

VENDOR LIST

ALTERNATIVES FOR CFC-113  
AND METHYL CHLOROFORM  
IN ELECTRONICS CLEANING



November 1998

SIGNIFICANT NEW ALTERNATIVES POLICY  
PROGRAM STRATOSPHERIC PROTECTION DIVISION  
U.S. EPA

This document is not an exhaustive list of vendors and is intended for informational purposes only. Product offerings and descriptions have been supplied by the vendors included on the list and have not been evaluated by EPA. EPA does not endorse these products, certify their cleaning performance, or certify the accuracy of health and safety data provided by these companies for any of the alternatives to CFC-113 and methyl chloroform (MCF) presented in this document.

Section 612 of the Clean Air Act Amendments of 1990 requires EPA to publish lists of acceptable and unacceptable alternatives for ozone depleting substances (ODSs). To complete these lists, the Significant New Alternatives Policy (SNAP) program is evaluating both new and existing alternatives to ODSs within a comparative risk framework. To obtain a copy of the SNAP acceptability determinations, please contact:

SNAP Coordinator  
U.S. EPA 6205J  
401 M St. SW  
Washington, DC 20460  
(202) 564-9870

The majority of cleaning products sold by companies listed in this document are acceptable under the SNAP program for use as CFC-113 or MCF replacements. However, it is the user's responsibility to ensure that products selected to replace CFCs and methyl chloroform are acceptable substitutes under the SNAP Program.

If you would like to add a company name to the vendor list, please fill out the form at the end of this document and send it along with product literature to the SNAP coordinator. If you have a new substitute and would like to make a formal submission to the SNAP program prior to having your company added to our lists, please also contact the SNAP Coordinator. Product formulations describing specific ingredients and composition must be included in order to have a product evaluated.

## AQUEOUS CLEANERS

ADF Systems, Ltd.  
1302 19th Street. N.  
Humboldt, IA 50548  
Tel: (515) 332-5400  
Fax: (800) 798-5100

Offers detergents both liquid and powder designed for use in all type of aqueous washing equipment. Offers non-foaming formulations with and without glycol ethers and with and without rust inhibitors for all applications. Has parts washing equipment designed for the type of uses experienced in maintenance operations.

Aerocote Corporation  
P.O. Box 15849  
Houston, TX 77220  
Tel: (713) 224-6185  
Fax: (713) 223-5229

Aqueous, semi-aqueous cleaners and hydrocarbon solvents. Applications using agitation including spray wash cabinets. Also, spray in steam cleaning, pressure washing, soak immersion, ultrasonic, and hand wiping applications.

Altos Engineering, Inc.  
6009 N. 61 Ave  
Glendale, AZ 85301  
Tel: (602) 931-8434  
Fax: (602) 937-6396

Batch and inline cleaning equipment with non-chemical, thermal vacuum drying of rinse waters. Detergent formulations available with and without glycol ethers.

Ambassador Marketing  
Route 1-Box 207  
St. David, AZ 85630  
Tel: (602) 720-4310  
Fax: (602) 720-4068

Aqueous and alcohol based cleaners for low residue degreasing and dewaxing applications. Formulations are nonflammable and nonfuming.

AT-CHEM  
1225 W. Main St.  
Wilmington, OH 45177  
Tel: (513) 362-7511  
(800) 443-2436  
Fax: (513) 362-8038

AtoChem North America  
3 Parkway  
Philadelphia, PA 19102  
Tel: (215) 587-7000

Better Engineering Mfg., Inc.  
8361 Town Center Court  
Baltimore, MD 21236-4964  
Tel: (410) 931-0000  
(800) 229-3380  
Fax: (410) 931-0053

Betz Metchem  
508 Prudential Rd.  
Horsham, PA 19044  
Tel: (800) 775-7175

Bio-Chem of Illinois, Inc.  
3335 No. Lewis Avenue  
Waukegan, IL 60087  
Tel: (708) 249-5770  
Fax: (708) 623-6919

Blackstone Ultrasonics, Inc.  
9 North Main St.  
Jamestown, NY 14701  
Tel: (716) 665-2340  
(800) 766-6606  
Fax: (716) 665-2480

