

ARMAKLEEN® E-2003

A Superior Aqueous Cleaner

DESCRIPTION

ARMAKLEEN E-2003 is an environmentally sensible, inorganic based aqueous cleaner designed specifically for in-line or batch equipment used in cleaning electronic assemblies. **ARMAKLEEN E-2003** has a unique chemistry which minimizes solids build-up on the inside of cleaning equipment.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

FEATURES & BENEFITS

- Low surface tension. Penetrates low stand-off heights.
- Minimizes solids build-up. Reduces equipment maintenance.
- No attack on solder. Brighter solder joints.
- No VOC's. No VOC permits required.
- Non-hazardous. No SARA 313 or WHIMS reporting requirements.
- No amines/glycol ethers. Enhanced worker safety.
- Non-flammable. Reduce fire risk.
- No objectionable odor. Worker friendly.
- Low BOD/COD. Easy waste disposal.

APPLICATION GUIDELINES

Process - ARMAKLEEN E-2003 is supplied as a liquid concentrate and diluted in use with deionized water to approximately 10 to 15% by volume. For optimum cleaning, actual concentrations will vary with type of flux or solder paste:

R, RMA, RA: 10 to 15%

OA, No-Clean: 5 to 10%

Operating Temperature - The temperature range is 150 to 165 °F (65 to 75 °C)

After cleaning with ARMAKLEEN E-2003, parts should be rinsed using deionized water heated to 140 to 160 °F (60 to 70 °C).

Unlike amine based saponifiers, ARMAKLEEN E-2003 is not degraded at operating temperatures. Bath life is, therefore, extended and cleaning efficiency is maintained even after idle periods.

Equipment - ARMAKLEEN E-2003 can be used in most batch cleaning machines, however, in-line equipment using CPVC or PVC piping in the wash section should be avoided. Stainless steel is recommended for such pipe work for any aqueous based cleaning machine.

Control - ARMAKLEEN E-2003 concentration in the wash bath is controlled by a simple titration. Consult your local sales or technical personnel if support is needed.

Procedure:

1. Measure accurately 10mL of the wash bath sample.
2. Add about 100mL of deionized water and mix.
3. Add 2 to 3 drops of Phenolphthalein indicator and swirl to a pink color.
4. Titrate with 8N Hydrochloric acid until pink color becomes permanently colorless.
5. Read percent concentration from the graph.

TECHNICAL DATA

Category	Results
Appearance	Clear
Odor	None
pH 10% solution	10.9
BOD	1,200 mg/1
COD	14,000 mg/1
Surface Tension	28 dynes/em
Specific Gravity (22 °C)	1.12
Flash Point	None

AVAILABILITY

ARMAKLEEN E-2003 aqueous cleaner is available in 1, 5 and 55 gallon containers.

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.**

STORAGE

The product should be stored at room temperature above freezing and less than 120 °F.

CONTACT INFORMATION

**To confirm this document is the most recent version, please contact
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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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