CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2020

DateRun: 02/23/2020

Experimenters:

ClientType: Metal Finishing

ProjectNumber: Project #1

Substrates: Steel

PartType: Coupon

Contaminants: Oil

Cleaning Methods: Ultrasonics

Analytical Methods: Gravimetric

Purpose: To determine the effectiveness of aqueous cleaners in removing Vanishing Oil from steel coupons provided by the company.

Experimental Procedure: Five sets of three steel coupons were soiled with vanishing oil provided by the company and were immersed into five distinct beakers containing Micro 90, Aquavantage 1400 GD, Alconox, SC-1000, and Sta-Sol ESS 160 respectively. Heated ultrasonics at 122-125°F for 15 minutes was used to clean the coupons. At 5-minute intervals, observations about the state of cleanliness were noted. Aqueous cleaners, cleaners 1-4, received an additional water bath in deionized water for 5 minutes. Coupons were dried with an air gun for 5 minutes. Effectiveness of cleaning was observed visually and gravimetrically following the drying step.

Results: After 15 minutes of heated ultrasonics and subsequent post-treatment, the vanishing oil was removed from all coupons.

Summary:

Substrates:	Steel				
Contaminants:	Oil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
International Products Corporation	Micro 90 Conc.	2%	206.00	☑	
Brulin Corporation	Aquavantage 1400	5%	113.00	☑	
Alconox Inc	Alconox	2g/ 200mL	193.00	☑	
Gemtek Products	SC 1000 Aqueous Cleaner Concentrate	20%	140.00	☑	
JR Hess & Co., Inc.	Sta-Sol ESS 160	100%	107.00	☑	

Conclusion: Based on visual and gravimetric analysis, all cleaners removed the vanishing oil, but Sta-Sol ESS 160 was the most effective cleaner for removing the vanishing oil from the steel coupons. It should be noted that clean weights still are consistently less than initial weights for all coupons. The coupons were cleaned prior to testing and fresh solutions of each cleaner were prepared so as to eliminate any contaminants.