Blue Wave Ultrasonics  
Div. of Alpheus Cleaning Technologies Corp.  
P.O. Box 1317, Dept. TR  
Davenport, IA 52808  
Tel: (319) 322-0144  
(800) 611-2011  
Fax: (319) 322-7180

Branson Ultrasonics Corp.  
41 Eagle Rd.  
Danbury, CT 06810  
Tel: (203) 796-0400  
Fax: (203) 796-0381

The Brulin Corporation  
PO Box 270  
2920 Dr. Andrew J. Brown Ave.  
Indianapolis, IN 46206  
Tel: (317) 923-3211  
Fax: (317) 925-4596

Manufacturers of industrial cleaning equipment, including automatic jet washers compatible with biodegradable detergents and water solutions. Also cleaning systems with wash, rinse, and dry cycles, custom systems, extended wash cabinets, large capacity systems, and tumbling systems.

Complete range of ultrasonic cleaning products from stand-alone and bench-top heated tanks to wash/multiple rinse/dry console systems with optional material handling and automation. Also, fluxless ultrasonic solder pots for tinning leads and electronics.

Ultrasonic cleaning equipment built for various applications specific to the customer's needs. Effective in cleaning different products and materials throughout the scope of fabricated metals, plastics, and ceramics. Also offer aqueous based detergents that are environmentally safe.

Ultrasonic cleaning equipment and integrated cleaning systems for metal, electronic, and precision cleaning requirements. Manual and fully automated material handling/transport systems. Equipment for aqueous, semi-aqueous and solvent chemistry.

Advanced technology aqueous detergent systems for spray, immersion, ultrasonic, and passive process cleaning of fabricated metal or plastic parts.

Buckeye International, Inc.  
2700 Wagner Place  
Maryland Heights, MO 63043  
Tel: (800) 321-2583  
Fax: (314) 298-2850

BY\*PAS International Corporation  
P.O. Box 14  
Hudsonville, MI 49426  
Tel: (616) 875-7234  
Fax: (616) 875-7743

Calgon Corp.  
Chemical Technologies Group  
PO Box 1346  
Pittsburgh, PA 15230  
Tel: (800) 955-0090  
Fax: (412) 777-8927

Chem-Tech International  
1800 Diagonal Rd., Suite 600  
Alexandria, VA 22314  
Tel: (703) 549-1001  
Fax: (703) 549-1003

Chemtronics, Inc.  
8125 Cobb Center Dr.  
Kennesaw, GA 30144  
Tel: (404) 424-4888  
Fax: (404) 424-4267

Church & Dwight Co, Inc.  
469 N. Harrison Street  
Princeton, NJ 08543-5297  
Tel: (800) 824-0866  
Fax: (609) 497-7176

Aqueous cleaners made with new patented chemistry have successfully replaced MEK, 1,1,1-trichloroethane, acetone, and other hydrocarbon solvents in many different applications.

Formulations include non-chelating, non-phosphate, readily biodegradable aqueous-based cleaners, non-chlorinated solvent cleaners and paint removing compounds, non-glycol based solvent enhanced general cleaners, neutral pH process cleaners, and industrial waste treatment polymers.

Aqueous-based formulations containing detergents with and without glycol ethers for removing corrosion, grime, oil, and other soils from electronic and electro-mechanical components; a hydrocarbon based formulation with advanced cleaning and water displacement properties. Also specially designed cleaning equipment.

Ultra-pure cleaners for electronics and metal, flux removers for all types of printed circuit fluxes, conformal coatings for protection of finished circuit boards, solder masking agents, and lubricants for electronics.

Aqueous-based alkaline cleaner for removing flux from electronic assembly, or light oils from precision parts. The formula is non-hazardous, non-toxic, has no VOCs, non-flammable, no glycol ethers, does not attack aluminum and is used in in-line or batch equipment.

