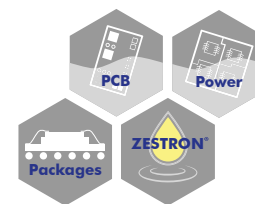


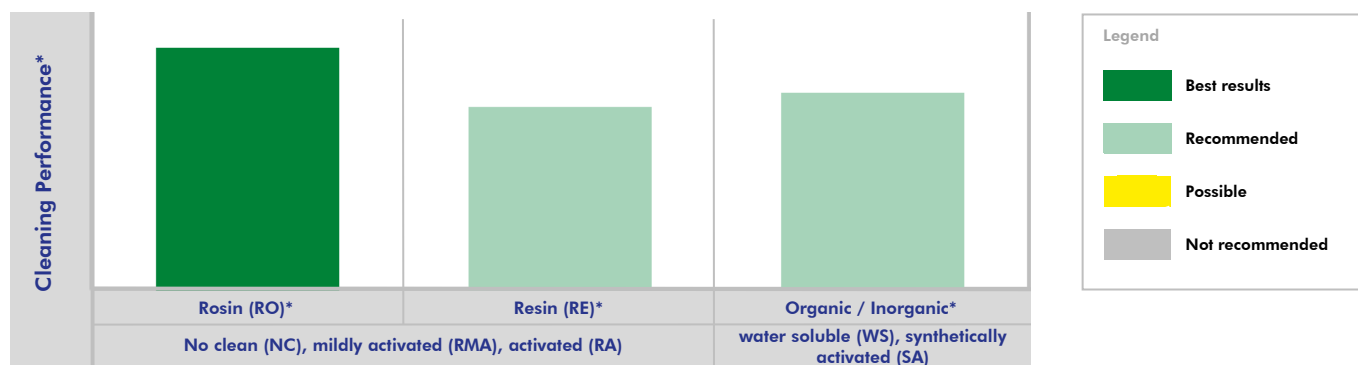
## ZESTRON® FA+

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



\* J-STD-004

### 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.
- This cleaning medium is listed in the ESA 'list of declared materials'.

### 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

## Independent Test Center - Largest choice of leading machines, chemistry & analytics



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: Phone +49 (841) 63526; [techsupport@zestron.com](mailto:techsupport@zestron.com) / South Asia: Phone +604 (3996) 100; [support@zestronasia.com](mailto:support@zestronasia.com)

**Or visit our website for a virtual tour:** <http://www.zestron.com/en/company/virtual-company-tour.html>

## 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 <sub>2</sub> 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

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

## 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.