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Cleaning Chemicals

Aqueous Technologies' StencilWash Plus

Description StencilWash Plus is a unique blend of select detergents and solvents formulated to offer safe, non-flammable cleaning in aqueous stencil cleaning equipment. Used in dilution, StencilWash Plus effectively cleans uncured surface mount device (SMD) adhesives and solder pastes from stencils and misprinted assemblies, and it does not require heating. It is an ideal cleaning agent for electronics manufacturers who want (1) to clean both SMD adhesives and solder paste in one cleaning process and cannot heat the cleaning solution, (2) to reduce or eliminate VOC emissions, (3) to reduce odor in the workplace, (4) to reduce or eliminate flammable or combustible solvents, and (5) to improve operator safety.

Application StencilWash Plus is designed to remove all types of uncured SMD adhesives and rosin, water-soluble, and no-clean solder pastes from stencils and misprinted SMD assemblies. It also removes new epoxy solder pastes such as Alpha AP 4000. The product can be used to remove water-soluble flux residues as well as rosin and some no-clean flux residues after wave solder or reflow.

Process StencilWash Plus is fully compatible with ultrasonic immersion stencil/misprint cleaning equipment. Optimal wash bath operating temperature is machine ambient (75°-90°F, 24°-32°C), but the product can also be heated to 120°F (49°C) for stencils and to 140°F (60°C) for misprints. Follow washing with a DI water rinse. After rinsing stencils or assemblies, surfaces should be allowed to air dry or be blown dry with forced air.

Compatibility Stencils – StencilWash Plus is compatible with stencil materials of construction, including adhesives and emulsions. Always keep operating temperatures below 125°F (52°C) when cleaning stencils. Studies show that stencil materials of construction are much more susceptible to attack at temperatures above 125°F (52°C), regardless of cleaning product. Misprinted SMD adhesives – StencilWash Plus is compatible with epoxies, flex laminates, and other cross-linked polymers. It does not affect cured solder mask, RTV silicone, polystyrene or polycarbonate. Equipment – StencilWash Plus is compatible with metals, plastics and elastomers that are compatible with water-based organic and inorganic saponifiers and detergents. It does not affect polymeric tank and/or plumbing materials of construction such as PP, PE, PVC or CPVC.

Bath Life The concentration of StencilWash Plus in the wash bath can be monitored using refractive index. Please contact Aqueous Technologies for a refractive index versus concentration curve. After normal use, the StencilWash Plus bath will become contaminated or "loaded" with solids from solder paste and/or SMD adhesive residues. As loading increases, cleaning performance decreases. Either an oily film or visible solids will be left behind on the stencil after drying indicating the bath has lost its effectiveness. Depending on the amount of paste or adhesive being cleaned from stencils and misprints, the typical bath life for StencilWash Plus ranges from 2 weeks to more than 8 weeks.

Product and/or Rinse Water Disposal For internal disposal, used StencilWash Plus can be evaporated in commercially available evaporator equipment. For external disposal, Aqueous Technologies recommends contacting your current or local environmental service company for wastewater disposal options. Please note that while StencilWash Plus is considered non-hazardous, materials cleaned such as solder pastes, which contain heavy metals, may make StencilWash Plus wash baths hazardous.



Cleaning Chemicals

StencilWash PLUS

Continued

Packaging StencilWash Plus is commercially available worldwide in 5-gallon and 55-gallon containers.

Shipping This product is classified as non-hazardous. No special packaging is required to ship by air domestically or internationally.

Handling Aqueous Technologies recommends that operators always use protective safety glasses and gloves when handling process chemicals such as StencilWash Plus. Gloves made of nitrile or Buna N are recommended.

Storage StencilWash Plus is considered to be non-flammable and noncombustible by the (US) National Fire Protection Agency and therefore its storage is not regulated. The product should be stored in the original container, preferably in a ventilated, fire-resistant building.

Partial list of materials cleaned StencilWash PLUS Solder Pastes and SMD Adhesives

Alpha LR735 Amicon D-125F-DR3	Alpha WS678 Loctite Chipbonder 3607
Alpha OMNIX 5000 Amicon D-125F-5	Indium SMQ75 Loctite Chipbonder 3609
Alpha RMA376EH Ciba Epibond 7275 Red	<i>Indium SMQ90 Loctite Chipbonder 3611</i>
Alpha RA390DH4 Ciba Epibond 7275 Yellow	<i>Indium SMQ92 Loctite Chipbonder 3612</i>
Alpha RMA390DH4 Ciba Epibond 7285	Indium SMQ92J Loctite Chipbonder 3616
Alpha UP78 Heraeus PD955M	Kester R244 Loctite 3151
Alpha UP78-OSP, UP78-PT1	Kester 256NC
Heraeus PD955PR	OMG WS 300
Alpha WS609 Heraeus PD955PY	OMG WS 350
Alpha WS619 Loctite 348	

Typical StencilWash-PLUS Aqueous Cleaning Process Steps

1. **Wash** stencils or misprinted assemblies in a 10% concentration of StencilWash PLUS in water. The product is most effective in ultrasonic cleaning equipment. The wash bath does not require heating. Typical cleaning times are 1-2 minutes for solder pastes and 3 to 5 minutes for SMD adhesives. **If stencils are being cleaned, wash bath temperatures should not exceed 125° F (52° C) in order to avoid attacking the adhesives that bind the stencils to their frames.**

2. **Rinse** the residual StencilWash PLUS and dissolved residues from surfaces. StencilWash PLUS rinses easily with slightly heated or room temperature water.

3. **Dry** surfaces as necessary. To remove the residual rinse water, use any appropriate method: Desiccated forced air, oven, fan, centrifugal force, hand wipe, or other.