

# 5768

## Bio-Kleen<sup>®</sup>

### For Water Removal of Rosin Flux Residue

#### Product Description

Kester 5768 Bio-Kleen<sup>®</sup> is a highly concentrated liquid cleaner which is added to water to make a non-foaming solution for removing rosin flux residue. The alkaline chemicals in Kester 5768 react with rosin by a chemical conversion known as saponification to form soaps which are water-soluble. The resulting rosin soap and any water-soluble residue, such as activator salts, can then be rinsed away with water. Kester 5768 possesses enhanced ability to solubilize unsaponifiable material that is normally present in rosin and in additives used in some flux or solderpaste formulations. This assures excellent visual and ionic cleanliness of circuit boards after cleaning. A significant feature of this formulation is its stable composition during use at elevated temperatures such that a greatly increased operating life is achieved. This results in less frequent discharge of the wash tank for replacement with fresh solution and in a process cost reduction. Another special feature of Kester 5768 is that unlike other saponifier products which tend to mildly etch the solder surface, it leaves joints bright and shiny after cleaning. Kester 5768 eliminates the need for expensive, toxic and environmentally harmful solvents traditionally used for flux removal.

#### Performance Characteristics:

- Enhanced ability to solubilize flux residues
- Easily cleaned in water
- Effective for both rosin and water-soluble flux chemistries

#### Physical Properties

**Specific Gravity:** 0.998 ± 0.005

Antoine Paar DMA 35 @ 25°C

**pH (10% solution):** 11.4

Hanna Instruments 8314 @ 25°C

**Amine Value:** 284 ± 15 mgKOH/g

ASTM D-2076

**Flash Point:** 110°C (230°F)

#### Application Notes

Kester 5768 Bio-Kleen<sup>®</sup> is specifically designed for use in automatic in-line spray cleaning equipment but can also be used in batch type washers. Excellent cleaning is accomplished with low foaming and minimal odor. This product contains a very effective organic anti-foaming agent. No silicone defoamers or other oils which do not rinse completely from a circuit board assembly are present in the formulation. For typical applications a 5-10% by volume solution of Kester 5768 is required. A higher or lower concentration may be used depending on specific production requirements. How much Kester 5768 will be used depends on the specific flux or solderpaste formulation, the solids content of the rosin flux, the solution temperature and efficiency of the cleaning equipment. The detergency action of Kester 5768 allows its use to assist in the removal of organic water-soluble fluxes when increased cleaning efficiency or lower surface tension are desired. Kester 5768 is not compatible with PVC or CPVC. As a general guideline, the following table shows the recommended temperature range and concentration of Kester 5768.

<b>Application</b>	<b>Concentration (% by volume)</b>	<b>Temperature</b>
In-line Cleaner:		
Solderpaste	8-12	49-71°C (120-160°F)
Liquid Rosin Flux	5-10	49-71°C (120-160°F)
Organic Water-soluble Flux	1-2	49-71°C (120-160°F)
Batch Cleaner:		
Solderpaste and Liquid Flux	4-5	43-65°C (110-150°F)
Organic Water-soluble Flux	1-2	43-65°C (110-150°F)

### **Cleaning:**

Deionized water is recommended for the wash solution and rinse tank section of in-line spray cleaning equipment. Use of hard or high mineral content tap water will reduce cleaning efficiency and cause scale build up in the cleaning equipment. There will also be increased consumption of Kester 5768 because the saponifier will react with the minerals in hard tap water.

### **Disposal:**

Kester 5768 does not contain phosphates, dichromates, caustic soda, inorganic salts, terpenes or halogenated hydrocarbon solvents. The spent cleaning solution is biodegradable. However, the water may contain some lead. Local regulations should be consulted for limitations on such factor as pH, solids content, COD level and metals percentage.

### **Storage and Shelf Life:**

Shelf life is 2 years from date of manufacture when handled properly and held at 10-25°C (50-77°F).

### **Health & Safety:**

This product, during handling or use, may be hazardous to health or the environment. Read the Material Safety Data Sheet and warning label before using this product.

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