

## SMT Detergent Corp.

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Made in U.S.A.



## TECHNICAL PRODUCT DATA

### 440-R<sup>®</sup> SMT Detergent

For **MSDS** go to: [www.SMTdetergent.com](http://www.SMTdetergent.com)

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#### DESCRIPTION

EPA Verified 440-R SMT Detergent is a mild alkaline formulation designed to remove RA, RMA, No Clean, Water Washable (OA) and Lead Free solder pastes from screens, stencils and misprinted PCBs at temperatures between ambient and 100°F (38°C). 440-R SMT Detergent is also very effective in removing wet SMD adhesives from stencils and misprinted substrates and removing post solder flux residues from pallets, oven radiators and other tooling. It contains no CFCs, VOCs, terpenes, alcohol or other hazardous ingredients and performs in ultrasonic, spray or manual cleaning applications. When used in spray equipment, Smart Sonic Defoamer should be used as directed.

**440-R SMT Detergent was certified by the California Environmental Protection Agency (1999) and verified for specific parameters of environmental safety, user safety and cleaning efficiency by the U.S. Environmental Protection Agency (EPA).\*** It has also been certified as a "Clean Air Solvent" by the South Coast Air Quality Management District's (AQMD) CAS Program (1997) and is RoHS & REACH Compliant.

#### PHYSICAL PROPERTIES

Appearance: Clear Pale Yellow Liquid  
Odor: Mild, pleasant  
PH (10% solution): 11.9 – 12.0  
Flash Point: None  
Foaming: Medium  
Rinsing: Complete  
Hard Water Stability: 500 ppm  
Biodegradable: Yes  
Hazardous Ingredients: None  
VOCs: None

#### APPLICATION

**Ultrasonic Machines**  
RMA Solder Paste  
No-clean Solder Paste  
Water Washable (OA)  
Lead Free Solder Paste  
SMD Adhesives  
Pallets & Oven Radiators  
Nano-coated Stencils  
**Spray Machines**

#### Concentration in Plain or DI Water

10% - 15% ambient - 140°F (60°C)  
10% - 15% ambient - 100°F (38°C)  
10% - 15% ambient - 100°F (38°C)  
1% - 5% ambient - 100°F (38°C)  
10% - 15% ambient - 100°F (38°C)  
10% - 15% 90° - 110°F (32 - 43°C)  
10% - 15% 90° - 140°F (32 - 60°C)  
2% - 5% ambient - 100°F (38°C)  
10% - 15% 90° - 110°F (32 - 43°C)  
Use Smart Sonic Defoamer as directed

440-R SMT Detergent is not consumed during the solder paste cleaning process. After the initial charge, no addition of make-up chemistry is required until the wash water is changed. The wash water should be changed, for preventative maintenance purposes, every 1 - 3 months to prevent potential contamination and unpleasant odors. For applications other than cleaning solder paste, wash water maintenance will depend on volume, contaminant and filtration system.

440-R SMT Detergent rinses thoroughly with small amounts of clean ambient water. Cleaning applications, other than solder paste, may require a filtration system to reduce "loading" of the bath. Consult factory.

While 440-R SMT Detergent will perform well in "hard water" (500 ppm), it is recommended that either soft or DI water be used in order to prevent mineral deposits (water spots) on stencils and ionic contamination on PCBs.

#### PRODUCT SAFETY

Materials: Safe on all metals, plastics and ceramics when used as directed.

Environmental: Certified safe and effective by the California Environmental Protection Agency (1999) and verified by the U.S. EPA. 440-R SMT Detergent was also certified as a "Clean Air Solvent" by the South Coast Air Quality Management District's (AQMD) CAS Program (1997). For more information, visit the following Web Sites: <http://www.epa.gov/etv/fp-pprwt.html#acbc> and <http://www.calepa.ca.gov/CalCert/CertifiedTech/SmartSon.htm>

Personnel: Contains no hazardous ingredients. Consult MSDS for complete safety details.

Shelf Life: The recommended shelf life is two-years for unopened containers that are stored at temperatures between 40 – 110 degrees F. (5 –43 degrees C.) and one-year for open containers.

\* <http://www.epa.gov/etv/fp-pprwt.html#acbc>