

## ANTI/Foam CR-99

### An All Purpose, Non-Silicon ANTI/FOAM

#### Product Description

ANTI/Foam CR-99 is a non-silicon, non-solvent based anti-foam designed to be used in conveyORIZED spray equipment when developing and stripping aqueous processable dry film and LPISM. ANTI/Foam CR-99 is especially effective with high pressure/high solution throughput equipment and was formulated to rinse completely without leaving residue on printed circuit board surfaces or processing equipment. Additionally, CR-99 is readily pump able for easy automated addition to process sumps utilizing bellows, air diaphragm, or peristaltic pumps.

#### Performance Features

- CR-99 does not contain silica, fumed silica, or silicone.
- CR-99 can be employed in both developing and resist stripping applications.
- CR-99 is extremely free-rinsing virtually eliminating residue on process equipment.
- CR-99 exhibits a viscosity lower than water for easy and accurate automated additions with most types of pumping systems.

#### Physical Specifications

Physical State	Liquid
Appearance	Transparent Solution
Odor	Mild Solvent
Freeze/Thaw Stability	Stable
Specific Gravity	0.9
Flash Point	> 150°F

#### Equipment Requirements

Tanks: Constructed or Lined with PVC, Polyethylene, Polypropylene, Quartz, Teflon, Koroseal, Steel, Monel, Or Titanium.

Heaters: Quartz, Titanium, Stainless Steel, Or Teflon-Encased Steel.

Racks: Constructed or Lined with Stainless Steel, Copper, Plastisol Or PVC.

Delivery System: Pump Heads Should Be Constructed Of Stainless Steel, Steel, Brass, Teflon, Polycarbonate, Or Polyethylene. Delivery Tubing Should Be Latex Or Tygon.

## Technical Data Sheet

### Product Make-Up

For most applications, CR-99 is effective at concentrations of 0.005 - 0.01% by weight of the system. Additions of CR-99 should only be made when the foam head of the system is unacceptable. Use the following calculation to determine the approximate volume (in milliliters) of CR-99 to add to the system.

#### *Calculation*

$$\text{Volume of system in gallons} \times 3.14 = \text{ml of CR-99 to add}$$

NOTE: This calculations assumes the system exhibits an average weight of 8.7 pounds per gallon.

### Operating Parameters

The performance of ANTI/Foam CR-99 is unaffected by typical operating temperatures (60-180°F). Additions should be made at 100 ml/100 gallon of working bath. Make additions as infrequently as is necessary to prevent foam.

### Control and Replenishment

CR-99 should be employed at the lowest concentration which effectively eliminates foam from the system. This volume may be different with different types of dry films or LPISMs. It is recommended no more than 500 ml of CR-99 per 100 gallons of bath be added at any one time. Additions should only be made as required to control foaming. If automated additions are desired, the following general guidelines should be employed:

#### **DEVELOPING**

Add CR-99 at a rate of 4-5 ml/minute during processing. In pH controlled feed and bleed applications, add CR-99 at a rate of 15-20 ml/minute simultaneously with additions of developing solutions.

#### **RESIST STRIPPING**

Add CR-99 at a rate of 6-8 ml/minute during processing. In feed and bleed control systems, add CR-99 at a rate of 25-30 ml/minute simultaneously with additions of resist stripper.

### Safety and Handling

Read and understand this product's MSDS before handling.

### Waste Treatment

Individual users should verify the nature of spent solutions to assure compliance with local, state, and federal regulations. Contact Seacole for specific details and/or further waste treatment recommendations.

### Ordering Information

ANTI/Foam CR-99 is available in 1 gallon jugs, 5 gallon pails and 55 gallon drums.

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