CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 1998

DateRun: 05/27/1998

Experimenters: Jason Marshall

ClientType: Vessel Cleaning Company

ProjectNumber: Project #2

Substrates: Liquid

PartType: Coupon

Contaminants: Adhesive

Cleaning Methods:

Analytical Methods: Visual

Purpose: Find replacement for methylene chloride

Experimental Procedure: Seven chemistries were selected for testing based on the ability to dissolve adhesive. Past laboratory experiments with similar conditions were examined to aid in selecting possible cleaning chemistries. Twenty-five milliliters of each cleaner were poured into a 30 mL vial. Approximately 0.5 gram of the contaminant was weighed and placed into each beaker. Each vial was covered with the supplied cap and shaken for 30 seconds. Observations were recorded. The shaking and observation cycle was repeated. The chemistries were then allowed to sit for 3 hours and then overnight. Shaking and observations took place after each interval.
1-Envirosolutions-BioT Max
2-Pride Int. Inc.-Citrisolv Plus
3-Finger Lakes-Resineater
4-Buckeye-Shopmaster
5-Star Products-Star Cleaning Miracle Super Concentrate
6-AW Chesterton-KPC 820N
7-WR Grace-Daraclean 282GF

SUBSTRATE MATERIAL: N/A
CONTAMINANTS: Adhesive (neoprene with resin base with mix of toluene, hexane and MEK)

Results: Table 1 lists the observations after each shaking. The number three cleaner showed immediate signs of dissolving the adhesive. The other three chemistries (4,5,7) were only slightly effective.

Table 1 Observations of Cleaning Chemistries

Chemistry	Weight Added (g)	30 Seconds Observation	60 Seconds Observation	3HR Observation	24HR Observation
1	0.5288	No mixing	Same	Same	Same
2	0.5250	No mixing	Same	Same	Same
3	0.4959	Clear solution turned blue	Deeper Blue	Turning to sludge	Adhesive almost all dissolved
4	0.5118	Some mixing	Same	Same	Same
5	0.5394	Some mixing (less than 4)	Same	Same	Same
6	0.5051	No mixing	Same	Same	Same
7	0.5457	No mixing	Some Mixing (less than 5)	Same	Same

Summary:

Substrates:	Liquid				
Contaminants:	Adhesive				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
Bio Chem Systems	Bio T Max	100	0.00	☐	
Pride International Inc	Citrisolv Plus	100	0.00	☐	
Finger Lakes Chemical	FLSC-12 Resineater Sample	100	0.00	☑	
Buckeye International	Shopmaster	100	0.00	☐	
By Pas and Star Products	Star Cleaning Miracle # 50	100	0.00	☐	

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AW Chesterton	KPC 820 N	100	0.00	☐	
Magnaflux	Daraclean 282 GF	100	0.00	☐	

Conclusion:

Finger Lakes Resineater is a pure solvent designed to replace ozone depleting chemicals including methylene chloride. The product does not mix with water and works best when heated to 170-180 F. A copy of the product's MSDS and Technical Data Sheet is included.

The Toxics Use Reduction Institute is currently developing a research project to examine the impact of the work environment resulting from the elimination or reduction of methylene chloride use in industry. If you would like to participate in this project, assistance with technical, economical and environmental assessments can be offered. Also, Industrial Health surveys would also be conducted before and after replacing methylene chloride.
If you have further questions or are interested in participating, please contact Michael J. Ellenbecker, Director of Research for TURI at (978)934-3272 or Cora Roelofs (978)934-3259.