

ALPHA[®] SM-110E CLEANER

DESCRIPTION

ALPHA SM-110E Cleaner is a mixture of organic solvents designed especially for non-aqueous cleaning applications. **ALPHA SM-110E Cleaner** effectively removes most types of raw solder paste residues uncured SMT adhesives and polymer solder pastes from stencils and misprinted assemblies. 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-110E Cleaner is a specially formulated mixture of organic solvents which combines high solvency with fast evaporation relative to its high flash point (128 to 53 °C). The product is non-ozone depleting. It works best when used in suitable non-aqueous equipment.

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-110E 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-110E 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-110E 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-110E wash bath.

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

Materials Compatibility: The effect of ALPHA SM-110E 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-110E bath is no longer useful, the solution can be disposed of through fuel blending. The cost of fuel blending ALPHA SM-110E is determined by fuel volume, water content and solids content. Heavy metal content should be analyzed to see if the ALPHA SM-110E 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
Physical Properties	
Appearance	Colorless to Pale Yellow
Odor	Mild Citrus / Alcohol
Specific Gravity at 25 °C	0.845 +/-0.005
Flash Point (PMCC)	58 °C (128 °F)
Boiling Point	>149 °C (>302 °F)
Vapor Pressure (mmHg @ 20 °C)	>1
Vapor Density	>1

AVAILABILITY

ALPHA SM-110E is available in bulk liquid, 1, 5 and 55 gallon containers as well as pre-saturated wipes.

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 AlphaAssembly.com**

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-110E has a shelf life of 36 months from date of manufacture. ALPHA SM-110E may still be usable beyond this date. Contact Alpha for information on 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
 www.macdermidalpha.com**

<p>North America 109 Corporate Blvd. South Plainfield, NJ 07080, USA 800.367.5460</p>	<p>Europe Unit 2, Genesis Business Park Albert Drive Woking, Surrey, GU21 5RW, UK 01483.758400</p>	<p>Asia 8/F., Paul Y. Centre 51 Hung To Road Kwun Tong, Kowloon, Hong Kong 852.3190.3100</p>
---	---	---

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

DISCLAIMER: All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed. No statement or recommendation shall constitute a representation unless set forth in an agreement signed by officers of seller and manufacturer. NO WARRANTY OF MERCHANTABILITY, WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY IS MADE. The following warranty is made in lieu of such warranties and all other warranties, express, implied, or statutory. Products are warranted to be free from defects in material and workmanship at the time sold. The sole obligation of seller and manufacturer under this warranty shall be to replace any noncompliant product at the time sold. Under no circumstances shall manufacturer or seller be liable for any loss, damage or expense, direct, indirect, incidental or consequential, arising out of the inability to use the product. Notwithstanding the foregoing, if products are supplied in response to a customer request that specifies operating parameters beyond those stated above, or if products are used under conditions exceeding said parameters, the customer by acceptance or use thereof assumes all risk of product failure and of all direct, indirect, incidental and consequential damages that may result from use of the products under such conditions, and agrees to exonerate, indemnify, defend and hold harmless MacDermid, Incorporated and its affiliates therefrom. No suggestion for product use nor anything contained herein shall be construed as a recommendation to use any product in a manner that infringes any patent or other intellectual property rights, and seller and manufacturer assume no responsibility or liability for any such infringement.

© 2019 MacDermid, Inc. and its group of companies. All rights reserved. "(R)" and "TM" are registered trademarks or trademarks of MacDermid, Inc. and its group of companies in the United States and/or other countries.