Circle-Prosc0, Inc.  
2017 Yost Ave.  
Bloomington, IN 47403  
Tel: (812) 339-3653  
Fax: (812) 331-2566

Crest Ultrasonics  
Scotch Rd.- Mercer County Airport  
PO Box 7266  
Trenton, NJ 08628  
Tel: (609) 883-4000  
(800) 441-9675  
Fax: (609) 883-6452

Dell-Chem of Arizona  
7119 E. Shea Blvd., Suite 106-224  
Scottsdale, AZ 85254  
Tel: (602) 951-5812  
Fax: (602) 948-4172

Delta-Omega Technologies, Ltd.  
PO Box 81518  
Lafayette, LA 70598-1518  
Tel: (318) 237-5091  
Fax: (318) 237-5131

Detrex Corp.  
4000 Town Center, Suite 1100  
Southfield, MI 48175  
Tel: (313) 358-5800  
Fax: (313) 358-5803

Dow U.S.A.  
Midland, MI 48674  
Tel: (800) 447-4369  
Fax: (517) 832-1465

Aqueous, alkaline, etchant cleaners for ferrous and non-ferrous applications. Aqueous, acidic, neutral, and alkaline oil rejecting cleaners with or without glycol ethers for ferrous and non-ferrous applications. Water miscible, semi-aqueous cleaners (electronics cleaning). Water emulsifiable cleaners containing aliphatic and terpene solvents. Evaporative oils for no clean applications.

Precision cleaning equipment (primarily ultrasonic systems) from standard wash-rinse-dry cleaning consoles to large custom automated batch cleaning equipment. Ultrasonic generator is sweep frequency generator capable of cavitating both aqueous and semi-aqueous chemistries. Full line of aqueous-based cleaning chemistries for ultrasonic applications as well.

Aqueous and alcohol-based cleaners for low residue degreasing and dewaxing applications. Formulations are nonflammable and nonfuming.

Fully aqueous, biodegradable, non-toxic cleaning solutions. Products leave no residue following proper cleaning and rinsing, no fumes or odors, are non-flammable, and contain no hazardous or reportable components.

Aqueous micro-emulsion solution for gross metal cleaning and equipment for use with the cleaning solution. Alternative/vapor degreasing process, specialty equipment and solvents for metals and electronics cleaning, chlorinated and HCFC solvents, and aqueous and semi-aqueous solvents.

Multiple formulations composed of blends of anionic and nonionic surfactants with corrosion inhibitors and builders.

Ecolink  
1481 Rock Mountain Blvd.  
Stone Mountain, GA 30083  
Tel: (404) 621-8240  
(800) 886-8240  
Fax: (404) 621-8245

Electrolube Corporation USA  
8200 Saint James Ave.  
Elmhurst, NY 11373  
Tel: (718) 565-5200  
Fax: (718) 565-5715

Environmental Scientific, Inc.  
P.O. Box 13486  
Research Triangle Park, NC 27709-3486  
Tel: (919) 941-0847  
Fax: (919) 941-0652

Environmental Solvents Corp.  
1840 Southside Blvd.  
Jacksonville, FL 32216  
Tel: (904) 724-1990  
Fax: (904) 724-2508

ETUS, Inc.  
1511 Kastner Place  
Sanford, FL 32771  
Tel: (407) 321-7910  
Fax: (407) 321-3098

Fine Organics Corp.  
205 Main St.  
PO Box 687  
Lodi, NJ 07644-0687  
Tel: (201) 472-6800  
(800) 526-7480  
Fax: (201) 472-6810

Wide range of aqueous, semi-aqueous and non-aqueous chemistries. Formulations include a variety of hydrocarbon, NMP, DBE and terpene products as well as non-ozone depleting halogenated solvents. Manufacture a complete line of batch cleaning units for use with these solvents.

Non-toxic, non-flammable, biodegradable aqueous solvents suitable for in-line and batch equipment without modification. Ideal for screen and pallet cleaning and precision metal degreasing (ferrous and non-ferrous). Also range of zero ODP/non-CFC conformal coatings, service aids, contact lubricants, and cleaning products. Application oriented packaging such as aerosols, containers, and syringes.

A wide variety of corrosion inhibitors, hydrocarbon emulsifiers and carbon product removers that are non-hazardous and non-toxic.

Blend of coniferous (pine) terpenes, surfactants, and rust inhibitor. Alternative to conventional alkaline detergents. Removes hydrocarbon grease/oil where it floats to the surface and is skimmed off.

