CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2021

DateRun: 01/17/2022

Experimenters: Nicole Kebler

ClientType: Metal Working

ProjectNumber: Project #1

Substrates: Carbon Steel

PartType: Part

Contaminants: Oil

Cleaning Methods: Immersion/Soak

Analytical Methods: Gravimetric, Visual

Purpose: To evaluate industrial cleaners for the removal of oil from previously contaminated carbon steel parts using unheated immersion with agitation via a stir bar.

Experimental Procedure: One coupon per cleaner that was previously soiled by the company was weighted for dirty weights. The coupons were then put into the cleaner and immersed for 15 minutes with a stir bar that was used at 400 rpm. After the 15 minutes, they were taken out and left to dry overnight. The clean weights were taken the next day. The coupons were then wiped clean till all oil was removed from the surface and were weighed for initial weights.

Results: None of the cleaner were effective at removing oil from the surface of the coupon and visually all coupons had oil left on the surface after drying overnight. Citrinox had the highest removal at 76% but oil remained on the surface. The lowest removal was SuperSolv at 25% removal. The rest ranged between 35-57% removal.

Cleaner	Concentration	Initial wt. of cont.	Final wt. of cont.	Average
Mirachem 500	2:1	0.2188	0.1268	42.05
Super Solv	1:1	0.2024	0.1508	25.49
Surface Cleanse	2%	0.2989	0.1272	57.44
Micro 90	2%	0.1781	0.1175	34.03
Alconox	2%	0.2463	0.1302	47.14
Shopmaster LPH	10%	0.2388	0.1408	41.04
Liquinox	2%	0.2571	0.1662	35.36
Citrinox	2%	0.3145	0.0748	76.22

Summary:

Substrates:	Carbon Steel				
Contaminants:	Oil				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Mirachem Corporation	Mirachem 500	67	42.05	☐	
Gemtek Products	SC Supersolve Safety Solvent	50	25.49	☐	
International Products Corporation	Surface Cleanse Concentrated Neutral 930	2	57.44	☐	
International Products Corporation	Micro 90 Conc.	2	34.03	☐	
Alconox Inc	Alconox	2	47.14	☐	
Buckeye International	Shopmaster LPH	10	41.04	☐	
Alconox Inc	Liquinox	2	35.36	☐	
Alconox Inc	Citranox	2	76.22	☐	

Conclusion: None of the cleaners were effective using unheated immersion with a stir bar. Next steps are to continue to use ultrasonics cleaning.