

# ALPHA<sup>®</sup> OM-363 Paste Flux

No-Clean, Zero-Halogen, Lead-Free Capable Paste Flux

## DESCRIPTION

**ALPHA OM-363** is a lead-free, halogen-free, no-clean flux designed for minimizing BGA non-wet opens and head-in-pillow defects. This paste chemistry continues Alpha's tradition of being an industry leader in providing excellent pin testing property for high first pass ICT yields.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

## FEATURES AND BENEFITS

- **Wide Reflow Profile Window:** allows best quality solderability of complicated, high density PWB assemblies in both air and nitrogen reflow, using ramp and soak profiles, as high as 175 to 185 °C
- **Excellent Flux Residue Cosmetics:** after reflow soldering, even using long/high thermal soaking, without charring or burning
- **Halogen Content:** Halogen-free
- **Residue:** Excellent Pin Testing property
- **Safe and Environmentally Friendly:** Materials comply with RoHS and Halogen-free requirements, as well as TSCA & EINECS

## PRODUCT INFORMATION

Packaging Sizes: 30cc syringes, 100 gram jars

**APPLICATION GUIDELINES**

ALPHA OM-363 may be applied by screen printing or pin transfer (substrate) or doctor blade / dip coating (package). It can also be dispensed.

Reflow can be accomplished in clean-dry air or nitrogen-controlled atmosphere. A straight ramp profile with a rate of

0.7 to 2 °C per second up to a peak temperature of 235 to 245 °C at 45 to 60 seconds time above liquidus (TAL) can be used. Soak profiles at 155 to 175 °C for 60 to 100 seconds have been determined to give optimal results. If required, good results are also achievable with high soak temperature profiles of 175 to 185 °C for 60 seconds.

Note 1: Keeping the peak temperature below 241 °C may reduce the number and size of BGA and QFN voids.

Note 2: Refer to component and board supplier data for thermal properties at elevated temperatures. Lower peak temperatures require longer TAL for improved joint cosmetics.

Note 3: These are profiles that were tested in the lab with acceptable reflow and coalescence performance, optimization to each board application should still be carried out by users to ensure best results.

ALPHA OM-363 residue is designed to remain on the board after reflow and no cleaning is required.

**HALOGEN STATUS**

ALPHA OM-363 is a halogen-free product & passes the standards listed in the table below:

Halogen Standards			
Standard	Requirement	Test Method	Status
IEC 612249-2-21	Post soldering residue contain < 900 ppm each Br or Cl or total of < 1500 ppm Br and Cl from flame retardant source	TM EN 14582 Solids extraction per IPC TM 2.3.34	Pass
JEDEC A Guideline for Defining "Low Halogen" Electronics	Post soldering residues contain < 1000 ppm Br or Cl from flame retardant source		Pass

**TECHNICAL DATA**

Category	Results	Procedure/Remarks
<b>Chemical Properties</b>		
Activity Level	ROLO	IPC J-STD-004B
Halide Content	Halide free (by titration)	IPC J-STD-004B
Fluoride Spot Test	<b>Pass</b>	JIS-Z-3197-1999 8.1.4.2.4
Halogen Test	<b>Pass</b> , Halogen-free	By formulation
Corrosivity	<b>Pass</b>	IPC Cu Mirror, Cu Corrosion and Ag Chromate Tests
<b>Electrical Properties</b>		
Water Extract Resistivity	$4.1 \times 10^5$ Ohm-cm	JIS-Z-3197-1999 8.1.1
SIR (7 days, 40 °C/90%RH, 12 V bias)	<b>Pass</b>	IPC J-STD-004B TM 2.6.3.7 (Pass $\geq 1 \times 10^8$ ohms)
Electromigration (Bellcore 500 hours @ 65 °C /85%RH 10V)	<b>Pass</b>	Bellcore GR78-CORE (Pass=final > initial/10)
<b>Physical Properties</b>		
Appearance	Smooth & Creamy Off-White to Pale Yellow Paste	
Viscosity (10rpm at 25 °C by Malcom Viscometer)	70 to 350 Poise (typical)	
Acid Number (mgKOH/g)	80.00 to 140.00 mgKOH/g (typical)	
Moisture Content	Typically, 0.70% max (w/w)	
Fineness of Grind ( $\mu\text{m}$ )	<5 $\mu\text{m}$ (typical)	

**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**

The flux should be stored in sealed containers and need not be refrigerated. Shelf life of unopened containers is 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](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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