

ZESTRON® FA⁺

Cleaning medium for PCB flux removal in SMT 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 modules and leadframes. The product is characterized by its high cleaning performance and bath loading capability ensuring an extremely long bath life.

Areas of application: PCB's, ceramic hybrids, power modules, leadframes		Further information on this product:
Low solid flux residues	++	Technical Information sheet 2: Overview of all fluxes and solder pastes tested Technical Information sheet 3: Overview regarding material compatibility Application Recommendation: Specific process parameters for your cleaning trial
Rosin-based flux residues	++	
Water soluble flux residues	+	
Solder paste (unsoldered)	++	
SMT or conductive adhesives	+	

++ highly recommended, best results + recommended o possible - not recommended

Free-of-Charge Cleaning Trials & Surface Analytics at ZESTRON's Technical Centers



Free-of-charge cleaning trials can be performed at one of ZESTRON's Global Technical Centers. ZESTRON's European, North American and Asian Technical Centers feature spray-in-air, ultrasonic or spray-under-immersion processes. This provides an extensive overview on all available processes by leading international equipment manufacturers.



Upon completion of the cleaning trials, extensive analytical tests such as SIR and ionic residue measurements can be performed.

Please consult with ZESTRON's Application Technology Centers regarding future cleaning trials: Phone +49-841-635-140; Email: techsupport@zestron.com

Advantages compared to other cleaners:

- High bath loading capability of ZESTRON® FA⁺ ensures extended bath life.
- ZESTRON® FA⁺ is based on non-halogenated, organic solvents.
- The cleaning medium does not require any specific explosion-proof precautions.
- Due to the surfactant-free formulation ZESTRON® FA⁺ can be rinsed easily.
- ZESTRON® FA⁺ can be used for the cleaning of ceramic substrates in thick film applications and for flip-chip applications in the semiconductor industry.
- ZESTRON® FA⁺ has been EMPF Phase II tested and MIL approved.
- This cleaning medium is listed on the ESA 'list of declared materials'.

Please refer to the material compatibility list (Technical Information 3) before cleaning plastics.

ZESTRON® FA⁺ is approved by leading international manufacturers of cleaning equipment. Written approvals can be obtained from ZESTRON.

Process	Cleaning	Rinsing	Drying
Ultrasonic	ZESTRON® FA ⁺	DI-water	Hot or circulated air
Spray-under-immersion	ZESTRON® FA ⁺	DI-water	Hot or circulated air
Centrifugal cleaning	ZESTRON® FA ⁺	DI-water	Hot air

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

LEAD-FREE COMPLIANT



ZESTRON® FA⁺ meets the new RoHS & WEEE guidelines as well as current worker safety standards and the actual applicable environmental requirements. ZESTRON voluntarily avoids the use of critical substances at product development.



Extensive tests confirmed the qualification of ZESTRON® FA⁺ for the cleaning of lead-free solder pastes. For detailed results please request our Technical Information 2.

Filter recommendation:

To further improve the long bath life time for ZESTRON® FA⁺ filtration is recommended. For details, please request our "Filter Recommendation" sheet.

Environmental, health and safety regulations:

ZESTRON® FA⁺ does not contain any halogenated compounds and is biodegradable. No special precaution for handling of ZESTRON® FA⁺ is required.

Availability/Storage:

ZESTRON® FA⁺ is available as a ready-to-use-solution in 1l bottles, 5l or 25l canisters and 200l drums. The product is non-hazardous.

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.

Cleaning standards:

Electronic assemblies cleaned with ZESTRON® FA⁺ in a ZESTRON specified process meet the following industry standards:

- IPC 610 Visual cleanliness
- J-STD 001 D Ionic cleanliness
- IPC-TM 650 and DIN 32513 (surface resistance)
- J-STD 003 solderability

Alternative product recommendation:

For the removal of fluxes with a MPC® based medium in dip tanks we recommend VIGON® US. For cleaning in spray applications we recommend VIGON® A 200.