Formulations made of hydrocarbons and blends of hydrocarbons and emulsifiers. Also offer aqueous based formulations containing detergents with and without glycol ethers.

Non-hazardous and biodegradable solvent and solvent-emulsion based alternatives. Products are applicable to the transportation, aviation, electronics, and coatings industries. Also offer water-based alternative products.

Firefreeze Worldwide, Inc.  
270 Route 46 East  
Rockaway, NJ 07866  
Tel: (973) 627-0722  
Fax: (973) 627-2982

Aqueous based degreasing, cleaning and odor eliminating formulations. Products are plant derived, environmentally friendly, non-corrosive, non-flammable, and fully biodegradable. Unique applications for waste water and sludge treatment and oil/grease separation and removal. Can be used in hand sprayers, water pressurized units, power washers, and other spray equipment.

Fremont Industries, Inc.  
4400 Valley Industrial Park  
Shakopee, MN 55379  
Tel: (612) 445-4121  
Fax: (612) 496-3027

Aqueous-based metal cleaning and non-metallic substrate cleaning formulations and application equipment. Includes spray, soak, and ultrasonic cleaners in rinse and no-rinse formulations.

Hubbard-Hall, Inc.  
P0 Box 790  
Waterbury, CT 06725  
Tel: (203) 754-2171  
(800) 648-3412  
Fax: (203) 596-9544  
(203) 756-9017

Aqueous-based biodegradable cleaners with and without glycol ethers.

Hurri-Kleen Corp.  
P0 Box 29  
Trussville, AL 35173  
Tel: (205) 655-8808  
Fax: (205) 655-5392

Industrial Chemical Products  
15378 Proctor Ave.  
City of Industry, CA 91745  
Tel: (818) 961-9581  
(800) 331-1197  
Fax: (818) 333-6736

Range of aqueous cleaners used in hand-wipe cleaning. Also other non ozone-depleting biodegradable solvents for various cleaning applications, including vapor degreasing, precision cleaning, paint stripping, and resin removal.

Inland Technology, Inc.  
2612 Pacific Highway East  
Tacoma, WA 98424  
Tel: (206) 922-8932  
(800) 552-3100  
Fax: (206) 926-0577



Insitu Environmental Chemical Co.  
8402 East Redwing Rd.  
Scottsdale, AZ 85250-5740  
Tel: (602) 948-9209  
Fax: (602) 951-0715

International Products Corp.  
P.O. Box 70  
Burlington, NJ 08016-0070  
Tel: (609) 386-8770  
Fax: (609) 386-8438

JM Associates, Inc.  
225 Railroad Avenue  
Bedford Hills, NY 10507  
Tel: (914) 241-3795  
Fax: (914) 241-3731

JnJ Industries  
195 E. Main St.  
Suite 303  
Milford, MA 01757  
Tel: (800) 554-9994  
Fax: (508) 478-2221

Kester Solder Division Litton Industries  
515 E. Touhy Avenue  
Des Plaines, IL 60018-2675  
Tel: (708) 297-1600  
Fax: (708) 390-9338

Kyzen Corporation  
430 Harding Industrial Drive  
Nashville, TN 37211  
Tel: (615) 831-0888  
Fax: (615) 831-0889

Aqueous and alcohol based cleaners for low residue degreasing and dewaxing applications. Formulations are nonflammable and nonfuming.

Biodegradable formulations with low toxicity, no phosphates or CFCs used in precision and critical cleaning operations.

New bioremediation technology: safe, non-toxic, non-caustic, neutral pH, non-flammable aqueous cleaning solution with hydrocarbons. Has successfully replaced hazardous solvents in vehicle maintenance, metals cleaning and precision manufacturing operations. Also solvents for auto, marine, contaminated soil and grease cleaning. Application of cleaners by immersion, spray or within closed-loop industrial systems.

Manufacturer of eight non-CFC formulations including a supersaturated wipe solvent.

Alcohol-based cleaners, solvent blends, and aqueous saponifiers. Also manufacture no-clean, water-clean, and VOC-free; fluxes, solders, and solder pastes.

