



# TECHNICAL DATA SHEET

## PAI-815 No Clean Liquid Flux

PAI-815 No-clean Liquid Flux is designed for both tin-lead & lead-free wave soldering. It contains low solid contents including modified resin and organic activator to improve solder-ability and reduce flux residue. The surface insulation resistance (SIR) of PAI-815 is very high under unclean condition and follows the spec of IPC-TM-650 2.6.3.3.

### Thinner:

Used for adjusting flux concentration.

### Applying Method:

Foam, Spray and Wave methods.

### Application Indications

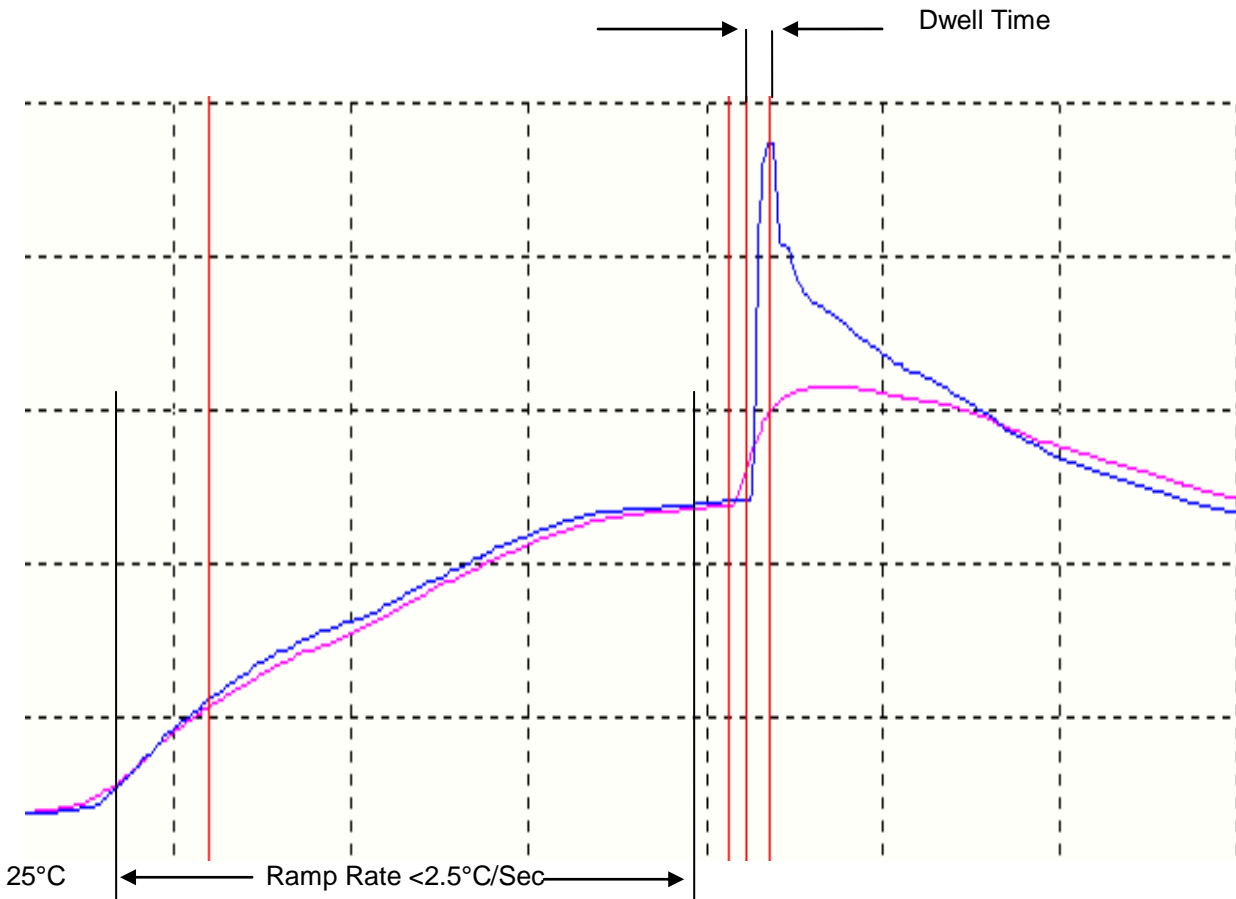
1. When using the foam or wave method of application, an air knife is recommended after the flux operation to ensure the flux is uniformly distributed across the board.
2. The flux should be supplied with compressed air which is free of oil and water when using foam method. The flux level should be maintained 2.5 cm to 4 cm above the top of the stone. Adjust the air pressure to produce the optimum foam height with a fine, uniform foam head.
3. Thinner to maintain the activity if the solvent evaporated from flux. Using specific gravity method to control the concentration is not recommended because PAI-815 has low solid content.
4. It is recommended to replace the flux in tank after 40 hours operation because debris and contaminants will accumulate in the applicators. After emptying the flux, the reservoir and foam stone should be thoroughly cleaned with Thinner.

