



Product Data Sheet

Date: 06/29/06
Supersedes: NEW
PRODUCT #: N8647

VersaCLEAN™ 425

Chemical Cleaner

DESCRIPTION: An acidic blend of surfactants used as an acid soak conditioner to prepare copper surfaces for plating. *VersaCLEAN 425* removes metal oxides, light oils and other organic contaminants. *VersaCLEAN 425* contains no chelating agents which would make waste treatment difficult. *VersaCLEAN 425* can be followed by a microetch to achieve increased adhesion when needed.

BENEFITS:

- **Concentrated formula provides extended bath life**
- **Contains no chelating agents**
- **Effective at removing metal oxides, light oils and other organic contaminants.**

EQUIPMENT:

Tanks should be constructed of PVC, polyethylene or koroseal. Heaters should be constructed of Teflon®, quartz or titanium.

**MAKE-UP/
OPERATING
INSTRUCTIONS:**

VersaCLEAN 425: 10% by volume
Deionized Water: 90%
Temperature: 115 - 130°F
Immersion Time: 3 - 5 minutes
Agitation: Mild.

Procedure:

1. Fill tank 2/3 full with deionized water.
2. Add the required amount of *VersaCLEAN 425* and mix well.
3. Adjust to final volume with deionized water and mix well.

**CONTROL
PARAMETERS:**

To achieve optimum results, the bath should be maintained at the following concentration

<u>VersaCLEAN 425</u>	OPTIMUM	RANGE
VersaCLEAN 425 Concentration:	10%	8-12%

**ANALYSIS &
REPLENISHMENT:**

ANALYSIS PROCEDURE FOR *VersaCLEAN 425*

Determination of concentration of *VersaCLEAN 425*

Equipment:

5 ml pipette 250 ml Erlenmeyer flask or beaker
50 ml buret

Reagents:

0.1N Sodium Hydroxide (NaOH) - Commercially available from chemical supplier.

Phenolphthalein indicator – Commercially available from chemical supplier.

Procedure:

1. Pipette 5 ml of working solution into a 250 ml Erlenmeyer flask. Add 75 ml D.I. water.
2. Add 3-5 drops of phenolphthalein indicator and mix.
3. Titrate with 0.1N NaOH until the solution turns from clear to pink. Record the number of mls.

Calculation:

$$\frac{\text{Mls of NaOH} \times \text{N of NaOH} \times 15.5}{\text{ml sample}} = \% \text{ by volume } \textit{VersaCLEAN 425}$$

Maintenance:

$$[10\% - \% \textit{VersaCLEAN 425}] \times \text{Tank vol(l)} = \text{add of } \textit{VersaCLEAN 425} \text{ in (l)iters}$$

BATH LIFE:

Contamination build up limits bath life. The bath should be replaced when square footage of copper run through the bath exceeds 150 SSF/gallon.

CAUTIONS:

Avoid skin, oral and eye contact. Wear goggles and protective clothing when handling the liquid concentrate. Flush exposed areas immediately with water and consult a physician in case of injury. Refer to material safety data sheet for further information.

WASTE DISPOSAL:

The spent solution may contain levels of dissolved metal oxides that must be treated before discharge. Dispose of in accordance with federal, state, and local regulations.

This product should be used only for its intended purpose. The information stated above is based on our laboratory tests and experience, and is accurate to the best of our knowledge. Since actual use is beyond our control, the recommendations or suggestions are made without warranty, expressed or implied.