻³Short term (15 min) = 150ppm / 662mgm⁻³**Engineering measures:**

Provide adequate ventilation.

Personal protection equipment:

- **Respiratory protection:** When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
- **Hand protection:** Prolonged exposure - solvent-resistant gloves (butylrubber)
- **Eye protection:** goggles / safety glasses with side-shields
- **Skin and body protection:** not required under normal use.

Hygiene measures:

Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form:	liquid	* as xylene
Colour:	clear colourless	
Odour:	Benzene	
Boiling point/range:	n/d	°C
Melting point/range:	n/d	°C
Flash point:	* 27	°C
Autoignition temperature:	* 465	°C
Explosion limits:	- lower	* 1.1 vol. %
	- upper	* 7 vol. %
Vapour pressure:	(30 °C)	* 10 hPa
Relative density:	(20 °C)	>= 0.844
Bulk density:		844 kg/m3
Solubility:		
Water solubility		immiscible (g/l)
Viscosity:	(20 °C)	1.6 -2.0 mPa.s

10. STABILITY AND REACTIVITY

- Stability:** Stable under recommended storage conditions.
- Conditions to avoid:** Keep away from sources of ignition, strong oxidizing agents.
- Materials to avoid:** strong oxidizing agents
- Hazardous decomposition products:** No decomposition if stored and applied as directed.

11. TOXICOLOGICAL INFORMATION

- Acute toxicity:** LD50/oral/rat = 4.3g/kg

Product name: **SILICONE REMOVEABLE
COATING**

PAGE: 3 of 4
PRINT DATE: 22/02/1999
REF: SRC-BULK

Local effects: May cause eye or skin irritation with susceptible persons
Sensitization: May cause sensitization by skin contact
Long term toxicity: In higher concentrations, xylene is irritating to eyes and the respiratory tract, causes drowsiness and may cause central-nervous effects (headache etc.)
Chronic toxicity: Effects of excessive exposures may include liver toxicity

12. ECOLOGICAL INFORMATION

Mobility:
Persistence and degradability: According to the results of tests of biodegradability this product is not readily biodegradable.
Bioaccumulation: No data is available on the product itself.
Ecotoxicity effects: Toxic to aquatic organisms. Xylene LC50/96h/rainbow trout = 2.6-8.4 mg/l

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products: In accordance with local and national regulations
Contaminated packaging: Can be incinerated, when in compliance with the Environment Protection Act 1990 (Process Guidance Note IPR5/1). Do not dispose of waste into sewer.

14. TRANSPORT INFORMATION

UN-No:	1263	Marine pollutant:	No
ADR/RID			
Class:	3	Item:	3° (b)
		HI/UN No:	1263
Proper shipping name:	Paint		
IMO			
Class:	3.2	IMDG Page:	3268
EmS:	3-05	MFAG:	310
Proper shipping name:	Paint		
ICAO			
Class:	3	UN/ID No:	1263
Proper shipping name	Paint		

15. REGULATORY INFORMATION

Classification according to European directive on classification of hazardous preparations 90/492/EEC

- Contains: Xylene
- Symbol(s):



Xn - Harmful
R-phrases(s): R10 - Flammable.. R20/21 - Harmful by inhalation and in contact with skin. R38 - Irritating to skin.
S-phrases(s): - Keep in a cool, well-ventilated place. S16 - Keep away from sources of ignition
- No smoking. S25 - Avoid contact with eyes.. S33 - Take precautionary measures against static discharges..

16. OTHER INFORMATION

Recommended use:

Product name: **SILICONE REMOVEABLE
COATING**

PRINT DATE: 22/02/1999

REF: SRC-BULK

Recommended restrictions:**Revision number:** 2**Further information:** CN no 32089010

Contact Name: Carolyn Booth

Department: Technical

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process unless specified in the text.

Technical Data Sheet



PRODUCT DESCRIPTION:	Silicone Removable Coating	DATE:	03/97
PRODUCT CODE:	SRC	PAGES:	2

PRODUCT DESCRIPTION

SRC is a silicone conformal coating designed to protect printed circuit boards exposed to high humidity environments. The coating is specially formulated to be easily removed with most common solvents. **Electrolube Ultrasolve (ULS)** is ideal.

SRC in bulk may be applied by spraying, dipping or brushing. Thinners are available to maintain the viscosity of the coating. A UV trace is included within the coating to allow easy and reliable post-coating inspection. The stronger the reflected light, the thicker the coating layer.