### Operating Parameter

Item	Typical Level
Amount of Flux Applied	Foam: 500~1200 µg/in <sup>2</sup> of solids/in <sup>2</sup> Spray: 350~830 µg/in <sup>2</sup> Solids
Topside Preheat Temperature	85°C~130°C (Best: 100°C~125°C)
Bottom side Preheat Temperature	100°C~145°C (Best: 110°C~130°C)
Maximum Ramp Rate of Topside Temp.	2°C/second maximum
Conveyor Speed	0.7~1.5m/min. Best (0.7~1.1m/min)
Conveyor Angle	4°Δ ~8°Δ (6°Δ most common)
Dwell Time	2~6sec
Solder Pot Temp.	255°C~265°C (Sn/Ag3.0~4.0/Cu 0.5~0.9 Solder Bar) 265°C~280°C (Sn/Cu 0.7 Solder Bar) 250°C~260°C (Sn/Pb37 Solder Bar)

### Regd Off & Works:

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These are general guidelines which have proven to yield excellent results; however, depending upon your equipment, components, and circuit boards, your optimal settings may be different.

## Technical Specification

Item	Result
Appearance	Transparent to Light Yellow Liquid
Applications	Foaming, Spraying & Wave
Specific Gravity , 20°C	0.798 ± 0.010
Acid Number, mg KOH/g	19.0 ± 4.5
Solids Content, %	2.4 ± 0.3



## Physical Properties & Reliability Data

Item	Result	Test Method
Copper Mirror Test	PASS No Complete Removal of Copper	IPC TM650 2.3.32
Copper Corrosion Test	PASS, No Corrosion	IPC TM650 2.6.15
S.I.R Test, Unclean Requirements: Test Board: $\geq 1.0 \times 10^8 \Omega$ Control Board: $\geq 1.0 \times 10^9 \Omega$	PASS Comb-Up, Unclean $1.9 \times 10^9 \Omega$	IPC TM650 2.6.3.3 85°C, 85%RH, 168hrs, -50V IPC-B-24 Test Board, Line 0.4mm, Spacing 0.5mm
Electro migration Test Requirements: No Dendrites or Corrosion	PASS No Dendrites or Corrosion Comb- Up, Unclean $3.1 \times 10^9 \Omega$	Bellcore, GR-78-CORE Issue3 85°C, 85%RH, 500hrs, 10V IPC-B-25B Pattern, Line 12.5mil, Spacing 12.5mil

### Storage, Shelf Life Indication

Store in cool place and tighten the cap. Do not expose to sunlight or heat source. 12 Months from the Date of manufacturing.

### Safety Indication

The flux must not be used near open flames or near non-flameproof electrical equipment. Please refer to the Material Safety Data Sheet as the primary source of health and safety information.

For more details, please visit Our Website at [www.persangalloy.com](http://www.persangalloy.com) or write to us.

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