CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 1996

DateRun: 05/24/1996

Experimenters: Jay Jankauskas

ClientType: Machinery Manufacturer

ProjectNumber: Project #1

Substrates: Steel

PartType: Coupon

Contaminants: Cutting/Tapping Fluids, Greases

Cleaning Methods: Immersion/Soak

Analytical Methods: Visual

Purpose: To determine a drop in replacement

Experimental Procedure:

The purpose of this trial is to determine a drop-in replacement for Machinery Manufacturer's current usage of Diversey Jettacin cleaner. For a successful chemistry to be chosen it must meet several things:
1) Must be able to remove various cutting oils and packing greases as good as or better than Jettacin.
2) Preferably have no VOC content or very low contents
3) Must be able to be rinsed easily to allow painting after drying.

From the three variables listed above ten different aqueous chemistries were chosen. The effectiveness in removing three different packing greases will be evaluated. Grease #1 is a Valvoline heavy grease. Grease #2 is a heavy grease. Grease #3 is also a heavy grease. Cleaning was done in a simple immersion test for 10 minutes at 120 F. After cleaning the coupons were rinsed in room temperature tap water for ten seconds and then allowed to air dry. Cleanliness was based on visual effectiveness of each cleaner and each cleaner was given a grading of 1 to 10 for each grease. 1 being the best remover and 10 being the worst.
SUBSTRATE MATERIAL: Steel
CONTAMINANTS: Various heavy greases and cutting fluids

Results:

Chemistry	Grease 1	Grease 2	Grease 3
Gemteck SC 1000	3	10	4
Ardrox, Inc. Ardrox 6633	1	5	2
U.S. Polychem Polyspray 790 XS	2	1	3
Environmental Tech RB Cleaner Degreaser	10	10	6
Valtech Valtron 2201	10	4	5
General Chemical Aluminex 5761	10	6	10
Hurrisafe Special Degreaser	10	10	1
Brulin Corp 815 GD	10	10	7
U.S. Polychem Polyspray 790 P	10	3	10
Oakite Products Inc. Inproclean 2000	10	2	10
Diversey Corporation Jettacin	10	7	8

From the results in Table 1, the Ardrox 6333 and the Polyspray 790 XS were tested further against the Jettacin in a Miele G7735 pressure wash unit. This time, the coupons were contaminated with a variety of cutting oils and greases along with the pine-tar preservative obtained from the client. All contaminants were applied with a Styrofoam swab and then allowed to set for 4 hours.

Summary:

Substrates:	Steel				
Contaminants:	Cutting/Tapping Fluids, Greases				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Gemtek Products	SC 1000 Aqueous Cleaner Concentrate		0.00	☐	
Ardrox Inc	6333		0.00	☑	

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US Polychem Corporation	Polyspray Jet 790 XS		0.00	☑	
US Polychem Corporation	Polyspray Jet 790 P		0.00	☐	
Environmental Technology	RB Degreaser Cleaner		0.00	☐	
Valtech Corporation	Valtron SP 2201		0.00	☐	
General Chemical Corporation	Aluminex 5761		0.00	☐	
Hurri Kleen Corportion	Special Formula Degreaser		0.00	☐	
Brulin Corporation	Formula 815 GD		0.00	☐	
Oakite Products	Inproclean 2000		0.00	☐	

Conclusion: From the above results, two chemistries were tested further, the Ardrox 6633 and the U.S. Polychem Polyspray XS in a pressure wash unit. The pressure washer operates at a maximum pressure of 13.