



SRA #4200-SLF No-Clean VOC-Free Flux – 15mL

KEY FEATURES

- **Formulated for Spray Applications**
- Lead-Free, VOC-Free, water-based formulation.
- Excellent wetting and compatibility with Immersion Silver, Gold, and/or Tin; HASL, Palladium-plated or OSP PCBs.
- No residue formulation eliminates post-solder cleaning of boards.
- Increased activity level to meet flow and melt-points of different Lead-Free solders.
- Conforms to IPC ANSI-J-STD-004, Type ORL0.
- Meets SIR and Ion Chromatography Requirements per IPC Standards (See Page 2)

DESCRIPTION

SRA #4200-SLF Lead-Free, VOC-Free, No-Clean flux is a halide-free, rosin-free, no-residue flux specifically developed wave soldering applications for surface mount, mixed technology, and through-hole electronics assembly. **SRA #4200-SLF** is a water-based, non-flammable formulation that eliminates the need for special storage requirements, while dramatically reducing VOC emissions from plants engaged in wave soldering.

PROCESS RECOMMENDATIONS

WAVE SOLDERING

SRA #4200-SLF Lead-Free, VOC-Free, No-Clean flux is formulated for spray fluxing application in a wave soldering system. The optimum topside PCB preheat temperature recommendation is 93-115°C/200-240°F. Too low a preheat setting is indicated by post-solder residues on PCBs that look like water stains. Solder bath temperature requirements will vary depending on process, board thickness, heat-sinking on PCBs, and the Lead-Free alloy being used. A nitrogen blanket on the wave or entire bath is recommended to ensure wicking, wetting and finished assembly consistency

The following items are critical when setting the conveyor speeds for VOC-Free fluxes:

- ❶ Conveyor speed and preheat settings should be adjusted to ensure complete water removal from the PCBs before contact is made with the solder wave.
- ❷ In most machines, a conveyor speed of 4-6 ft. / min. is acceptable, where the preheat section is a 4 ft. minimum. However, conveyor settings must be established by operators to meet the process needs of PCBs requiring special attention.

*** See Process Parameters below ***



SAFETY AND HANDLING PRECAUTIONS

SRA #4200-SLF Lead-Free, VOC-Free, No-Clean is a non-flammable, non-hazardous product. However, it is recommended that standard chemical safety practices be observed when handling this product. Avoid contact with eyes, skin, and mucous membranes. The use of rubber gloves, goggles and, or face shield is recommended. Use with adequate ventilation. Refer to the Material Safety Data Sheet (MSDS) for additional information. **SRA #4200-SLF** has a two (2) year shelf life.

SRA #4200-SLF Lead-Free, VOC-Free, No-Clean flux should be stored in plastic containers away from heat. In the event the flux is exposed to temperatures below 0°C/32°F, the flux may freeze. Freezing will not degrade this product if these steps are followed:

- ❶ Thaw flux until room temperature is reached
- ❷ Agitate flux to return to proper consistency.

SPECIFICATIONS

- Meets Surface Insulation Resistance Requirements per IPC-TM-650, Method 2.6.3.7 & IPC J-STD-004B, paragraph 3.4.1.4.
- Meets Ion Chromatography Requirements per IPC-TM-650, method 2.3.28.1

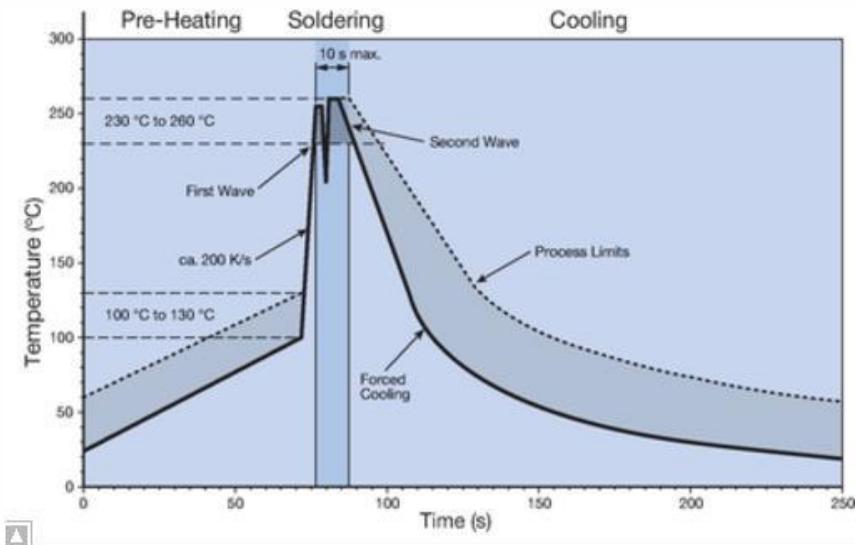
PHYSICAL PROPERTIES

Specific Gravity	1.015 ± 0.01 @ 20-25°C/68-77°F
Pounds/Gallon	8.465 ± 0.20 @ 20-25°C/68-77°F
Dry Flux Coating Recommendation	500-1500 µg/in ²
Acid Number	38.0 ± 5.0
Total Solids	4.0 ± 0.2
Halide Content	0%
Flash Point	None
Silver Chromate Paper Test	Passes
*Copper Mirror Test	Passes
Freeze/Thaw Test	Passes

THIS PRODUCT IS RoHS COMPLIANT.

* *Modified IPC Test Method: Passes copper mirror test when same flux is formulated with isopropyl alcohol as the solids from water-based formulation are reconstituted with alcohol.*





This is a "Starting Point Profile"

- Included Lead-Free Alloys and Lead Alloy. (Sn/Pb, 100C, SAC305, Sn/Ag)
- Pre-Heating Top-Side: 93-110°C (Max 130°C) with 4% solids @ 2.0°C / Sec.
- Bottom Side Preheat: 0 to 22°C (0 +70°F) vs. Top-Side.
- Straight ramp to desired top-side temperature.
- Max Ramp Rate of Top-Side Temperature: 2° / second (3.5°F / second maximum).
- Conveyor Angle: 5-8°. 6° is most common.
- Conveyor Speed: 1.0-6.5 feet / minute.
- Soldering Peak Temp. 230-260°C
- Contact Time in solder pot: 2-7 seconds (3-5 second is most common process) Includes Chip Wave and Primary Wave.

The information contained herein is based on data considered to be accurate and is intended for use by persons having technical skills at their own discretion and risk. Since conditions of use are outside of SRA Soldering Products control, we cannot assume liability for results obtained or damage incurred due to misuse, nor can we assume customer liability.

