CLEANING LABORATORY EVALUATION SUMMARY

SCL #:	2003
DateRun:	07/16/2003
Experimenters:	Jason Marshall
ClientType:	Chemical Company
ProjectNumber:	Project #1
Substrates:	Aluminum, Stainless Steel
PartType:	Coupon
Contaminants:	Adhesive, Resins/Rosins
Cleaning Methods:	Immersion/Soak
Analytical Methods:	
Purpose:	To generate a list of products that could be used to remove adhesive from mixing tanks
Experimental Procedure:	Using the laboratory's database, two lists of products were generated. The first list consists of products that have been evaluated at SSL under conditions similar to current cleaning process. The second list contains products that meet the requirements according to vendor supplied information, but may not have been verified experimentally by the lab.
Results:	RESPONSE: The Massachusetts Toxics Use Reduction Institute (TURI) has made the results of the tests conducted at the Institute's Surface Solutions Laboratory into a searchable database format. This should make alternative cleaner selection faster and easier. Here are the results of your query, based on the information supplied.

The first table includes the products evaluated at SSL.

CompanyName	ProductName	Classification	Value
Aremco	Crystalbond 590 S	Powder Detergent	48
Alconox Inc	Citranox	Acidic Aqueous	46
International Products Corporation	Surface Cleanse 930	Neutral Aqueous	46
Safe Science	Safe Science Engine Degreaser (Industrial)	Terpene	45
Safe Science	Safe Science All Purpose (Industrial)	Alkaline Aqueous	43
Safe Science	Safe Science Concrete/ Graffiti (Industrial)	Alkaline Aqueous	42
Du Pont	DBE	Ester	38
Solvent Kleene Inc	D Greeze 500 LO	Organic	38
Bio Chem Systems	Bio T Max	Terpene-Semi-Aqueous	37
Bio Chem Systems	Solsafe 245	Petroleum Distillate	37
Dynamold Solvents Inc	DS 108	Petroleum Distillate	37
Ecolink	Safe Strip	Organic	37
Inland Technologies Inc	Citrasafe	Terpene	37
Tarksol Inc	Tarksol HTF-50	Semi-Aqueous	37
Ecolink	Positron	Organic	35

The second table lists the specific contaminants that were cleaned by the above listed products.

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Adhesive
Adhesive - 3M contact cement-30NF
Adhesive - Acrylic Sealant-Aromatic Hydrocarbon (108-88-3)
Adhesive - Aremco Crystalbond 590
Adhesive - Ashland Chemical Acrylic Sealant 5504 (108-88-3, 141-78-6, 142-82-5, 67-63-0)
Adhesive - Insta-Cure adhesive (7085-85-0), Insta-Set (64742-89-8, 99-97-8)
Adhesive (108-88-3, 9010-98-4, 65997-13-9, 68083-03-4)
Adhesive (108-88-3, 9010-98-4, 65997-13-9, 68083-03-4, 657-13-9)
Adhesive (9010-98-4, 65997-13-9, 68083-03-4, 108-88-3, 67-56-1, 1314-13-2, 119-47-1, 8052-10-6)
Resin - Emerson & Cuming Stycast 1090 Black Epoxy (1675-54-3, 1333-86-4)

The vendor recommended products that were identified for adhesive and resin removal from aluminum and stainless steel. The Value listed in the table is an environmental ranking based on SSL's indicators: VOC content, Global Warming Potentials, Ozone Depletion Potentials, HMIS/NFPR ratings and pH. Scores are based on a maximum of 50 points. The higher scores implies a potentially safer product.

CompanyName	ProductName	ClassificationDescription	Value
Amax Corporation	Safety First	Semi-Aqueous	49
Ausimont USA Inc	Perfluorosolv PFS 1	HCFC	49
Innovative Organics Inc	Amber Clean SC 11	Neutral Aqueous	49
Tarksol Inc	Tarksol HTF 40	Terpene-Semi-Aqueous	49
Buckeye International	Shopmaster LPH	Alkaline Aqueous	48
Gemtek Products	ODOR-EX	Alkaline Aqueous	48
Solvent Kleene Inc	D Greeze 1000	Petroleum Distillate	48
Tarksol Inc	Tarksol HTF 85 B	Alcohol-Organic	48
AG Environmental Products	Canola Gold CE110	Ester	47
AG Environmental Products	Soy Clear 1500	Ester	47
Chemtronics	Super Bio Wash	Semi-Aqueous	47
Finger Lakes Chemicals	Resineater	Terpene	47
Gemtek Products	SC Supersolve	Organic	47
Innovative Organics Inc	Amberclean Q3	Alkaline Aqueous	47
Kyzen Corporation	Misprint Stencil Remover	Hydrocarbon	47
Phase III Ink	California Parts Washer Solution	Neutral Aqueous	47
Savogran	HD-34 Cleaner Degreaser	Semi-Aqueous	47
US Polychem Corporation	Polychem 2000 P	Alkaline Aqueous	47
	Biosolve	Neutral Aqueous	47

