

## ALPHA<sup>®</sup> SM-110 CLEANER

### DESCRIPTION

**ALPHA SM-110 Cleaner** is a mixture of organic solvents designed especially for non-aqueous cleaning applications. **ALPHA SM-110** effectively removes most types of raw solder paste residues and uncured SMT adhesives. It is also effective on post-soldering flux residues and other organic contaminants associated with printed circuit board assembly. The product will evaporate completely with minimal odor. No water rinse is required. **ALPHA SM-110** is an excellent replacement for IPA in most applications.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

### FEATURES & BENEFITS

- Effective cleaner at ambient temperature. Ideal for stencil cleaning and non-aqueous batch cleaning.
- High Solvency of solder paste residues. Reduces process time.
- High flux loading capacity. Longer bath life.
- Non-corrosive. Compatible with most stencil and PWA materials of construction.
- Fast evaporation. Reduces process time. No water rinse required.
- Effective in a wide range of applications. Reduces the number of chemicals required in a facility.

**APPLICATION GUIDELINES**

**Uses:** ALPHA SM-110 is suitable in the following applications:

Stencil Cleaning	Removes Raw Solder Paste, Removes Uncured SMT Adhesives
Finger Cleaning	Fluxes Used in Wave Soldering
Pallet Cleaning	Fluxes Used in Wave Soldering
Bench top/Rework Cleaning	Removes Flux Residues
Post-Soldering Cleaning	Removes Flux Residues (Wave Solder & Reflow)
General Purpose Cleaning	Equipment / Area Clean-Up
Conformal Coat Removal	Removes Most Silicone & Acrylic Conformal Coatings (Cured & Uncured)

**Process:** (Stencil/PWA Cleaning) - ALPHA SM-110 Cleaner is used at ambient temperatures to dissolve raw solder paste residues, uncured SMT adhesives, flux residues, tape residues and other oily contaminants such as fingerprints. After cleaning, stencils or assemblies can be dried by evaporation or solvent displacement with forced air (no water rinse is required). If additional cleanliness is needed, stencils or assemblies may be rinsed with a secondary ALPHA SM-110 rinse. Bath life will depend on stencil cleanliness requirements. For PWA cleaning, refractive index and/or specific gravity can be used to determine rosin loading in the cleaning solution (contact Alpha for more information). In both stencil and PWA cleaning, the use of a secondary rinse generally will allow for longer utilization of the initial ALPHA SM-110 wash bath.

**Equipment:** ALPHA SM-110 Cleaner is suited for use in appropriately designed non-aqueous equipment. (As a general guideline, ALPHA SM-110 is suitable for use in most equipment which is designed to handle IPA.) In addition, ALPHA SM-110 Cleaner can be recovered by batch vacuum distillation. Contact Alpha for recommendations on both equipment applications.

**Materials Compatibility:** The effect of ALPHA SM-110 Cleaner on solder paste stencils, printed wiring assemblies, electronic components and markings is comparable to that of traditional halogenated and alcohol cleaning solvents. Safe for epoxies, flex laminates and other cross-linked polymers, such as cured solder mask. Sensitive materials such as RTV silicone, polystyrene, polyurethane and some polycarbonates may be attacked after prolonged exposure to the liquid.

**Disposal:** When it has been determined that the ALPHA SM-110 bath is no longer useful, the solution can be disposed of through fuel blending. The cost of fuel blending ALPHA SM-110 is determined by fuel volume, water content and solids content. Heavy metal content should be analyzed to see if the ALPHA SM-110 waste is potentially a hazardous waste. Laidlaw Environmental Service, Ashland Chemical Environmental Service or other reputable waste hauling and disposal companies are recommended.

**TECHNICAL DATA**

Category	Results
<b>Physical Properties</b>	
Appearance	Colorless to yellow cast liquid
Odor	Mild
Specific Gravity at 25 °C	0.8 +/-0.01
Flash Point (PMCC)	41 °C (106 °F) min
Freezing Point	<-23 °C (<10 °F)
Viscosity (24 °C)	1.60 cps
VOC Content (ASTM D22369)	800 g/l
Fuel Value	>15,000 BTU's
Surface Tension	24.3 dynes/cm
Vapor Pressure	1.6mm Hg @ 20 °C

**AVAILABILITY**

ALPHA SM-110 is available in bulk liquid, 1, 5 and 55 gallon containers.

**SAFETY & WARNING**

It is recommended that the company/operator read and review the Safety Data Sheets for the appropriate health and safety warnings before use. **Safety Data Sheets are available at [MacdermidAlpha.com/assembly-solutions/knowledge-base](http://MacdermidAlpha.com/assembly-solutions/knowledge-base)**

**STORAGE**

When shipped by ground or air transportation, it is considered a "flammable liquid" according to U.S. DOT and IATA regulations. When stored, it is considered a Class II combustible liquid according to current NFPA regulations. ALPHA SM-110 has a shelf life of 36 months from date of manufacture. ALPHA SM-110 may still be usable beyond this date. Contact Alpha for information in determining whether out of shelf-life product is still within specification.

**CONTACT INFORMATION**

**To confirm this document is the most recent version, please contact [Assembly@MacDermidAlpha.com](mailto:Assembly@MacDermidAlpha.com)**

[www.macdermidalpha.com](http://www.macdermidalpha.com)

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Also read carefully warning and safety information on the Safety Data Sheet. This data sheet contains technical information required for safe and economical operation of this product. READ IT THOROUGHLY PRIOR TO PRODUCT USE . Emergency safety directory assistance: US 1 202 464 2554, Europe + 44 1235 239 670, Asia + 65 3158 1074, Brazil 0800 707 7022 and 0800 172 020, Mexico 01800 002 1400 and (55) 5559 1588

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