A broad line of non-hazardous, zero ODP, biodegradable, and low VOC cleaning products. Kyzen products are used for cold cleaning, immersion solvent cleaning, and aqueous spray cleaning. These materials are compatible with a wide range of cleaning machines: spray in air, spray in immersion, soak, and ultrasonic. Kyzen products can be used in closed looped systems for low/zero discharge by a variety of commonly available water reuse systems.

London Chemical Co., Inc.  
240 Foster Ave.  
Bensenville, IL 60106  
Tel: (800) 323-9625  
Fax: (708) 860-1218

MacDermid, Inc.  
245 Freight St.  
Waterbury, CT 06702  
Tel: (203) 575-5700  
Fax: (203) 575-5630

Modern Chemical Inc.  
P.O. Box 368  
Jacksonville, AR 72078  
Tel: (501) 988-1311  
Fax: (501) 988-2229

Multicore Solders Inc.  
1751 Jay Ell Drive  
Richardson, TX 75081  
Tel: (214) 238-1224  
Fax: (214) 644-9309

Navy Brand Mfg Co.  
Division of Chemstar, Inc.  
5111 Southwest Avenue  
St. Louis, MO 63110-3496  
Tel: (800) 325-3312  
(314) 865-5500  
Fax: (314) 865-5509

Neozyme International, Inc.  
3333 W. Pacific Coast Hwy. 4th Floor  
Newport Beach, CA 92663  
Tel: (714) 650-9131  
Fax: (714) 642-3005

Line of saponifiers with and without glycol ethers. Also offer a variety of no-clean fluxes and water soluble fluxes. In addition, aqueous defluxing systems, VOC free, ODP free, non-flammable IPC/EPA Phase II approved alternative.

Non-chelating, non-phosphate, non-silicated specialty products. Corrosion inhibiting spray cleaners, and neutral pH cleaners for most surfaces and industrial applications. Compatible with most commercial equipment including ultrasonic, immersion, and high pressure spray equipment.

Non-toxic, non-corrosive, and non-flammable alkaline aqueous based cleaner. Can be used in hand sprayers, dip tanks, ultrasonic, and spray wash cabinets. Safe for ferrous and non-ferrous metals. Also effective in removing flux from printed circuit boards.

Formulations developed for standard and high pressure aqueous cleaners. Effective in removing rosin residues and processing oils and contaminants.

Industrial degreasers for metal cleaning and parts cleaning. Formulations are based on non-ozone depleting solvents. Also solvent-based, aqueous-based and also semi-aqueous-based products for a variety of cleaning applications on a host of substrates, both metallic and non-metallic.

Degreasing formulations made of plant derived enzymes and fully biodegradable emulsifiers in an aqueous solution. Unique applications in water treatment systems. Can be used in conjunction with ultrasound microwave, and other types of mechanical cleaning devices.

Oakite Products, Inc.  
50 Valley Road  
Berkeley Heights, NJ 07922  
Tel: (908) 508-2107  
Fax: (908) 464-9250

High-tech, state-of-the-art, recyclable cleaning products for use in immersion, ultrasonic, hand wipe, and other cleaning applications. Many aqueous and semi-aqueous formulations adhere to the Clean Air Act, OSHA regulations, and do not contain SARA 313 ingredients. Comprehensive lines of products that exhibit biodegradability, oil splitting or emulsifying features. Terpene-based cleaners have no flash point, and alkaline, aqueous formulations include non-phosphated, non-chelated, mildly alkaline cleaners.

O.C.S. Systems  
P.O.Box 370  
429 Madera St  
San Gabriel, CA 91778-0370  
Tel: (818) 458-2471  
Fax: (818) 458-2437

Offer aqueous-based formulation containing detergents with and without EGBE. Biodegradable, sewerable. Ultrasonics, spray wash systems, dishwashers, cabinet washers for cleaning, defluxing any and all parts. Complete closed loop systems, including D.I. water systems.

Parker-Amchem  
32100 Stephenson Highway  
Madison Heights, MI 48071  
Tel: (313) 583-9300

Phoenix Systems International Ltd.  
8200 St. James Ave.  
Elmhurst, NY 11373  
Tel: (718) 565-5200  
Fax: (718) 565-5715

Circuit board cleaners, conformal coatings, maintenance and service aids, contact and mechanical lubrication and epoxies and resins.