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Westford Chemical Corporation			
Westford Chemical Corporation	Biosolve	Neutral Aqueous	47
Church & Dwight	Armaklean E 2001	Alkaline Aqueous	46
Church & Dwight	Armaklean E 2002	Alkaline Aqueous	46
International Products Corp	Micro	Alkaline Aqueous	46
International Products Corporation	Micro 90	Alkaline Aqueous	46
International Products Corporation	Surface Cleanse 930	Neutral Aqueous	46
Today & Beyond	Beyond 2007	Alcohol	46
US Polychem Corporation	Polyspray Jet 790 P	Alkaline Aqueous	46
Vertec BioSolvents	Take Off Green	Organic	46
Brulin Corporation	EXP 1400	Alkaline Aqueous	45
Buckeye International	Shopmaster	Alkaline Aqueous	45
Church & Dwight	Armaklean M Aero	Alkaline Aqueous	45
Magnaflux	Daraclean 235	Neutral Aqueous	45
Safe Science	Safe Science Engine Degreaser (Industrial)	Terpene	45
Savogran	SI #8 Coating Remover	Alcohol-Organic	45
Simple Green	Crystal Simple Green Industrial Cleaner	Alkaline Aqueous	45
Twin Rivers Corp	Methyl Ester 1618	Ester	45
US Polychem Corporation	Polychem A 2000 XS	Alkaline Aqueous	45
US Polychem Corporation	Polyspray Jet 790 XS	Alkaline Aqueous	45
CSA Inc	Bio Safe 1024	Hydrocarbon	44
Magnaflux	Daraclean 211	Alkaline Aqueous	44
Oakite Products	Fisan Versaclean	Alkaline Aqueous	44
Simple Green	All Purpose Cleaner/ Degreaser	Alkaline Aqueous	44
Simple Green	Simple Green D	Alkaline Aqueous	44
US Polychem Corporation	Polychem DEOX 007	Alkaline Aqueous	44
US Polychem Corporation	Polychem Ultra CR	Alkaline Aqueous	44
Alconox Inc	Det-O-Jet	Alkaline Aqueous	43
Alconox Inc	Luminox	Neutral Aqueous	43

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Chem Tech Solutions	Westech CT-4712	Acidic Aqueous	43
CRC Industries	Complex Blue	Semi-Aqueous	43
Drummond American	Keynote	Neutral Aqueous	43
Ecolink	Rip Tide	Terpene	43
Emkay Chemical Company	Safety Wash CRC	Alkaline Aqueous	43
Finger Lakes Chemicals	Safer Stuff	Terpene	43
International Products Corporation	LF 2100	Alkaline Aqueous	43
Kyzen Corporation	Ionox HC	Alcohol	43
Magnaflux	Daraclean 212	Neutral Aqueous	43
Magnaflux	Daraclean 236	Neutral Aqueous	43
Metabolix Inc	Metabolix E3HB	Ester	43
Mirachem Corporation	Mirachem 250	Acidic Aqueous	43
PCI of America	Hurrisafe 9575	Alkaline Aqueous	43
Safe Science	Safe Science All Purpose (Industrial)	Alkaline Aqueous	43
Solutia Inc	Santosol DME	Ester	43
Buckeye International	Shopmaster FF	Alkaline Aqueous	42
Buckeye International	Shopmaster RC	Ester	42
By*Pas & Star Cleaning Products	Star Cleaning Miracle # 50	Alkaline Aqueous	42
Emkay Chemical Company	Safety Wash	Alkaline Aqueous	42
Emkay Chemical Company	Safety Wash Clear	Alkaline Aqueous	42
Kyzen Corporation	Ionox HC 2	Alcohol	42
Pentone Corporation	Citrikleen XPC	Terpene-Semi-Aqueous	42
Pride International Inc	Citrisolv Plus	Semi-Aqueous	42
Safe Science	Safe Science Concrete/ Graffiti (Industrial)	Alkaline Aqueous	42
Tarksol Inc	Tarksol HTF 321	Terpene	42
Tower Products Inc	Tower 270 Cleaner Concentrate	Alkaline Aqueous	42
Chem Tech	CT 1 Multipurpose Cleaner	Alkaline Aqueous	41
Fine Organic Corporation	FO 2085 M	Alkaline Aqueous	41
Smart Sonic		Alkaline Aqueous	41

