

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2003  
 DateRun: 12/07/2003  
 Experimenters: Dave Hout  
 ClientType: Lab  
 ProjectNumber: Project #1  
 Substrates: Aluminum  
 PartType: Coupon  
 Contaminants: Fluxes  
 Cleaning Methods: Immersion/Soak  
 Analytical Methods: Gravimetric

Purpose: Laboratory evaluations of alternative cleaning products

Experimental Procedure: Basic cleaning performance testing was conducted using ASTM G122 as the bases for cleaning. Two products were heated to 130 F on a hot plate and two others were used at full strength. Twelve preweighed coupons were coated with Flux - Kester Solder Flux 1544 (64-17-5, 78-92-2) (8050-09-7) and allowed to dry for a half an hour and reweighed. Three coupons were cleaned in each solution for 5 minutes using stir-bar-agitation, rinsed in a tap water bath for 15 seconds at 120 F and dried using air blow off for 30 seconds at 68 F. Coupons were allowed to dry for a half an hour and then reweighed a final time. Efficiencies were calculated.

Results:

Summary:

|                              |                           |               |                    |                                     |                      |
|------------------------------|---------------------------|---------------|--------------------|-------------------------------------|----------------------|
| <b>Substrates:</b>           | Aluminum                  |               |                    |                                     |                      |
| <b>Contaminants:</b>         | Fluxes                    |               |                    |                                     |                      |
| <b>Company Name:</b>         | <b>Product Name:</b>      | <b>Conc.:</b> | <b>Efficiency:</b> | <b>Effective:</b>                   | <b>Observations:</b> |
| Chemkleen International Inc. | CT 1 Multipurpose Cleaner | 5             | 97.90              | <input checked="" type="checkbox"/> |                      |
| Calgon Corporation           | Geo Guard 3015            | 5             | 4.41               | <input type="checkbox"/>            |                      |
| EcoLink                      | Positron                  | 100           | 4.05               | <input type="checkbox"/>            |                      |
| Kyzen Corporation            | Ionox HC                  | 100           | 101.88             | <input checked="" type="checkbox"/> |                      |

Conclusion: Half of the products were effective at an efficiency rate of over 97%