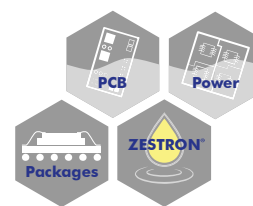


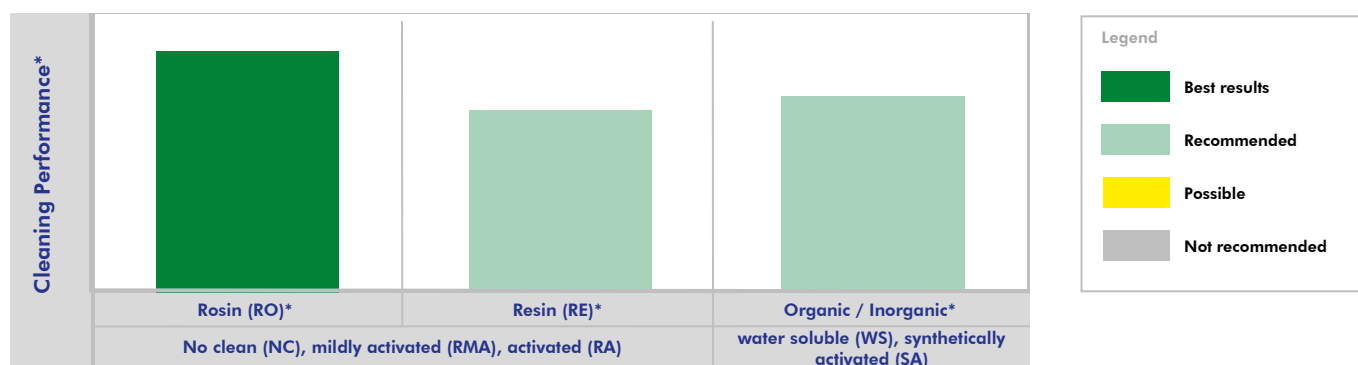
ZESTRON® FA+

Solvent for defluxing in semi-aqueous processes

ZESTRON® FA+ is a solvent-based cleaning agent designed to remove all types of flux residues from electronic assemblies, ceramic hybrids, power electronics (power modules, leadframe-based discretes, power LEDs) and packages (Flip Chips/CMOS). The product is characterized by its high cleaning performance and bath loading capability ensuring an extremely long bath life.



Areas of application – Defluxing of PCBAs, Power Electronics & Packages



Advantages compared to other cleaners

- High bath loading capability ensures extended bath life.
- The cleaning medium does not require any specific explosion-proof environment.
- Due to the surfactant-free formulation, ZESTRON® FA+ can be easily rinsed.
- Increases wire bonding/molding quality for power modules, leadframe-based discretes and Power LEDs.
- Ensures a void-free underfill and improves the image resolution by removing all tacky fluxes from Flip Chips/CMOS.

Process Steps

Cleaning Process	Parts	1. Cleaning	2. Rinsing	3. Drying
Dip tank (Ultrasonic)	PCBAs, Hybrids, Power Modules, Leadframe-based discretes, Power LEDs, Flip Chips, CMOS	ZESTRON® FA+	DI-water	Hot air or circulating air
Dip tank (Spray-under-immersion)	PCBAs, Hybrids	ZESTRON® FA+	DI-water	Hot air or circulating air
Centrifugal cleaning	PCBAs, Hybrids	ZESTRON® FA+	DI-water	Hot air

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Machine Test Center



Analytical Center

Visit our Machine Test Center and clean your electronic assemblies in cleaning machines of leading international equipment suppliers.

Your benefits:

- You are introduced to the cleaning machines & you clean your PCBAs under production conditions supported by your ZESTRON process engineer
- You check the cleaning results immediately on site (ROSE, optionally IR, IC, SEM/EDX etc.) for maximum comparability & result transparency
- You receive a process guarantee including detailed process parameters for the machine/cleaner combination that we recommend




Contact ZESTRON's process engineers for cleaning trials:

Europe: +49 8453 41995 318; techsupport@zestron.com / South Asia: +604 (3996) 100; support@zestronasia.com

Technical Data

Density	(g/ccm) at 20°C/68°F	0.94
Surface tension	(mN/m) at 25°C/77°F	29.7
Boiling point	°C/°F	162 - 190°C / 324 - 374°F
Flash point	°C/°F	75°C / 167°F
pH value	10g/l H ₂ O	10.4
Vapor pressure	(mbar) at 20°C/68°F	0.47
Cleaning temperature	°C/°F	40 - 55°C / 104 - 131°F
Solubility in water		Soluble
Application concentration	Ready-to-use	Pure
HMIS Rating	Health-Flammability-Reactivity	1 - 2 - 0

Product Features & Cleaning Standards

 <p>100% compliance with EU guidelines (RoHS 1, 2 & 3, WEEE)</p>	<p>Electronic assemblies cleaned with ZESTRON® FA+ in a ZESTRON specified process meet the following industry standards:</p> <ul style="list-style-type: none"> ■ IPC-A-610 Visual cleanliness ■ J-STD 001 Ionic and resin cleanliness and foreign object debris ■ IPC 5704 Cleanliness requirements for bare boards ■ IPC-Hdbk-65B Guidelines for cleaning of printed boards and assemblies <p>A cleaning process using ZESTRON® FA+ can help to reduce particle contamination.</p>
 <p>Extensively tested and suitable for cleaning lead-free solder pastes</p>	
 <p>Product is free of any critical substances according to SIN & SVHC lists</p>	

Environmental, health & safety regulations

- ZESTRON® FA⁺ is biodegradable.
- ZESTRON® FA⁺ is formulated free of any halogenated compounds.
- Refer to the SDS for specific handling precautions and instructions.

Availability & Storage

1 Liter	✓
5 Liter	✓
25 Liter	✓
200 Liter	✓

- Available as ready-to-use solution
- Store ZESTRON® FA⁺ in the original container at a temperature between 5 - 30°C / 41 - 86°F.
- The product has a minimum shelf life of 5 years in factory sealed containers.



Further product information

- **Material Compatibility**
Please review the Material Compatibility overview before using the cleaning agent.
- **Filter recommendation**
To further extend the bath life of ZESTRON® FA⁺, filtration is recommended.
- **Safety data sheet**

Available Process–Optimization–Products

To ensure a stable running cleaning process, it is important to monitor cleaning agent concentration and regular bath treatment. For ZESTRON® FA⁺ the following process support product is available:



Cleaning agent regeneration:

- ZESTRON® Adsorber HM1 allows for the adsorption of heavy metals in your cleaning process when ZESTRON® FA⁺ is applied.