

ALPHA[®] WS-375

VOC-Free Water Soluble Flux

DESCRIPTION

ALPHA WS-375 is a VOC-Free, water removable, liquid soldering flux for wave soldering of printed circuit boards. **ALPHA WS-375** was developed to provide the maximum activity for low defect soldering, even with boards and components with marginal solderability.

ALPHA WS-375 is supplied in a water-based vehicle, essentially free of organic solvents and is formulated to help meet the present and future volatile organic compound (VOC) emission regulations. **ALPHA WS-375** is non-flammable which significantly reduces the risk of fire during wave soldering operation. ALPHA soldering flux residues are highly water soluble and can be readily removed. This results in assemblies with the highest degree of ionic cleanliness and high surface insulation resistance.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

FEATURES & BENEFITS

- VOC-Free to help meet air quality regulations.
- Non-flammable to eliminate equipment fires and eliminate special storage requirements.
- Maximum activity for low defect levels, even with marginally solderable leads and pads.
- No need to purchase thinners which provides significant cost savings.

APPLICATION GUIDELINES

ALPHA WS-375 Flux can be applied by foam, spray and wave techniques. Flux applicators and reservoir should be plastic or titanium only to avoid corrosion. When using foam applications, the foam applicator should be supplied with compressed air, free of oil, and water.

Important: When processing an evaluation with ALPHA WS-375, use a new stone in the foam fluxer and thoroughly clean out all flux transfer lines and flux container. Trace contamination of ALPHA WS-375 with other fluxes will cause uncontrolled, excessive foaming.

Maintain the flux fluid level 1½ inches above the aerator stone to produce optimum height with foam consisting of small uniform bubbles.

In time, debris and other contaminants will accumulate in the flux. For consistent soldering performance, replace flux at least every 40 hours of operation. After dumping used flux, the reservoir and aerator stone should be thoroughly cleaned with flux thinner. Refill flux reservoir with fresh flux and allow a few minutes for foam to stabilize before resuming solder operation.

In order to achieve consistent soldering performance, the flux solids should be maintained through the addition of DI water to compensate for evaporative losses. It is recommended that the specific gravity at 77 °F be controlled by the addition of thinner. DI water is the recommended thinner.

Topside board temperatures of 100 to 115 °C (215 to 240 °F) are recommended during preheat. Thorough cleaning can be accomplished with 50 to 70 °C (120 to 170 °F) water. For critical cleanliness requirements, final rinsing with DI water may be required.

Residue Removal: Post-soldering flux residues should be removed as soon as possible after soldering.

Topside-Up/Rework: For a touch-up flux, use of the Aqualine Write Flux Applicator with ALPHA 870-25 flux and ALPHA Pure Core cored solder are recommended.

TECHNICAL DATA

Item	Typical Values	Item	Typical Values
Appearance	Clear Red Liquid	Flash Point (T.C.C.)	None
Solids Content, %wt/wt	19.5	Recommended Thinner	DI Water
Specific Gravity @ 25 °C (77 °F)	1.05	Shelf Life (from Date of Mfg.)	540 Days
pH	1.2	IPC J-STD-004 Designation	ORH1
% Chloride	3.6	Packaging Size	1, 5 & 55 Gallons
Pounds per Gallon	8.75		

Trace VOC content, primarily from flux activator volatilization during soldering, measured at 0.56% as determined per EPA Reference Method 24 using ASTM test procedure D2369. Conventional alcohol-based low solids, no-clean fluxes typically have VOC content in excess of 95%.

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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