CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2009
DateRun:	03/22/2009
Experimenters:	Jason Marshall, Junhee Cho
ClientType:	Chemical Company
ProjectNumber:	Project #1
Substrates:	Stainless Steel
PartType:	Coupon
Contaminants:	Cutting/Tapping Fluids
Cleaning Methods:	Manual Wipe
Analytical Methods:	Visual
Purpose:	To evaluate cleaning time on a larger surface for manual cleaning
Experimental Procedure:	One supplied product and acetone were used at full strength and room temperature. Stainless steel coupons, 12 inch by 12 inch, were coated with the Steco Corporation Tap Magic cutting fluid using a handheld swab. The cleaning solution was applied to the surface of the larger coupons using a plastic squeeze bulb. A reinforced Kimberly Clark Wypall X60 paper towel was soaked with the same cleaning product. Cleaning was conducted until all the cutting fluid was removed as determined by visual inspection. The amount of time needed to remove the cutting fluid was recorded. The process was repeated three times and an average cleaning time was calculated. In addition, a set of 2”x4” aluminum coupons were cleaned following the same process.
Results:	Both cleaning products required around 40 seconds to remove all of the cutting fluid. The acetone was slightly faster than the SWC 100.

Cleaner	Coupon	Time (second)	Average time
SWC 100	1	38	43.3
SWC 100	2	48	
SWC 100	3	44	
Acetone	1	44	41.3
Acetone	2	40	
Acetone	3	40	

For the smaller aluminum coupons, the SWC 100 required about 10 seconds and the Acetone needed 12 seconds. Times for each coupon cleaned are listed below.

Aluminum 2”x4” coupons			
Cleaner	Coupon	Time (second)	Average time
SWC 100	1	10	10
SWC 100	2	8	
SWC 100	3	12	
Acetone	1	17	12.3
Acetone	2	10	
Acetone	3	10	

Summary:

Substrates:	Stainless Steel				
Contaminants:	Cutting/Tapping Fluids				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Environmental Solution Products Inc	SWC 100	100	0.00	☑	
Fisher Scientific	Acetone (CAS: 67-64-1)	100	0.00	☑	

Conclusion: Cleaning time to remove the cutting fluid from the larger surface was under 45 seconds for both products for the large stainless-steel coupons and around 10 seconds for the smaller aluminum coupons, differing by 2 seconds on average from one product to the next.