

Liquid Flux: Lead Free, Water Soluble

Description

837LFWS is a water-soluble soldering flux. It has a neutral pH at room temperature and becomes highly activated at soldering temperatures. Post-soldering flux residues must be cleaned, but are easily removed with water.

837LFWS is designed for wave soldering, surface mount assembly, and through-hole applications. It may be applied by spray, foam or wave fluxing.

Features and Benefits

- Meets IPC J-STD-004B and type ORH1
- For both leaded and lead-free solders
- Excellent wetting and through-hole fill
- Residues are easily removed with water
- RoHS compliant and VOC free

Usage Parameters

Properties	Value
Shelf life	2 y
Storage temperature limits ^{a)}	18–27 °C [65–80 °F]

a) Store in a dry area, away from sunlight.

Properties

Flux Properties	Method	Value
Flux classification	J-STD-004B	ORH1
Flux type	J-STD-004B	Organic
Flux activity	J-STD-004B	High
Halides by weight	J-STD-004B	2.2%
Copper mirror	IPC-TM-650 2.3.32	Complete removal of copper film
Corrosion	IPC-TM-650 2.6.15	Pass
Surface insulation resistance (SIR)	IPC-TM-650 2.6.3.3	$1.8 \times 10^{10} \Omega$
Cleaning requirements	—	Required
Physical Properties	Method	Value
Color	Visual	Colorless
pH	—	6.8–7.8
Solids %	IPC-TM-650 2.3.34	18%
Density	ASTM D 4212	0.85 g/mL
Flash point	Closed cup	12 °C [53 °F]

Health and Safety

Please see the 837LFWS-Liquid Safety Data Sheet (SDS) for further details on transportation, storage, handling, safety guidelines, and regulatory compliance.

Application Instructions

1. Apply flux on the surface via dip, spray, foam, wave, or brush application.
2. Clean residue with hot or cold water. For best results, use deionized (DI) water for the final rinse.

Recommended Operating Parameters

Properties	Value
Amount of flux	Foam, wave: 1 000–2 000 µg/in ² solids Spray: 750–1 500 µg/in ² solids
Foam fluxing parameters Foam stone pore size Flux level above stone Chimney opening Air pressure ^{a)}	20–50 µm 25–40 mm [1–1.5 inch] 10–13 mm [3/8—1/2 inch] 1–2 lb/in ²
Top side preheat temperature	85–110 °C [190–230 °F]
Bottom side preheat temperature	35 °C [65 °F]
Conveyor speed	1.2–2.8 m/min [4–5 ft/min]
Contact time in solder (chip and lambda)	2.5–4.5 s
Solder pot temperature Sn96.5/Ag3.5 Sn95/Ag5 Sn99.3/Cu0.7 SnAgCu Sn95/Sb5	260–276 °C [500–530 °F] 280–296 °C [536–565 °F] 265–276 °C [510–530 °F] 271–276 °C [520–530 °F] 280–296 °C [536–565 °F]

a) Adjust the air pressure to achieve the optimum foam height.

Packaging and Supporting Products

Cat. No.	Packaging	Net Volume	Net Weight	Packaged Weight
837LFWS-1L	Bottle	1 L [1.05 qt]	846 g [1.86 lb]	960 g [2.12 lb]
837-P	Pen	10 mL [0.33 fl oz]	8.46 g [0.29 oz]	40 g [0.09 lb]

Technical Support

Please contact us regarding any questions, suggestions for improvements, or problems with this product. Application notes, instructions and FAQs are located at www.mgchemicals.com.

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