Pillar Power Sonics  
6480 Dobbin Road  
Columbia, MD 21045  
Tel: (410) 740-7171  
Fax: (410) 740-7480

Manufacturers of ultrasonic cleaning equipment for precision aqueous cleaning. Immersible transducers for large tanks, bench top units for small applications, console line-ups for application specific process stages, dryers, and automated transfers systems.

PPG Chemfil  
1330 Piedmont  
Troy, MI 48083  
Tel: (313) 689-0720

PPG Industries, Inc.  
Chemicals Group  
One PPG Place  
Pittsburgh, PA 15272  
Tel: (800) 243-6774  
Fax: (412) 434-2401

Proformix, Inc.  
P.O. Box 22  
Route 22 West  
Whitehouse Station, NJ 08889  
Tel: (908) 534-6400  
Fax: (908) 534-9161

Quaker Chemical Corp. Elm &  
Lee Streets Conshohocken, PA  
19428-0809  
Tel: (215) 828-4250  
Fax: (215) 828-1817

Qual-Tech Enterprises, Inc.  
1485 Bayshore Blvd.  
San Francisco, CA 94124  
Tel: (415) 467-7887  
Fax: (415) 467-7092

R.G. Hanson Co., Inc.  
703 E. Lincoln  
Bloomington, IL 61701  
Tel: (309) 828-5070  
(800) 392-0903  
Fax: (309) 829-3294

Rochester Midland Corp.  
333 Hollenbeck St.  
Rochester, NY 14621  
Tel: (716) 336-2200  
Fax: (716) 467-4406

Trichloroethylene, perchloroethylene, and  
methylene chloride.

Non-toxic, non-flammable, biodegradable  
aqueous-based cleaners used to sanitize, and  
eliminate electrostatic discharge from optical  
surfaces or electronic devices. Other  
applications also include cleaning of precision  
optical components. Formulations are VOC  
and solvent-free and are packaged as pump  
sprays.

Aqueous cleaning chemicals and equipment.  
New equipment using only steam to clean also  
available.

Formulations comprised of hydrocarbon  
and/or terpene solvents. Some also contain  
surfactants. Many contain alkaline builders  
and chelants as well as glycol ethers. Some  
aqueous-based or water-compatible  
formulations exhibit good biodegradability.  
Many products allow for good oil/grease  
separation upon standing.

SafeWorld Products Corp.  
P. O. Box 4680  
Homosassa Springs, FL 34447  
Tel: (352) 382-1483  
(800) 461-8714

Formulations of biodegradable, ionic and non-ionic surfactants. Also low odor, micro emulsions that are non-solvent blends, and other biodegradable cleaners, degreasers, and dispersants.

SAMSCO, Inc.  
18 Cote Avenue  
Goffstown, NH 03045  
Tel: (603) 668-7111  
Fax: (603) 647-0537

The SAMSCO water evaporator evaporates efficiently and economically. Typical applications include machining/grinding coolants, alkaline cleaners, floor scrubber waters, vibratory solutions, stamping/drawing compounds, wire drawing compounds and die casting solutions.

S.A.S., Inc.  
2435 North Indian Hill Blvd  
Claremont, CA 91711-1730  
Tel: (909) 624-0396  
Fax: (909) 624-6336

Aqueous cleaning machines, part washers using spray, immersion, agitation, and ultrasonics. Range of detergents, cleaners, oil skimmers, exhaust systems, filtering systems, auto rinse systems, and hot air dryers.

Selig Chemical Industries  
PO Box 43106  
840 Selig Dr. SW  
Atlanta, GA 30378  
Tel: (404) 691-9220  
Fax: (404) 699-7024

Formulations made of hydrocarbons and blends of hydrocarbons and emulsifiers. Also offer aqueous-based formulations containing detergents with and without glycol ethers and some containing d-limonene.

