

# ALPHA<sup>®</sup> UP-78 PASTE FLUX

## No Clean Paste Flux

### DESCRIPTION

**ALPHA UP-78 Paste flux** can be used for touch-up or rework in conjunction with the use of ALPHA UP-78 solder paste. This paste flux is identical to the paste flux used to manufacture ALPHA UP-78 solder paste.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

### FEATURES AND BENEFITS

- Designed for use with OSP protected copper pads
- Fully compatible with ALPHA UP-78 solder paste residue

### APPLICATION GUIDELINES

Formulated for standard and fine pitch printing through stencil apertures. Suitable for use across a wide variety of process settings, including rework applications with BGA's and other components. ALPHA UP-78 paste flux is especially suitable for printing on assemblies that have OSP coated copper pads.

#### Cleaning

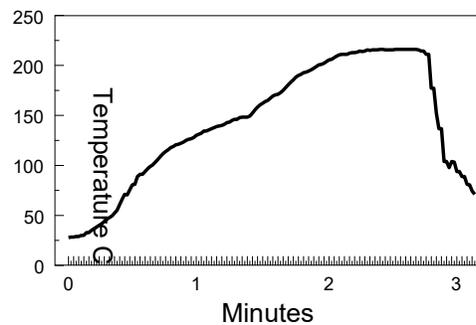
Although designed as a no clean flux system, the residue may be cleaned with BIOACT<sup>®</sup> EC-ULTRA or BIOACT EC7-R or 10% ALPHA 2110 saponifier with water. Incidental water washing will not cause the residues to become cloudy in appearance; as long as no alcohols are present in the wash water. Production stencils or pin transfer equipment can be cleaned with BIOACT SC-10.

**TECHNICAL DATA**

Category	Results
<b>Chemical Properties</b>	
Color	Pale, off white
Specific Gravity	0.99 (g/cc)
Viscosity, 5 RPM @ 25 °C	380 to 500 poise
Tack Strength	> 6 grams/mm <sup>2</sup>
Stencil Life	~ 8 hour @ 40 to 60% RH and 20 to 25° C
Reflowed Residue	Tack Free
Corrosivity	Passes Copper Mirror
Halide Content	550ppm REL-1 Classification for IPC J-STD-004
Water Content	0.2% Max
J-STD-004 SIR (pass > 10 <sup>8</sup> )	>2 X 10 <sup>9</sup> , ohms, 7 Days, uncleaned, comb down
J-STD-004 SIR (pass > 10 <sup>8</sup> )	>3 X 10 <sup>9</sup> , ohms, 7 Days, uncleaned, comb up
BELLCORE SIR (pass > 10 <sup>11</sup> )	>1 X 10 <sup>12</sup> , ohms, 4 Days, uncleaned, comb down
BELLCORE SIR (pass > 10 <sup>11</sup> )	>3 X 10 <sup>12</sup> , ohms, 4 Days, uncleaned, comb up
Electromigration (500 hours) (BELLCORE)	X 10 <sup>12</sup> ohms, initial X 10 <sup>12</sup> ohms, 500 hours (passes)
Shelf Life	6 Months

## REFLOW PROFILES

Reflow can be accomplished in clean, dry air or nitrogen controlled atmosphere. The initial ramp rate should be at 60 to 120 °C per minute to 110 to 130 °C. If necessary, a dwell of 1 to 2 minutes at 110 to 130 °C is acceptable. (Because of the uniform furnace load in CSP and BGA manufacture versus typical surface mount board assembly applications, equilibrium or dwells at a "preheat" temperature are not usually necessary.) Following this equilibrating period is a ramp of 60 to 120 °C to a peak temperature of 210 to 225 °C. The time over alloy liquidus (183 °C for 63Sn/37Pb or 179 °C for 62Sn/36Pb/2Ag) should be 45 to 90 seconds maximum. Cooling rate should be at 90 to 120 °C per minute to room temperature.



For Alloys Sn63 or Sn62

## RECYCLING SERVICES

We provide safe and efficient recycling services to help companies meet their environmental and legislative requirements and at the same time, maximize the value of their waste streams.

Our service collects solder dross, solder scrap, and various forms of solder paste waste. Please contact your local sales representative for recycling capabilities in your area or [link here](#).



**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**

This CSP/BGA Flux is available in 10 or 30cc syringe, 6" cartridges and jars. It should be stored in sealed containers and need not be refrigerated. Temperatures above 80 °F or 27 °C should be avoided. Shelf life of unopened containers is nominally 6 months. If the material has been chilled, the container should be allowed to reach room temperature before opening in order to prevent moisture condensation from ambient air onto the flux.

**CONTACT INFORMATION**

**To confirm this document is the most recent version, please contact  
 Assembly@MacDermidAlpha.com**

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

<p><b>North America</b>          109 Corporate Blvd.          South Plainfield, NJ 07080, USA          1.800.367.5460</p>	<p><b>Europe</b>          Unit 2, Genesis Business Park          Albert Drive          Woking, Surrey, GU21 5RW, UK          44.01483.758400</p>	<p><b>Asia</b>          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.