



JNJ INDUSTRIES®

TECHNICAL DATA SHEET

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AquaSonic® / SMA Aqueous Cleaner for Surface Mount Applications/concentrate

PRODUCT DESCRIPTION:

SMA Cleaner is a unique blend of select detergents and solvents formulated to offer safe, non-flammable cleaning in ultrasonic cleaning systems. Used in dilution, SMA effectively cleans uncured surface mount device (SMD) epoxies/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 epoxies/adhesives and solder pastes 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.

APPLICATIONS:

SMA is designed to remove all types of uncured SMD epoxies/adhesives and rosin, water-soluble, and no-clean solder pastes from stencils and misprinted SMD assemblies. It also removes new epoxy solder pastes. 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.

ENVIRONMENTAL PROPERTIES AND REGULATORY STATUS:

Ozone Depletion Potential (ODP)	Zero
Global Warming Potential (GWP)	Zero
Volatile Organic Compound (VOC) Content, at 10% in water	Less than 50 grams per liter
Significant New Alternatives Program (SNAP)	Approved
Hazardous Air Pollutants (HAP)	No
National Emission Standards for Hazardous Air Pollutants (NESHAP)	Not regulated
Superfund Amendments and Reauthorization Act (SARA)	Not regulated
Resource Conservation and Recovery Act (RCRA)	Not regulated

TECHNICAL DATA:

INGREDIENTS: Water, Dipropylene glycol n-butyl ether, Polyoxypropylene-polyoxyethylene block copolymer

FREEZE/ THAW STABILITY	ODOR	FLASH POINT	pH	VAPOR PRESSURE at 20° C (mmHG)	SPECIFIC GRAVITY at 25° C	VISCOSITY at 25° C in use	APPEARANCE (concentrate)
stable	mild	222°F	7.0 ± 2.0	<1 (estimated)	1	approx. 1 cps	colorless

SHIPPING, SAFETY, AND TOXICITY: IN ALL CASES REFER TO THE MATERIAL SAFETY DATA SHEET (MSDS)

HAZARD CLASS: Non-regulated

HAZARD RATING: Fire: 1, Toxicity: 1, Reactivity: 0

No special packaging is required to ship by air domestically or internationally.

HANDLING AND STORAGE:

Protective safety glasses and gloves made from nitrile or Buna Nare recommended when handling SMA. SMA is considered to be non-flammable/non-combustible by the (US) National Fire Protection Agency and storage is not regulated. SMA should be stored in the original container, preferably in a ventilated, fire-resistant building.

AQUASONIC - SMA concentrate

PROCESS:

SMA is fully compatible with ultrasonic cleaning systems. Optimal wash bath operating temperature is machine ambient (75°-90°F, 24°-32°C), but the product can also be heated up to a maximum of 110°F (43°C) . 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.

Typical SMA Aqueous Stencil Cleaning Process Steps

Steps	Process Details
1. Wash stencils or misprinted assemblies in a 5-7% concentration of SMA in water. The product is most effective in ultrasonic cleaning systems.	The wash bath does not require heating. Typical cleaning times are from 1 to 2 minutes for solder pastes and 3 to 5 minutes for SMD epoxies/adhesives. If stencils are being cleaned, wash bath temperatures should not exceed 110°F (°C) in order to avoid attacking the adhesives that bind the stencils to their frames.
2. Rinse the residual SMA and dissolved residues from surfaces.	SMA 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.

Partial List of Solder Pastes and SMD Epoxies/Adhesives Cleaned by SMA

Solder Pastes (unreflowed)		SMD Epoxies/Adhesives	
Alpha LR735	Indium SMQ75	Amicon D-125F-DR3	Loctite 348
Alpha OMNIX 5000	Indium SMQ90	Amicon D-125F-5	Loctite Chipbonder 3607
Alpha RMA376EH	Indium SMQ92	Ciba Epibond 7275 (red and yellow)	Loctite Chipbonder 3609
Alpha RA390DH4	Indium SMQ92J	Ciba Epibond 7285	Loctite Chipbonder 3611
Alpha RMA390DH4	Kester R244	Heraeus PD955M	Loctite Chipbonder 3612
Alpha UP78	Kester 256NC	Heraeus PD955PR	Loctite Chipbonder 3616
Alpha UP78-OSP, UP78-PT1	OMG WS 300	Heraeus PD955PY	Loctite 3151
Alpha WS 619	OMG WS 350		
Alpha WS 609			
Alpha WS 678			

BATH MONITORING:

The concentration of SMA cleaner in the wash bath can be measured using a refractive index. Please contact JNJ Industries, Inc. for a refractive index versus concentration. After normal use, the SMA bath will become contaminated or “loaded” with solids from solder paste and or SMD epoxy/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 epoxy/adhesive being cleaned from the stencils and misprints, the typical bath life for SMA ranges from 2 weeks to more than 8 weeks.

COMPATIBILITY:

Stencils – SMA is compatible with stencil materials of construction, including adhesives and emulsions. Always keep operating temperatures below 110°F (43°C) when cleaning stencils. Studies show that stencil materials of construction are much more susceptible to attack at temperatures above 110°F (43°C), regardless of cleaning product.

Misprinted SMD Epoxies/Adhesives – SMA is compatible with epoxies, flex laminates, and other cross-linked polymers. It does not affect cured solder mask, RTV silicone, polystyrene or polycarbonate.

Equipment – SMA 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.

SHELF LIFE:

The shelf life for this product is indefinite when it is stored in its original, sealed container at room temperature. However, the product should be inspected after the designated date on the product label (twenty-four months from the date of manufacture) prior to customer use.

DISPOSAL:

For internal disposal, used SMA can be evaporated in commercial evaporator equipment. For external disposal, contact your current or local environmental service company for wastewater disposal options. While SMA is considered non-hazardous, materials cleaned such as solder pastes, which contain heavy metals, may make SMA wash baths hazardous.

AQUASONIC PACKAGING ORDERING INFORMATION:

AquaSonic part numbering and packaging are as follows:

GA6SMA	1 gallon container, 6 gallons per case
DR05SMA	5 gallon container
DR55SMA	55 gallon drum
SB6SMA	1 pint spray bottle, 6 pints per case
SW100SMA	100 presaturated wipes, 12 canisters per case
FR100SMA-12	Foil Refill Packs presaturated wipe refills, 12 Refills per case / 2 canisters per case

Gallons and drums are sold in concentrate - sprays and presats are sold premixed w/DI water

ADDITIONAL JNJ PRODUCTS OF INTEREST:

- SMT Stencil Cleaner
- Solder Paste & Flux remover
- Semi Aqueous Paste & Flux Remover
- Isopropyl Alcohol & DI Water, 70/30
- Benchtop Electronic Hand Cleaner
- Foil Refill Packs for all SuperSat's
- Specialized Tooling Products / Industrial Cleaners
- AquaSonic® Aqueous Cleaners
- Polyurethane Squeegee Blades
- Metal Squeegee Blades & Holders
- SmartRoll® UnderStencil Wiping Rolls
- SmartWipe® Dry Wipes
- Custom and Private Label Services
- Converting Services

Electronic & Industrial Equipment,
Supplies & Cleaning Products

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SMA/concentrate

GlobalTech Technical Data Sheets are published based on sources believed to be accurate. JNJ Industries does not guarantee the accuracy of the information and does not assume liability in connection with any damages that may be incurred while using the product.

For more information see the corresponding or MSDS or contact:

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