

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2016  
 DateRun: 05/11/2016  
 Experimenters: Sabrina Apel  
 ClientType: Metal Working  
 ProjectNumber: Project #1  
 Substrates: Stainless Steel  
 PartType: Coupon  
 Contaminants: Waxes  
 Cleaning Methods: Immersion/Soak  
 Analytical Methods: Gravimetric  
 Purpose: To find alternative degreasing agents

**Experimental Procedure:** Two cleaners were tested at room temperature (68°F) to evaluate removal of Carnuba Wax on stainless steel coupons. Six pre-weighed coupons were coated with Carnuba Wax. Each coupon was baked in an oven at 200 °F for ten minutes and cooled at 120 °F for five minutes. Coupons were removed from the oven, cooled to room temperature, and weighed to determine amount of soil added. Three coupons were immersed in one of the solvents for five minutes in a beaker. The coupons were air dried for 15 minutes. There was no rinse. Once dry, final weights were measured and efficiency was calculated for each coupon cleaned.

**Results:** Fluosolv CX and Fluosolv NC did not clean the Carnuba Wax efficiently, Fluosolv CX had better removal gravimetrically. The coupons did not visually show removal of the soil after immersing. While air drying the coupons, the residual wax dried and turned white.

| Cleaner     | Initial wt of cont. | Final wt of cont. | %Cont Removed |
|-------------|---------------------|-------------------|---------------|
| Fluosolv CX | 0.0683              | 0.0338            | 50.51         |
|             | 0.0344              | 0.0264            | 23.26         |
|             | 0.0453              | 0.0226            | 50.11         |
| Fluosolv NC | 0.0531              | 0.0388            | 26.93         |
|             | 0.0528              | 0.0419            | 20.64         |
|             | 0.0482              | 0.0359            | 25.52         |

**Summary:**

|                                |  |                      |               |                    |                          |                      |
|--------------------------------|--|----------------------|---------------|--------------------|--------------------------|----------------------|
| <b>Substrates:</b>             |  | Stainless Steel      |               |                    |                          |                      |
| <b>Contaminants:</b>           |  | Waxes                |               |                    |                          |                      |
| <b>Company Name:</b>           |  | <b>Product Name:</b> | <b>Conc.:</b> | <b>Efficiency:</b> | <b>Effective:</b>        | <b>Observations:</b> |
| NuGeneration Technologies, LLC |  | FluoSolv CX          | 100           | 41.29              | <input type="checkbox"/> |                      |
| NuGeneration Technologies, LLC |  | FluoSolv NC 786      | 100           | 24.36              | <input type="checkbox"/> |                      |

**Conclusion:** Ecolink Fluosolv CX and Fluosolv NC did not efficiently remove Carnuba Wax on stainless steel at room temperature. The Ecolink Fluosolv CX cleaned with an efficiency of 41.29%. The Ecolink Fluosolv NC cleaned least efficiently with an efficiency of 24.36%.