

# BIOACT<sup>®</sup> EC-ULTRA

## Semi-Aqueous Defluxer

### DESCRIPTION

**Bioact EC-Ultra's** advanced formula combines very low vapor pressure (non-terpene) proprietary ingredients that have high flash points and essentially no odor. High performance semi-aqueous cleaning with minimal chemical emissions is achieved with this material. **Bioact EC-Ultra** allows electronic manufacturers to meet the most stringent VOC (Volatile Organic Compound) emission limits.

Like Bioact EC-7 and EC-7R, **Bioact EC-Ultra** effectively removes all types of solder flux and paste residues (including some no-clean materials) when used in combination with water rinsing. **Bioact EC-Ultra** emulsifies quickly in water, insuring its complete removal from substrates and from under low clearance SMDS.

Rinse water containing **Bioact EC-Ultra** and dissolved flux residues is conveniently separated in a semi-static holding for tank or via membrane filtration, thereby eliminating wastewater effluent concerns. Appropriate carbon absorption and membrane treatment systems are readily available.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

### FEATURES & BENEFITS

- Contains no CFCs or chlorinated solvents. Does not deplete stratospheric ozone.
- Odorless. Meets the most stringent VOC emission regulations.
- High Flash Point. Requires little to no exhaust ventilation.
- High flux loading capacity.
- Water is membrane treatable. Cleans better than CFCs.
- Easy to use and store. Can be used heated to accelerate cleaning.
- Long bath life. Easy economical closed-loop water recycles.

### APPLICATION GUIDELINES

Bioact EC-Ultra is compatible with commercially available semi-aqueous equipment and should be applied in its concentrated form. Wash temperatures of 90 to 140°F (32 to 60°C) are recommended dependent on production rate and cleanliness standards.

After applying Bioact EC-Ultra, circuit boards or assemblies are thoroughly rinsed with <120°F water, removing the Bioact EC-Ultra and dissolved flux residues. For best ionic results,

deionized water (DI) cascaded forward is recommended. Ultrasonics can be used in the Bioact EC-Ultra water rinse sections.

Finally, after water rinsing, forced air and radiant heat are used to dry clean boards or assemblies.

Modifications for lowest VOC Emissions:

1. Minimize ventilation from wash section and initial water rinse section.
  2. Lower Bioact EC-Ultra wash section temperature.
  3. Lower initial water rinse section temperature.
- Increase water rinse flow rate.

**Equipment**

EC-Ultra is compatible with all commercially available semi-aqueous batch and in-line equipment. Membrane treatment systems for closed-loop water recycle are available.

**Compatibility**

Plastics, elastomer and solder mask compatibility data are available. Those materials compatible with CFC 113, Bioact EC-7R and water will also be compatible with Bioact EC-Ultra.

**TECHNICAL DATA**

Physical Properties	Typical Values
Appearance	Water white to light yellow liquid
Odor	Practically none
Specific Gravity @ 25 °C	0.87
Flash Point:	
(PMCC)	285 °F (141 °C)
(COC)	310 °F (154 °C)
Freezing Point	37 °F (3 °C)
pH, 5% dispersion in DI water	4 to 7
Viscosity (25 °C)	6 to 8 cp
Vapor Pressure (20 °C)	.003 torr
Ozone Depletion Potential	Zero

**AVAILABILITY**

Bioact EC-Ultra is available in 1, 5 and 55 gallon containers (20 and 204 liter containers outside the US).

**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)**

**CONTACT INFORMATION**

**To confirm this document is the most recent version, please contact  
 Assembly@MacDermidAlpha.com  
[www.macdermidalpha.com](http://www.macdermidalpha.com)**

<p><b>North America</b>                  109 Corporate Blvd.                  South Plainfield, NJ 07080, USA                  800.367.5460</p>	<p><b>Europe</b>                  Unit 2, Genesis Business Park                  Albert Drive                  Woking, Surrey, GU21 5RW, UK                  01483.758400</p>	<p><b>Asia</b>                  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.