

CLEANING LABORATORY EVALUATION SUMMARY

SCL #: 2000
DateRun: 01/03/2000
Experimenters: Jason Marshall
ClientType: Metal
ProjectNumber: Project #1
Substrates: Brass, Nickel
PartType: Coupon
Contaminants: Fingerprints
Cleaning Methods:
Analytical Methods:
Purpose: Information request

Experimental Procedure: SUBSTRATE MATERIAL: Brass, Nickel plating
REQUEST: Looking for replacement to Freon based cleaner for the removal of fibers and finger oils from nickel plated surfaces. Would like to operate at room temperature using ultrasonic energy. A list of products will be enough.

Results: RESPONSE: Two databases were used to generate the tables below. The first table lists results based on previous laboratory evaluations under similar situations. The second is based on vendor supplied information. The products listed met the criteria specified by the client.

Using the Cleaner Used Database, the query yielded the following information:

| SCL # | Substrate | Cont | Process | Manufacturer | Product | Classification |
|--------------|-----------|------|-------------|------------------------|------------------|--------------------|
| 98-675-01-4 | NICKEL | OIL | ULTRASONICS | MAGNAFLUX | ZYGLO ZR 10B | Alkaline |
| 98-675-02-2 | NICKEL | OIL | ULTRASONICS | Valtech Corporation | VALTRON SP 2275 | Neutral |
| 98-675-02-2 | NICKEL | OIL | ULTRASONICS | SWR CORP | SWR ONE | Alkaline |
| 98-675-04-2 | NICKEL | OIL | ULTRASONICS | Valtech Corporation | VALTRON SP 2275 | Neutral |
| 98-675-04-2 | NICKEL | OIL | ULTRASONICS | SWR CORP | SWR ONE | Alkaline |
| 98-675-04-2 | NICKEL | OIL | ULTRASONICS | Carroll Company | BLUE GOLD | Alkaline |
| 98-679-02-4 | NICKEL | OIL | ULTRASONICS | Calgon Corporation | AK 6215 | Alkaline |
| 98-679-03-4 | NICKEL | OIL | ULTRASONICS | Calgon Corporation | AK 6215 | Alkaline |
| 98-679-04-4 | NICKEL | OIL | ULTRASONICS | Calgon Corporation | AK 6215 | Alkaline |
| 98-679-05-4 | NICKEL | OIL | ULTRASONICS | Calgon Corporation | AK 6215 | Alkaline |
| 98-679-06-4 | NICKEL | OIL | ULTRASONICS | Calgon Corporation | AK 6215 | Alkaline |
| 98-675-07-4 | NICKEL | OIL | ULTRASONICS | MAGNAFLUX | ZYGLO ZR 10B | Alkaline |
| 98-675-06-4 | NICKEL | OIL | ULTRASONICS | Valtech Corporation | VALTRON SP 2275 | Neutral |
| 98-675-06-4 | NICKEL | OIL | ULTRASONICS | SWR CORP | SWR ONE | Alkaline |
| 99-707-10-3 | BRASS | OIL | ULTRASONICS | ENVIROSOLUTIONS | BIO-T MAX | Semi-Aqueous Terp. |
| 99-7115-07-3 | BRASS | OIL | ULTRASONICS | EMKAY Chemical Co | Safety Wash CRC | Alkaline |
| 99-7115-07-3 | BRASS | OIL | ULTRASONICS | Envirosolutions, Inc. | Bio T 300 B | Semi-Aqueous Terp |
| 99-7115-07-3 | BRASS | OIL | ULTRASONICS | Church & Dwight Co Inc | Armakleen E 2002 | Alkaline |

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|--------------|-------|-----|-------------|-----------------|-------------------|-------------------|
| 99-7115-07-3 | BRASS | OIL | ULTRASONICS | Oakite Products | Inproclean 4000 T | Semi-Aqueous Terp |
|--------------|-------|-----|-------------|-----------------|-------------------|-------------------|

Industrial Cleaning Survey: Directory of Vendors Database yielded the following products:

| Company Name | Product | Classification |
|------------------------|-----------------------------|----------------------|
| AW Chesterton | KPC 820 N | Alkaline aqueous |
| Brulin Corporation | 815 GD | Alkaline Aqueous |
| Buckeye International | Shopmaster | Alkaline Aqueous |
| Mirachem Corporation | Mirachem 500 | Alkaline Aqueous |
| Oakite Products | InproClean 3800 | Alkaline Aqueous |
| Sky Products Co., Inc. | Cleaner #10 | Alkaline Aqueous |
| Solvent Kleene, Inc. | D-Greeze 500 LO | Hydrocarbon Solvent |
| Sunshine Makers Inc | Simple Green | Alkaline Aqueous |
| Tarksol, Inc. | HTF 50 | Semi-Aqueous Terpene |
| W.R. Grace & Co. | Daraclean 212 | Alkaline Aqueous |
| W.R. Grace & Co. | Daraclean 212 | Alkaline Aqueous |
| W.R. Grace & Co. | Daraclean 232 | Alkaline Aqueous |
| W.R. Grace & Co. | Daraclean 282 | Alkaline Aqueous |
| W.R. Grace & Co. | Daraclean 282 GF | Alkaline Aqueous |
| W.R. Grace & Co. | Daraclean 283 | Alkaline Aqueous |
| International Products | MICRO 90 | Alkaline Aqueous |
| Gemtek Products | SC Aircraft & Metal Cleaner | Alkaline Aqueous |
| Savogran | Dirtex Prepaint Cleaner | Alkaline Aqueous |
| Hazwell International | Biosolve | Neutral Aqueous |

Summary:

Conclusion:

Cleaning projects vary from case-to-case. To obtain more detailed information about any of the listed trials or products, contact the lab at (978)934-3133.