

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 1999
 DateRun: 05/26/1999
 Experimenters: Jason Marshall
 ClientType: State Agency
 ProjectNumber: Project #1
 Substrates: Carbon Steel, Stainless Steel
 PartType: Coupon
 Contaminants: Cutting/Tapping Fluids, Greases, Lubricating/Lapping Oils, Dirt, Oil
 Cleaning Methods:
 Analytical Methods:
 Purpose: Information request.

Experimental Procedure: SUBSTRATE MATERIAL: Carbon & Stainless Steel
 QUESTION ASKED: Looking for low cost, non-hazardous, non-exposure concern effective cleaner for the removal of oil, grease and dirt from bearings, gears, housing, etc. A literature search may be sufficient.

Results: RESPONSE/ANSWER: The Massachusetts Toxics Use Reduction Institute (TURI) has made the results of the tests conducted at the Institute's Surface Cleaning Laboratory (SCL) into a searchable database/spreadsheet format. This should make alternative cleaner selection faster and easier. Here are the results of your query, based on the information supplied:

| SCL # | Substrate | Contaminant | Process | Manufacturer | Product |
|-------------|-----------|-------------|-------------|----------------|-------------------|
| 95-410-01-2 | SS | OIL | ULTRASONICS | WR GRACE | DARACLEAN 283 |
| 95-410-03-2 | SS | OIL | SPRAY | AW CHESTERTON | KPC 820 N |
| 96-425-01-2 | SS | GREASE | IMMERSION | SAFETY KLEENE | GREEN SOLVENT |
| 96-425-01-2 | SS | GREASE | IMMERSION | SAFETY KLEENE | GREEN SOLVENT |
| 96-425-01-2 | SS | GREASE | IMMERSION | TWIN RIVER | ESTER |
| 96-425-01-2 | SS | OIL | IMMERSION | BUCKEYE | SHOPMASTER |
| 96-425-01-2 | SS | OIL | IMMERSION | SAFETY KLEENE | GREEN SOLVENT |
| 96-425-01-2 | SS | OIL | IMMERSION | SAFETY KLEENE | GREEN SOLVENT |
| 96-425-01-2 | SS | OIL | IMMERSION | T-SQUARE | HTF 10 B |
| 96-449-02-2 | SS | OIL | IMMERSION | ARDROX | 6333 |
| 96-449-02-2 | SS | OIL | IMMERSION | BRULIN | 815 GD |
| 96-449-02-2 | SS | OIL | IMMERSION | CALGON | AK 6215 |
| 97-538-07-3 | SS | DIRT | IMMERSION | ECOLINK | VORTEX |
| 97-538-07-3 | SS | DIRT | IMMERSION | OAKITE | INPROCLEAN 4000 T |
| 97-538-07-3 | SS | DIRT | IMMERSION | SOLVENT KLEENE | D-GREEZE 500 |
| 97-538-07-3 | SS | GREASE | IMMERSION | ECOLINK | VORTEX |
| 97-538-07-3 | SS | GREASE | IMMERSION | OAKITE | INPROCLEAN 4000 T |
| 97-538-07-3 | SS | GREASE | IMMERSION | SOLVENT KLEENE | D-GREEZE 500 |
| 97-538-07-3 | SS | OIL | IMMERSION | ECOLINK | VORTEX |
| 97-538-07-3 | SS | OIL | IMMERSION | OAKITE | INPROCLEAN 4000 T |
| 97-538-07-3 | SS | OIL | IMMERSION | SOLVENT KLEENE | D-GREEZE 500 |
| 97-540-03-2 | SS | OIL | ULTRASONICS | WR GRACE | DARACLEAN 282 |
| 97-547-01-2 | SS | OIL | IMMERSION | FINE ORGANICS | FO2085 M |

