

# CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2021  
 DateRun: 02/23/2021  
 Experimenters: Nicole Kebler  
 ClientType: Cleaning Equipment Mfr  
 ProjectNumber: Project #1  
 Substrates: Stainless Steel  
 PartType: Coupon  
 Contaminants: Greases, Oil  
 Cleaning Methods: Ultrasonics  
 Analytical Methods: Gravimetric, Visual  
 Purpose: To use the Industrial GS 34 cleaning method to test TorqLube Ruff-Stuff for the removal of maintenance soil and production oil from stainless steel using ultrasonics.

Experimental Procedure: A 10% solution of TorqLube Ruff-Stuff was made prior to the testing. Three stainless steel coupons were used for testing. They were weighed for initial weights. About 0.15g of maintenance soil (which had been previously made using 10 grams of carbon black, 10 grams iron oxide, 100 ml WD-40, 100 ml hydraulic oil, and 100 ml gear oi) was added to the three coupons. These coupons were put in the oven at 105 degrees Fahrenheit for 30 minutes. Once cooled off to room temp, a beaker was filled halfway with the 10% Ruff-Stuff and heated to 105 degrees Fahrenheit and placed in a warming bath in the ultrasonic tank. All coupons were put in the beaker and left for a 30-minute immersion soak with ultrasonics. Once the 30 minutes were up, the coupons went into a 20 minute distilled water bath. They were taken out and held for 20 seconds, and then placed into another bath. Once the second bath was done, the coupons were put back into the oven at 220 degrees Fahrenheit for 30 minutes. They were then left to dry and once fully dried, final weights were recorded.

Results: TorqLube Ruff-Stuff was 99.16% effective at removing maintenance soil from stainless steel coupons using ultrasonics. Very little soil was left on the coupons visually.

Coupon	Initial wt. of cont.	Finale wt. of cont.	Cont. Removed	Average
23	0.1627	0.0017	98.96	99.16
99	0.1003	0.0006	99.40	
6	0.1036	0.0009	99.13	

Summary:

<b>Substrates:</b>		Stainless Steel			
<b>Contaminants:</b>		Greases, Oil			
<b>Company Name:</b>	<b>Product Name:</b>	<b>Conc.:</b>	<b>Efficiency:</b>	<b>Effective:</b>	<b>Observations:</b>
Torq Lubricants	Ruff-Stuff Waterbased Degreaser	10%	99.16	<input checked="" type="checkbox"/>	Ruff-Stuff was effective for the removal of maintenance soil on stainless steel coupons.

Conclusion: TorqLube Ruff-Stuff was effective using ultrasonics for the removal of maintenance soil on stainless steel coupons.