

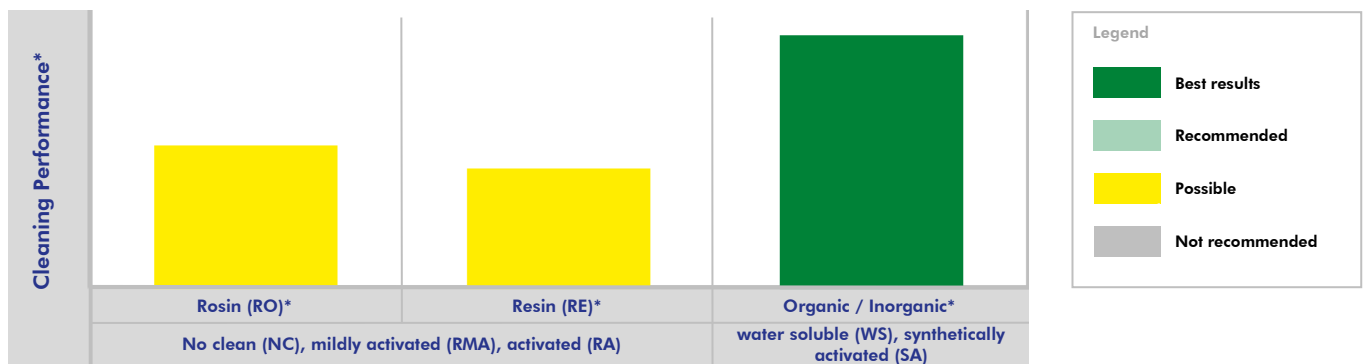
ATRON® AP 125A

Alkaline defluxing agent for packaging applications



ATRON® AP 125A is a water-based cleaning agent specifically developed for the removal of water soluble fluxes from various package types such as flip chip BGAs including 2.5D/3D TSV stacks, BGAs and SiP and provides optimal surface conditions for subsequent processes such as underfill, wire bonding and molding. The cleaner is especially suitable for low standoff and fine bump pitch while providing a high level of material compatibility with sensitive metals. ATRON® AP 125A is recommended for advanced package cleaning to be used in inline and batch spray-in-air processes at low concentrations. In addition, the cleaner provides excellent results when cleaning power modules in ultrasonic processes before molding, creating optimal surface conditions to achieve best molding quality.

Areas of application – Defluxing of Advanced Packages and Cleaning of Power Modules



* J-STD-004

Advantages compared to other cleaners

- ATRON® AP 125A provides excellent cleaning performance on water-soluble fluxes used for Flip Chip BGAs, BGAs and SiP.
- The cleaner provides very good rinseability under components to ensure optimal conditions for subsequent underfilling, wire bonding and molding, thereby preventing voids, delamination and poor bonding quality.
- ATRON® AP 125A is suitable for packages with low standoffs (<50), fine bump pitch (<150) and μ -bumps (20-80 μ m) and compatible with any typical packaging material and especially with sensitive metals, such as Al and Cu, as well as organic and inorganic chip passivations.
- The cleaner is also recommended for cleaning Power Modules in ultrasonic processes prior to molding. It ensures cleanliness and best surface conditions leading to optimal molding quality.
- ATRON® AP 125A has no flash point and provides very good worker health and safety.

Process Steps

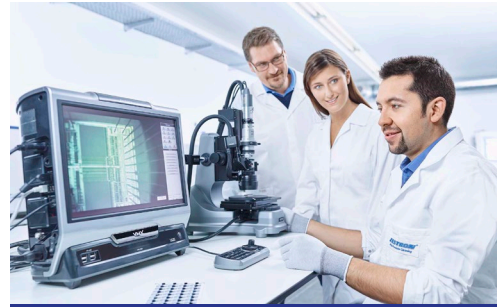
Cleaning Process	Parts	1. Cleaning	2. Rinsing	3. Drying
Spray-in-air (inline & batch)	Flip Chip BGAs, SiP, 2.5D/3D TSV stacks, PoP, InFO, COW	ATRON® AP 125A	DI-water	Hot air or circulating air
Ultrasonic (dip tank)	Power Electronics (DCB/AMB)	ATRON® AP 125A	DI-water ¹	Hot air or circulating air

¹ The DI-water should have a temperature of 20-40°C/68-104°F.

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Your benefits:

- You are introduced to the cleaning machines & you clean your packages & wafer 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	1.00
Surface tension	(mN/m) at 25°C/77°F	29.0
Boiling point	°C/°F	> 98°C / > 208°F
Flash point	°C/°F	None until boiling
pH value	10g/l H ₂ O	9.8
Vapor pressure	(mbar) at 20°C/68°F	Approx. 22
Cleaning temperature	°C/°F	40 - 70°C / 104 - 158°F
Solubility in water		Soluble
Application concentration ¹ (Advanced Packaging in spray-in-air inline & batch) ²	Concentrate	3 - 6 %
Application concentration ¹ (Power Modules in ultrasonic processes)	Concentrate	10-25 %

* Please note that the following information represents ATRON® AP 125A at 3 % concentration.

¹ The concentrate of ATRON® AP 125A has to be diluted in DI-water.

² ATRON® AP 125A is not applicable in spray-in-air processes at concentrations >6%.

Product Features & Cleaning Standards

 <p>100% compliance with EU guidelines (RoHS 1, 2 & 3, WEEE)</p>	<p>Electronic assemblies cleaned with ATRON® AP 125A 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 ATRON® AP 125A 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

- ATRON® AP 125A is water-based and biodegradable.
- ATRON® AP 125A is formulated free of any halogenated compounds and environmentally friendly.
- Refer to the SDS for specific handling precautions and instructions.

Availability & Storage

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

- Available as concentrate
- Store ATRON® AP 125A 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 ATRON® AP 125A, 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 ATRON® AP 125A the following process support method is available:



Concentration measurement:

- BRIX measurement for a fast check on cleaner concentration.