

# KESTER® NF1060-VF SOLDERING FLUX

No-Clean, VOC-Free, Zero-Halogen Liquid Flux

## DESCRIPTION

Kester NF1060-VF Soldering Flux is a new addition to Kester's No-Clean, VOC-Free product line. NF1060-VF is zero-halogen (none intentionally added) wave soldering flux that maintains its soldering performance achieving excellent through-hole fill and low-defect soldering of lead-free electronic circuit board assemblies.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

## FEATURES & BENEFITS

- ORM0 per J-STD-004B
- VOC-Free for lower VOC emissions
- Zero-Halogen (none intentionally added)
- Low solids content prevents clogging or buildup around flux spray nozzles
- No offensive odor
- Minuscule, non-visible residue is non-conductive, non-corrosive, and does not need to be removed
- No surface insulation degradation
- Chemically compatible with most solder laminates

## ROHS COMPLIANCE

This product meets the requirements of the Restriction of Hazardous Substances (RoHS) Directive.

**TECHNICAL DATA**

Category	Results	Procedure/Remarks
<b>Physical Properties (Typical values listed)</b>		
Specific Gravity @ 25 °C	1.014	
Acid Number	41.7 mgKOH/gm	
Solids Content (Theoretical)	4.9%	
pH	2.7	5% solution @ 25 °C
<b>Reliability Properties</b>		
Copper Mirror	Low	Tested to J-STD-004, IPC-TM-650, Method 2.3.32
Copper Corrosion	Medium	Tested to J-STD-004, IPC-TM-650, Method 2.6.15
Halogen Content	None Detected	Per IPC-TM-650, Method 2.3.38.1
Surface Insulation Resistance (SIR)	Pass	Per IPC-TM-650, Method 2.6.3.7 Test Conditions: 40 °C, 90% RH, 7 days, 12.5V

**PROCESSING GUIDELINES**

The preheat board temperature should be less than 120 °C (248 °F). Dwell time in the wave is typically 3 to 5 seconds for Sn63Pb37 and 4 to 8 seconds for lead-free alloys. The wave soldering conveyor speed should be adjusted to accomplish proper contact time for the alloy in the solder pot then the heaters in the preheat section adjusted to meet the requirements for the top side circuit board temperature.

Process Parameters	Recommendations
Flux Application	155 to 233 µg/cm <sup>2</sup> of solids (1000 to 1500 µg/in <sup>2</sup> of solids)
Top-Side Preheat Temperature <sup>1</sup>	110 to 115 °C (230 to 239 °F)
Bottom-Side Preheat Temperature	110 to 115 °C (230 to 239 °F)
Recommended Preheat Profile	Straight ramp to top side board temperature
Solder Contact Time	4.5 to 6.5 seconds for Pb-free alloys

Process Parameters	Recommendations
Solder Pot Temperature	260 to 270 °C (500 to 518 °F) for Pb-free alloys

<sup>1</sup> Maximum top side temperature 115 °C (239 °F)

### Flux Control

NF1060-VF is designed to be sprayed. Incoming solderability inspection of circuit boards and components is advisable as part of process control to maintain consistent soldering results. This VOC flux is not designed for use in a foam application. It will require a process with a preheat stage. It is not designed for hand soldering.

### Cleaning

NF1060-VF residues are non-conductive, non-corrosive, and do not require removal in most applications. If it is desired to remove the residues, DI water in in-line or batch cleaner at 43 to 54 °C (110 to 130 °F) may be used. Contact MacDermid Alpha Technical Support for additional assistance.

### Storage, Handling and Shelf Life

recommended. If frozen, NF1060-VF is easily reconstituted by stirring at room temperature. Shelf-life 1 year from date of manufacture when handled properly and held at 4 to 25 °C (40 to 77 °F).

## 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.



## 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.**

## CONTACT INFORMATION

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

<b>North America</b> 140 Centennial Avenue Piscataway, NJ 08854 1.800.367.5460	<b>Europe</b> Unit 2, Genesis Business Park Albert Drive Woking, Surrey, GU21 5RW, UK 44.01483.758400	<b>Asia</b> 8/F., Two Sky Parc 51 Hung To Road Kwun Tong, Kowloon, Hong Kong, SAR China 852.2500.5365
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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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