CLEANING LABORATORY EVALUATION SUMMARY

| | | | | | |
|--------------|--------------|--------|-------------|-----------------|-----------------------------|
| 97-547-01-2 | SS | OIL | IMMERSION | WR GRACE | DARACLEAN 282 GF |
| 97-548-04-2 | SS | GREASE | SPRAY | ALCONOX | ALCOJET |
| 97-549-01-2 | SS | OIL | ULTRASONICS | CHURCH & DWIGHT | CHURCH & DWIGHT |
| 97-549-01-2 | SS | OIL | ULTRASONICS | MACDERMID | ND 17 |
| 97-549-01-2 | SS | OIL | ULTRASONICS | OAKITE | INPROCLEAN 3800 |
| 97-549-01-2 | SS | OIL | ULTRASONICS | WR GRACE | DARACLEAN 212 |
| 98-540-04-4 | SS | OIL | ULTRASONICS | WR GRACE | DARACLEAN 282 |
| 94-466-01-8 | CARBON STEEL | OIL | SPRAY | WR GRACE | DARACLEAN 283 |
| 97-547-02-2 | SS | OIL | ULTRASONICS | FINE ORGANICS | FO2085 M |
| 97-547-02-2 | SS | OIL | ULTRASONICS | WR GRACE | DARACLEAN 282 GF |
| 97-547-03-4 | SS | OIL | ULTRASONICS | WR GRACE | DARACLEAN 282 GF |
| 97-547-04-4 | SS | OIL | ULTRASONICS | WR GRACE | DARAGUARD 416 |
| 97-547-04-4 | SS | OIL | ULTRASONICS | WR GRACE | DARACLEAN 282 GF |
| 97-549-02-4 | SS | OIL | ULTRASONICS | MACDERMID | ND 17 |
| 99-695-03-3 | SS | OIL | SPRAY | US POLYCHEM | POLYSPRAY 790 P |
| 99-692-02-2 | CARBON STEEL | OIL | IMMERSION | TWIN RIVERS | METHYL ESTER 1618 |
| 99-692-02-2 | CARBON STEEL | OIL | IMMERSION | SOLVENT KLEENE | D-GREEZE 500 |
| 99-692-02-2 | CARBON STEEL | OIL | IMMERSION | OAKITE | INPROCLEAN 4000 T |
| 99-692-02-2 | CARBON STEEL | OIL | IMMERISON | ECOLINK | VORTEX |
| 99-692-02-2 | SS | OIL | IMMERSION | TWIN RIVERS | METHYL ESTER 1618 |
| 99-692-02-2 | SS | OIL | IMMERSION | SOLVENT KLEENE | D-GREEZE 500 |
| 99-692-02-2 | SS | OIL | IMMERSION | OAKITE | INPROCLEAN 4000 T |
| 99-692-02-2 | SS | OIL | IMMERSION | ECOLINK | VORTEX |
| 99-6100-02-2 | SS | OIL | IMMERSION | BRANSON | GP |
| 99-6100-02-2 | SS | OIL | IMMERSION | MATCHLESS | MC 580 |
| 99-6100-02-2 | SS | OIL | IMMERSION | OAKITE | INPROCLEAN 3800 |
| 99-6100-02-2 | SS | OIL | IMMERSON | WARREN CHEMICAL | SEA-WASH DISPERSANT |
| 99-6100-02-2 | SS | OIL | IMMERSION | GEMTEK | SC AIRCRAFT & METAL CLEANER |
| 99-6100-02-2 | SS | OIL | IMMERSION | SAVOGRAN | DIRTEX PREPAINT CLEANER |
| 99-6100-02-2 | SS | OIL | IMMERSION | WATER | WATER |
| 99-6100-03-4 | SS | OIL | IMMERSION | WARREN CHEMICAL | Sea-Wash Dispersant |
| 99-6100-03-4 | SS | OIL | IMMERSION | WARREN CHEMICAL | Sea-Wash Dispersant |
| 99-6100-03-4 | SS | OIL | IMMERSION | MATCHLESS | MC 580 |
| 99-6100-03-4 | SS | OIL | IMMERSION | MATCHLESS | MC 580 |
| 99-6100-05-4 | SS | OIL | IMMERSION | BRULIN | 815 GD |
| 99-6100-05-4 | SS | OIL | IMMERSION | BRULIN | 815 GD |
| 99-6100-05-4 | SS | OIL | IMMERSION | BRULIN | 815 GD |

CLEANING LABORATORY EVALUATION SUMMARY

A second search was conducted using information supplied by the vendors. This list includes information about what the product was designed to be used for.