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	440 R SMT Detergent		
U.S. Polychem Corporation	Product 69 MC	Alcohol	41
Alconox Inc	Detergent 8	Alkaline Aqueous	40
Chem Tech Solutions	1050 Magic	Organic	40
Chem Tech Solutions	Westech CT 1550	Terpene	40
Valtech Corporation	Valtron SP 2200	Alkaline Aqueous	40
Valtech Corporation	Valtron SP 2201	Alkaline Aqueous	40
Valtech Corporation	Valtron SP 2250 2LF	Alkaline Aqueous	40
3M	HFE 71 De	Organic	39
3M	HFE 7100	Organic	39
Bio Chem Systems	Bio T 200 A	Terpene	39
By*Pas & Star Cleaning Products	By*Pas #1500	Alkaline Aqueous	39
Exxon Chemical	Aromatic 100 Solvent	Organic	39
Finish Line Technologies Inc	Bio Degradable Degreaser	Semi-Aqueous	39
Magnaflux	Daraclean 232	Alkaline Aqueous	39
Oakite Products	Inproclean 4000 T	Terpene-Organic	39
US Polychem Corporation	Polychem PW 147	Alkaline Aqueous	39
US Polychem Corporation	Polyspray Jet 790 C	Caustic	39
Vertec BioSolvents	VertecBio Gold 2	Organic	39
Du Pont	DBE	Ester	38
Du Pont	DBE 3	Ester	38
Du Pont	DBE 4	Ester	38
Eastern Color & Chemical Company	Ecobrite Cleaner AK	Alkaline Aqueous	38
Loctite Corporation	7360	Ester	38
Magnaflux	Daraclean 200	Alkaline Aqueous	38
Magnaflux	Daraclean 283	Alkaline Aqueous	38
Solvent Kleene Inc	D Greeze 500 LO	Organic	38
Today & Beyond	Beyond 2001	Alkaline Aqueous	38
Today & Beyond	Beyond 2002	Alkaline Aqueous	38
Today & Beyond	Beyond 2003	Alkaline Aqueous	38
Today & Beyond	Beyond 2005	Alkaline Aqueous	38
AW Chesterton	278 Super Solv	Petroleum Distillate	37
Bio Chem Systems	Bio T 300 B	Terpene-Semi-Aqueous	37
Bio Chem Systems	Bio T Max	Terpene-Semi-Aqueous	37

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Bio Chem Systems	Solsafe 245	Petroleum Distillate	37
Bush Boake Allen Inc	BBA Solvent K312	Terpene	37
Dynamold Solvents Inc	DS 104	Petroleum Distillate	37
Dynamold Solvents Inc	DS 108	Petroleum Distillate	37
Ecolink	2005	HCFC	37
Ecolink	Safe Strip	Organic	37
Ecolink	VG 151	Terpene	37
Ecolink	Vortex	Semi-Aqueous	37
Florida Chemical Company	Citrus Burst 7	Terpene	37
Florida Chemical Company	D-Limonene	Terpene	37
Inland Technologies Inc	Citrasafe	Terpene	37
ISP Technologies	N Methyl Pyrrolidone	Organic	37
LPS Laboratories	LPS Precision Clean	Alkaline Aqueous	37
Magnaflux	Daraclean 282 GF	Alkaline Aqueous	37
National Diagnostic	Histo Clear	Terpene	37
National Diagnostic	Opti Clear	Terpene	37
Tarksol Inc	Tarksol HTF 60	Terpene	37
Tarksol Inc	Tarksol HTF-50	Semi-Aqueous	37
Today & Beyond	Beyond 2004	Alkaline Aqueous	37
Today & Beyond	Beyond 2009	Organic	37
U.S. Polychem Corporation	87 RB	Hydrocarbon	37
Universal Photonics	Uni Clear	Terpene	37
Universal Photonics	Uni Clear II	Petroleum Distillate	37
US Polychem Corporation	Hydropurge 36	Alkaline Aqueous	37
WM Barr & Company	Citristrip	Terpene-Semi-Aqueous	37
CSA Inc	Bio Safe 1023	Hydrocarbon	36
General Chemical Corporation	Aluminex 5761	Caustic	36
General Chemical Corporation	Aquaclean 4784	Caustic	36
Savogran	SI #4 Coating Remover	Organic	36
Today & Beyond	Beyond 2006	Alkaline Aqueous	36
Brulin Corporation	Compliance	Caustic	35
Oakite Products	Citradet	Semi-Aqueous	35

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Bio Chem Systems	Bio T Foam Plus	Terpene	34
Calgon Corporation	GP Xtra	Alkaline Aqueous	34
Calgon Corporation	SMS 206 K	Alkaline Aqueous	34
ISP Technologies	Ship Shape Resin Cleaner	Organic	34
Kyzen Corporation	Ionox FCR	Semi-Aqueous	34
Magnaflux	Daraclean 282	Alkaline Aqueous	34
Tarksol Inc	Tarksol HTF 10 B	Terpene	34
Ecolink	Bulldog	Alkaline Aqueous	33
Magnaflux	Daraclean 203	Caustic	32
AJ Associates	Dynadet	Caustic	31
Fisher Scientific	Acetone	Organic	31
	Toluene	Organic	30
Accurate Manufactured Products	Safety Layout Blue Remover	Terpene	30
Calgon Corporation	SC 844	Organic	30
Fisher Scientific	Isopropanol	Alcohol	30
Sterling	Mineral Spirits	Solvent	30
AGA Chemical	AK 225	HCFC	28

Summary:

Substrates:	Aluminum, Stainless Steel				
Contaminants:	Adhesive, Resins/Rosins				
Company Name:	**Product Name:**	**Conc.:**	**Efficiency:**	**Effective:**	**Observations:**
No Specific Vendor	Supplied alternatives list		0.00	☐	

Conclusion:

Cleaning varies from case to case. The SSL recommends process specific testing on potential replacement cleaning chemicals. If more information is needed on a particular product, or you are interested in conducting cleaning trials, please contact the lab at (978)934-3133.