Technical Information

ZESTRON
High Precision Cleaning

PCB Power Packages pH-neutral sensitive

HYDRON® SE 220

pH neutral defluxing agent for PCBs & semiconductor electronics

HYDRON® SE 220 is a water-based, single-phase cleaning agent specifically developed for use in immersion and ultrasonic processes. HYDRON® SE 220 removes flux residues from a wide range of PCBs and semiconductor electronics, such as leadframes, discrete devices, power modules, power LEDs, flip chips, and CMOS following die attach processes. The cleaning agent is easily rinsed and provides optimal surface characteristics for subsequent processes such as wire bonding and molding. HYDRON® SE 220 is pH neutral and ensures excellent material compatibility

Areas of Application: Defluxing of PCB & semiconductor electronics

Recommended Solder Paste Applications:	Additional Product Information
No Clean (NC)	Material Compatibility Overview
Water Soluble (WS)	
Rosin (R)	HYDRON® Technology Sheet
Rosin Mildly Activated (RMA)	Safety Data Sheet
Rosin Activated (RA)	

Applies to leaded and lead-free solder pastes and liquid fluxes

Key Benefits

- Due to its single-phase formulation, it is ideal for use in immersion and ultrasonic processes.
- Easily rinsed with DI-water yielding residue free surfaces.
- The pH neutral formulation results in stain-free activated copper surfaces for subsequent processes such as wire bonding (gold and aluminum), molding and adhesive bonding.
- Its pH neutral design provides excellent material compatibility, specifically with power modules and die surface passivation which includes aluminum, copper, etc.
- Retains activated copper surfaces over an extended period of time without risk of reoxidation.
- No flash point and low odor which can be used in dip tank systems without need for explosion proof.

Process Steps

Cleaning Process	Parts	1. Cleaning	2. Rinsing	3. Drying
Ultrasonic (US / Spray under immersion (SUI)	PCBs, Leadframes, Discrete Devices, Power Modules, Power LEDs, Flip Chips, CMOS	HYDRON® SE 220	DI-water	Hot air or circulating air

Please refer to the Material Compatibility Overview prior to cleaning plastics.

Technical Data: HYDRON® SE 220 at 25% Concentration

Density	(g/cm^3) at 20°C/68°F	0.99
Surface tension	(mN/m) at 25°C/77°F	26.0
Boiling point	°C/°F	> 98 / > 208
Flash point	°C/°F	None
pH value	10g/l H_2O	Neutral
Vapor pressure	(mbar) at 20°C/68°F	Approx. 20
Cleaning temperature	°C/°F	40 – 70 / 104 – 158
Solubility in water		Soluble
Application concentration[1]	Concentrate	20 – 25%
HMIS Rating	Health-Flammability-Reactivity	1 – 0 – 0

[1] HYDRON® SE 220 is recommended to be diluted in DI-water

Product Features & Cleaning Standards

HYDRON® Technology offers single-phase formulations and a good processability

Extensively tested and suitable for cleaning of lead-free solder pastes

100% compliance with EU guidelines (RoHS 1, 2 & 3, WEEE)

Product is free of any critical substances according to SIN & SVHC lists

Environmental, Health & Safety Regulations

- Biodegradable and environmentally-friendly material.
- Formulated free of any halogenated compounds.
- Compliant with the latest ODS regulations and does not contain HAPs.
- Refer to the SDS for specific handling precautions and instructions.

Availability & Storage

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

- Available as concentrate
- Store HYDRON® SE 220 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.

Process Optimization

To ensure a stable running cleaning process, it is important to monitor cleaning agent concentration. For HYDRON® SE 220 a variety of process support products are available:

Concentration measurement:

- ZESTRON® EYE for automated real-time concentration monitoring providing 100% traceability.
- ZESTRON® Bath Analyzer 20 is a manual test method for fast and reliable checks of cleaning agent concentration.

Contact ZESTRON's Application Engineering Team for more information or trials:
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