| Company Name: | Product Trade Name: | Classification: |
|------------------------------------|--------------------------------|-----------------------------|
| AG Environmental | Soy Gold 1000 | Soy Methyl Ester |
| Alconox | Detergent - 8 | Alkaline aqueous |
| AW Chesterton | 803 & Ind. Marine Solvent - II | Alkaline aqueous |
| Brulin | Compliance | Alkaline Aqueous |
| Buckeye International | Shopmaster | Alkaline Aqueous |
| Calgon Corporation | SC 431 | Organic |
| Calgon Corporation | SC844 | Organic |
| Calgon Corporation | SMS 206 K | Alkaline Aqueous |
| Calgon Corporation | SMS 9706 | Alkaline Aqueous |
| Chemstation | Greenstuff II | Alkaline Aqueous |
| Chemstation | Greenstuff Neutral | Aqueous |
| CSA Inc | Bio-Safe 1024 | Alkylene carbon Compound |
| Ecolink | Vortex | Semi-Aqueous Terpene |
| Envirosolutions | BIO-T Max | Semi-Aqueous Terpene |
| Finger Lakes | 1/1/02 | Tarksol 97 Solvent |
| Frederick Gumm Chemical | Clepo 228 D paint stripper | Caustic Aqueous |
| Gemtek Products | SC 1000 | Non-ionic Surfactant System |
| Gemtek Products | SC AIRCRAFT & METAL CLEANER | Alkaline Aqueous |
| Gemtek Products | SC Supersolve | Organic |
| Inland Technologies Inc | Teksol | D-Limonene Solvent |
| Inland Technology Inc | EP 921 | D-Limonene Solvent |
| International Products Corporation | MICRO 90 | Alkaline Aqueous |
| MacDermid | ND 17 | Alkaline Aqueous |
| Man-Gill Chemical | Gillite 0650 Cl | Alkaline Aqueous |
| Mirachem Corporation | Mirachem 500 | Alkaline Aqueous |
| Oakite Products | InproClean 1300 | Alkaline Aqueous |
| Oakite Products | InproClean 2500 | Alkaline Powder |
| Oakite Products | InproClean 3800 | Alkaline Aqueous |
| Oakite Products | InproClean 4000 T | Semi-Aqueous Terpene |
| Oakite Products | Oakite 61 B | Alkaline Powder |
| Savogran | Dirtex Prepaint Cleaner | Alkaline Aqueous |
| Savogran | HD 34 | Semi-Aqueous |
| Savogran | Safety-Solve | Di-Methyl Ester |
| Savogran | SI#8 Coating Remover | Alcohol |
| Sky Products Co | Cleaner #10 | Alkaline Aqueous |
| Solvent Kleene | D-Greeze 500 | Hydrocarbon Solvent |
| Star Cleaning Miracle Inc | Star Cleaning Miracle #50 | Alkaline Aqueous |
| T-Square | HTF 50 | Semi-Aqueous Terpene |
| T-Square | HTF 60 | Semi-Aqueous Terpene |
| US Polychem | De-Ox 007 | Alkaline Aqueous |
| US Polychem | Polyspray Jet 790 XS | Alkaline Aqueous |
| Watson Technical Associates | Formula 7300 | Alkaline Aqueous |

CLEANING LABORATORY EVALUATION SUMMARY

| | | |
|-----------------------------|------------------|----------------------|
| Watson Technical Associates | Formula 9000 | Alkaline Aqueous |
| WR Grace | Daraclean200 | Alkaline Aqueous |
| WR Grace | Daradean 212 | Alkaline Aqueous |
| WR Grace | Daraclean 232 | Alkaline Aqueous |
| WR Grace | Daraclean 235 | Alkaline Aqueous |
| WR Grace | Daraclean 282 | Alkaline Aqueous |
| WR Grace | Daraclean 282 GF | Alkaline Aqueous |
| WR Grace | Daraclean 283 | Alkaline Aqueous |
| WR Grace | Daraclean 294 XX | Semi-aqueous Alcohol |

Summary:

Conclusion:

Cleaning projects vary from case-to-case. To obtain more detailed information about any of the listed trials, have the SCL # ready when contacting the lab at (978)934-3133.