CHARACTERISTICS

- * Good adhesion under high humidity conditions.
- * Low oxygen permittivity and excellent surface resistivity.
- * Excellent resistance to mould growth, tropical conditions and ultraviolet light.
- * Good operating temperature range.
- * Good dielectric properties, coating thickness typically being 25 microns.
- * Repairability - easily soldered through without fear of highly toxic gases being produced or totally removed with Ultrasolve.

APPLICATION

SRC can be sprayed, dipped or brushed. The thickness of the coating depends on the method of application, but a dip coater normally deposits a film thickness of about 25 microns (single coat). Workshop temperatures of less than 16°C or relative humidities in excess of 75% are unsuitable for the application of **SRC**. All PCBs, being composite materials, absorb moisture. If this is not removed, the conformal coating may not protect to the required extent. Pre-drying or vacuum desiccation, will remove the moisture.

Cleaning

Boards should be thoroughly cleaned before coating. This is required to ensure that satisfactory adhesion to the substrate is possible. Also all flux residues must be removed as they may become corrosive if left on the PCB. **Electrolube** manufacture a range of 100% Ozone Friendly cleaning products. All products produce results within the Military specification. Please contact **Electrolube** for further information.

Dip Coating

Electrolube manufacture an automated **Dip Coating Machine (DCM)** which is ideal for applying all of the **Electrolube** Conformal Coatings including **SRC**. Ensure that the coating material in the container has been agitated thoroughly and has been allowed to stand for at least 2 hours for all the air bubbles to disperse.

SRC Thinners (DCT) should be used to keep the **SRC** coating at a suitable viscosity for dipping. **DCT** is added periodically as the solvent evaporates. The viscosity should be checked using a viscosity meter or "flow cup". The board assemblies should be immersed in the **SRC** dipping tank in the vertical position, or at an angle as close to the vertical as possible. Connectors should not be immersed in the liquid unless they are very carefully masked. **Electrolube Peelable Coating Mask (PCM)** is ideal for this application.

Leave submerged for about 1 minute until the air bubbles have dispersed. The board or boards should then be withdrawn VERY SLOWLY so that an even film covers the surface. After withdrawing, the boards should be left to drain over the tank until the majority of residual coating has left the surface.

Cont'd...2

Spraying

Bulk **SRC** needs to be thinned with **SRC Thinners (DCT)** before spraying. The optimum viscosity to give coating quality and thickness depends on the spray equipment and conditions but a starting point could be 2 parts coating to 1 part thinners. If bulk coating material has been agitated, allow to stand until air bubbles have dispersed. The nozzle of the spray gun requires to be selected to give an even spray to suit the viscosity of the coating material.

SRC is suitable both for use in manual spray guns and computer controlled airless spray equipment that only coats the required areas of the PCB, eliminating the need for masking.

To ensure penetration of the coating beneath the components and in confined spaces, spray the assembly from all directions to give an even coating.

After spraying, the boards should be placed in an air-circulating drying cabinet and left to dry for 2 hours at room temperature prior to any heat curing.

Brushing

Ensure that the coating material has been agitated thoroughly and has been allowed to settle for at least 2 hours. The coating should be kept at ambient temperature. Gently apply the coating with a good quality brush so as not to leave brush marks and so that the components and wiring are not disturbed.

Drying Times and Curing Conditions

SRC will dry in air within 4 to 12 hours at room temperature. This cure time can be reduced by the use of moderate heat. The coating should be tack free within 20 minutes. Any heat cure must be started after the coating has become tack free.

TYPICAL PROPERTIES

Colour:	Clear Translucent Fluid
Non-volatile Content:	33% approx.
Viscosity at 25°C :	45 mPa.s
Surface Resistivity (Ohms) :	2.2×10^{11}
Specific Gravity at 25°C:	1.03
Flash Point	20°C
Temperature Range:	-50°C to +125°C

PACKAGING

400ml aerosol
5 Litre Bulk

ORDER CODE

SRC400
SRC05L

Thinners

5 Litre Bulk

DCT05L

Copyright Electrolube 1997

All information is given in good faith but without warranty. Properties are given as a guide only and should not be taken as a specification. Electrolube cannot be held responsible for the performance of its products within any application determined by the customer, who must satisfy themselves as to the suitability of the product.