

ALPHA[®] RF-800-NS

Low Solids, No-Clean Flux

DESCRIPTION

ALPHA RF-800-NS is a no-clean flux formulated with a small percentage of rosin and non-halide activators. This unique rosin-activation system promotes excellent solder wetting to protect copper and solder-coated surfaces.

Post-soldering residue of **ALPHA RF-800-NS** is minimal, slightly glossy and can be pin tested without removal.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

APPLICATION GUIDELINES

ALPHA RF-800-NS is formulated to be applied with foam, wave, spray, and mist fluxers. Flux deposition density and uniformity are critical to successful use of low solids no-clean flux. Applying ALPHA RF-800-NS to a flux coating density of 500 to 1500 $\mu\text{g}/\text{in}^2$ is recommended. Preheating the circuit assembly will partially dry the flux, enhance oxide removal and promote optimum wicking, as well as superior solder joint formation. Degree of preheat is dependent on many variables such as conveyor speed, type of components and substrates. Entering the solder wave with a top-side temperature of 88 to 115 °C (190 to 240 °F) and a bottom-side temperature of 121 to 163 °C (250 to 325 °F) is typical.

Control: The foam applicators should be supplied with compressed air, free of oil and water. Maintain flux fluid level sufficiently above the aerator stone to produce adequate foam height. Adjust air pressure to produce optimum height with foam consisting of uniform bubbles.

Flux applicators will require the addition of flux thinner to replace evaporative losses and maintain the balance in flux composition.

In time, debris and contaminants will accumulate in recirculating flux type applicators. For consistent soldering performance, dispose of spent flux in accordance with local laws, rules and regulations periodically. After emptying used flux, the reservoir and applicator should be thoroughly cleaned with flux thinner. Refill reservoir with fresh flux and allow a few minutes to stabilize before resuming soldering operation.

Flux residues built up on equipment can be removed with IPA.

Key factors for no-clean soldering: Start with clean boards and components. Maintain uniform flux coating. Separate boards to prevent flux carry-over.

TECHNICAL DATA

Item	Typical Values	Item	Typical Values
Appearance	Clear, pale yellow liquid	IPC SF-818 Class III Classification	L3CN
Solids Content, wt/wt	3.3%	Water Extract Resistivity (Mil-F-14255 E)	35,000 Ω-cm
Specific Gravity @ 25 °C (77 °F)	0.795 ± 0.005	Flash Point (TM-06010)	13 °C (56 °F)
Acid Number (mg KOH/g)	15 ± 1.5	Recommended Thinner	800 Additive
% Chloride	None	Shelf Life (from Date of Mfg.)	360 days
Pounds per Gallon (Calculated)	6.6	Packaging Size	1, 5 and 55 gallons

CORROSION & ELECTRICAL TESTING
Corrosion Test

Test	Test Method	Results
Silver Chromate Paper Test	Mil-F-14255 E	PASS
Copper Mirror Test	IPC TM-650 (2.3.32)	PASS
Copper Corrosion Test	IPC TM-650 (2.6.15)	PASS

Surface Insulation Resistance (all values in ohms)

Test	Results
IPC-TM-650 (7-day) Minimum Required	1.0×10^8
IPC-TM-650 (7-day) Cleaned	5.88×10^9
IPC-TM-650 (7-day) Uncleaned	2.94×10^9
Bellcore Comb-Up – Uncleaned	3.2×10^{12}
Bellcore Comb-Down – Uncleaned	3.1×10^{11}
Bellcore Comb-Down – Cleaned	1.7×10^{12}
Bellcore Minimum Required	9.85×10^{10}
Bellcore Test Condition (per TR-TSY-000078): Comb Pattern 25 mil lines, 50 mil spacing	

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

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