CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2019

DateRun: 10/03/2019

Experimenters: Nicole Kebler

ClientType: Metal Finishing

ProjectNumber: Project #1

Substrates: Steel

PartType: Coupon

Contaminants: Oil

Cleaning Methods: Immersion/Soak

Analytical Methods: Visual

Purpose: To evaluate cleaners removing vanishing oil on company provided steel coupons.

Experimental Procedure: Three coupons per cleaner were contaminated with vanishing oil using a swab on the bottom third of the coupon on one side. The coupons were immersed into the unheated cleaners for 10 minutes with visual observations every five minutes. An additional step for aqueous cleaners (Cleaners 1-6) was added after visual residue was apparent after cleaning. Coupons cleaned in the aqueous cleaners were placed in a five-minute unheated tap-water bath and air dried before taking final observations.

Results:

Cleaner	5 mins	10 mins	Rinse and Dry
1	no visible removal/clear dilution	no change	no change
2	no visible removal/clear dilution	no change	no change
3	no visible removal/clear dilution	no change	no change
4	no visible removal/clear dilution	no change	no change
5	no visible removal/clear dilution	a little removal seen	no change
6	no visible removal/clear dilution	no change	no change
7	no visible removal/clear dilution	a little removal seen	no change

Most were effective at removing the contaminant, but a majority of the coupons had visible residue even after a five-minute rinse. Sta Sol ESS 160 and Liquinox were the only two cleaners that removed the vanishing oil and didn't really leave a visual residue like the other coupons.

Summary:

Substrates:	Steel				
Contaminants:	Oil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Buckeye International	Immersion Cleaner	20%	0.00	☐	
International Products Corporation	Micro 90 Conc.	2%	0.00	☐	
Brulin Corporation	Aquavantage 1400	5%	0.00	☐	
Alconox Inc	Alconox	1%	0.00	☐	
Alconox Inc	Liquinox	1%	0.00	☑	
Gemtek Products	SC 1000 Aqueous Cleaner Concentrate	20%	0.00	☐	
JR Hess & Co., Inc.	Sta-Sol ESS 160	100%	0.00	☑	

Conclusion:

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Sta Sol ESS 160 and Liquinox 1% were the most effective cleaners. The next step will be to identify four other cleaners and continue testing with heated immersion on the two effective cleaners.