

ALPHA[®] 651

QPL Approved – Water Soluble Flux

DESCRIPTION

ALPHA 651 is a QPL approved, low halide, organic water soluble flux engineered to meet the strict requirements of Military Specification MIL-F-14256F, for flux Type WSF-0 (polyglycol-free). ALPHA 651 contains a low level of halides (same level found in some QPL approved type RA fluxes) to provide sufficient activity to effectively solder the most demanding assemblies.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

FEATURES & BENEFITS

- QPL approved, water soluble flux. Avoid the cost and capital associated with solvent cleaning.
- Flux type WSF-0. Polyglycol-free for high electrical reliability. More readily accepted by Military than WSF-1 types.
- Very cleanable residues. Desired, low ionic levels can usually be achieved with water cleaning alone.
- Low halide content. High activity for low defect soldering.

APPLICATION

ALPHA 651 flux can be applied by foam, spray or wave techniques. The recommended topside preheat temperatures are 80 to 105 °C (180 to 220 °F).

Post soldering flux residues should be removed after soldering as soon as possible. Thorough cleaning can be accomplished with 50 to 75 °C (120 to 170 °F) water. For critical cleanliness requirements, final rinsing with DI water may be required. Omegameter readings of less than 10 µg/in² have been achieved in commercial processes. However, a variety of troubleshooting options can sometimes be helpful. Be careful not to apply too much flux. Avoid overheating the board which can “bake” the flux on to the board. ALPHA 2444 rinse aid, or a low concentration of ALPHA 2110 saponifier, may be used to enhance the cleanliness of high reliability assemblies.

TECHNICAL DATA

Physical Properties	Typical Values
Appearance	Clear, pale yellow
Solids Content (%wt/wt)	35
Specific Gravity @ 25 °C (77 °F)	0.976 ± 0.005
pH of 5% Aqueous Solution	2.4
Halide Content (milliequivalents per gram of flux solids)	0.26
Surface Insulation Resistance (SIR) 85 °C/85% RH, 7 days (MIL-F-14256)	2.4 x 10 ⁹
Flash Point	17 °C (62 °F)
Recommended Alpha Thinner	411

AVAILABILITY

ALPHA 651 flux is available in 1, 5 and 55 gallon containers.

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.**

CONTACT INFORMATION

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