

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2008  
 DateRun: 05/22/2008  
 Experimenters: Ephraim Massawe  
 ClientType: Lab  
 ProjectNumber: Project #1  
 Substrates: Aluminum  
 PartType: Coupon  
 Contaminants: Coatings  
 Cleaning Methods: Immersion/Soak  
 Analytical Methods: Gravimetric

Purpose: to remove clear tex d from the surfaces of aluminum

Experimental Procedure: Basic cleaning performance testing was conducted using ASTM G122 as the bases for cleaning. Products were based on the compatibility of substrate and removal of foreign substance. Used 5% concentration and heated the samples at 135F. The coupons were immersed in a product for 5 minutes, rinsed for 30 seconds in tap water at 120F and dried in 30 seconds.

| Cleaner                 | Initial wt | Final wt | % Removed |
|-------------------------|------------|----------|-----------|
| sea wash blue           |            |          |           |
|                         | 0.4890     | 0.0460   | 90.59     |
|                         | 0.5553     | 0.0316   | 94.31     |
|                         | 0.5031     | 0.0292   | 94.20     |
| california parts washer |            |          |           |
|                         | 0.8006     | 0.0240   | 97.00     |
|                         | 0.5199     | 0.0150   | 97.11     |
|                         | 0.5069     | 0.0444   | 91.24     |
| ozzy juice sw3          |            |          |           |
|                         | 0.4864     | 0.0379   | 92.21     |
|                         | 0.4085     | 0.0243   | 94.05     |
|                         | 0.5412     | 0.0397   | 92.66     |
| ozzy juice sw1          |            |          |           |
|                         | 0.4936     | 0.0278   | 94.38     |
|                         | 0.4751     | 0.0301   | 93.66     |
|                         | 0.7236     | 0.0306   | 95.77     |
| nab 9000                |            |          |           |
|                         | 0.6470     | 0.0215   | 96.68     |
|                         | 0.5802     | 0.0315   | 94.57     |
|                         | 0.5980     | 0.0398   | 93.34     |
| valtron sp2275          |            |          |           |
|                         | 0.5261     | 0.0324   | 93.84     |
|                         | 0.4683     | 0.0295   | 93.70     |
|                         | 0.3928     | 0.0114   | 97.10     |

Summary:

|                         |                                     |               |                    |                                     |                      |
|-------------------------|-------------------------------------|---------------|--------------------|-------------------------------------|----------------------|
| <b>Substrates:</b>      | Aluminum                            |               |                    |                                     |                      |
| <b>Contaminants:</b>    | Coatings                            |               |                    |                                     |                      |
| <b>Company Name:</b>    | <b>Product Name:</b>                | <b>Conc.:</b> | <b>Efficiency:</b> | <b>Effective:</b>                   | <b>Observations:</b> |
| Warren Chemical Company | Sea Wash Blue                       | 5             | 93.03              | <input checked="" type="checkbox"/> |                      |
| Phase III Inc           | California Parts Washer Solution    | 5             | 95.15              | <input checked="" type="checkbox"/> |                      |
| Chem Free Corporation   | SW-3 Ozzy Juice (Improved Low Odor) | 5             | 92.97              | <input checked="" type="checkbox"/> |                      |
| Chem Free Corporation   | SW-1 Ozzy Juice                     | 5             | 94.60              | <input checked="" type="checkbox"/> |                      |

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|                               |                 |   |       |                                     |  |
|-------------------------------|-----------------|---|-------|-------------------------------------|--|
| North Atlantic Bio Industries | NAB 9000        | 5 | 94.86 | <input checked="" type="checkbox"/> |  |
| Valtech Corporation           | Valtron SP 2275 | 5 | 94.88 | <input checked="" type="checkbox"/> |  |

Conclusion: All products tested surpassed our removal rate of 85%.