Smart Sonic SMT Cleaning Systems  
2373 Teller Rd., #107  
Newbury Park, CA 91320  
Tel: (805) 499-7440  
Fax: (805) 375-5781

Ultrasonic screen/stencil cleaning and PCA (fine pitch) cleaning. Cleans all types of solder paste, flux residues and SMT adhesives. Optional waste water evaporator eliminates liquid hazardous waste disposal.

SONICOR Instrument Corp.  
100 Wartburg Ave.  
Copiague, NY 11726  
Tel: (516) 842-3344  
Fax: (516) 842-3389

Ultrasonic cleaning equipment, automated aqueous cleaning systems. Environmentally safe alternatives to cleaning with hazardous solvents.

Star Cleaning Miracle, Inc.  
P.O. Box 14  
Hudsonville, MI 49426  
Tel: (616) 875-7234  
Fax: (616) 875-7743

Step Kare Corporation  
P.O. Box 211  
Highland Park, IL 60035  
Tel: (708) 358-2158  
Fax: (708) 358-2158

Storchem Inc.  
3600 Billings Court, Suite 110  
Burlington, Ontario  
Canada L7N 3N6  
Tel: (416) 639-9700  
Fax: (416) 639-5244

Sunshine Makers, Inc./Simple Green  
15922 Pacific Coast Highway  
Huntington Harbor, CA 92649  
Tel: (310) 795-6000  
(800) 228-0709  
Fax: (310) 592-3034

Surftran  
Division of Robert Bosch Corporation  
30250 Stephenson Hwy  
Madison Heights, MI 48071  
Tel: (810) 691-2560  
Fax: (810) 847-0206

SWR Corporation  
127 East Washtenaw  
Lansing, MI 48933  
Tel: (517) 487-6390  
Fax: (517) 487-8205

Tech Spray Inc.  
P.O. Box 949  
Amarillo, TX 79105-0949  
Tel: (806) 372-8523  
(800) 858-4043  
Fax: (806) 372-8750

Water-based flux remover, effective on rosin and non-rosin fluxes; aqueous coating remover. Also removes cutting oils and other contaminants. Non-aqueous coating remover contains no petroleum distillates or glycol ethers. Capable of removing conformal coatings or rosin fluxes in a non-aqueous formulation.

Aqueous-based terpene formulations containing detergents and emulsifiers; semi-aqueous cleaners and degreasers based on terpene alcohols and hydrocarbons; terpene alcohol and hydrocarbon blends used as non-water soluble solvents.

Concentrated aqueous-based non-toxic, biodegradable, non-flammable cleaner/degreaser containing a blend of high-grade penetrants and surfactants which are activated by water.

Precision and non-precision aqueous cleaning equipment. Environmentally sound chemical cleaners and rust inhibitors for aqueous cleaning.

Cleaners include biodegradable, non-toxic, aqueous cleaner/degreaser surfactants that have a powerful affinity for removing grease, oil and grime emulsions. The SWR™ cleaners also remove oils and grease coatings from machine and electronic parts with no remaining residue. As non-toxic compounds, SWR™ cleaners reduce associated end-use disposal costs.

Manufacturer of CFC replacements including HCFCs, alcohols, hydrocarbons, high molecular weight hydrocarbons, PFCs, and concentrated aqueous cleaners. Products designed for use in vapor degreasing and other batch cleaning operations. Also packaged in aerosol form for field service and re-work applications.

Terpene Technologies Inc.  
1200A Scottsville Rd.  
Suite 130  
Rochester, NY 14624  
Tel: (716) 235-3860  
Fax: (716) 235-3994

Texo Corp.  
2801 Highland Ave.  
Cincinnati, OH  
45212  
Tel: (513) 731-3400  
Fax: (513) 731-8113

Thierica  
900 Clancy Ave.  
Grand Rapids, MI 49503  
Tel: (616) 458-1538  
Fax: (616) 458-7120

Today & Beyond  
PO Box 690  
Ashland, OH 44805  
Tel: (419) 945-2628

Unitech Industrial Inc.  
PO Box 330  
16 South Ave,  
Wappingers Falls, NY 12590  
Tel: (914) 297-0745  
(800) 277-5522  
Fax: (914) 297-2919

Terpene alcohol and hydrocarbon blends used as non-water soluble solvents, semi-aqueous cleaners and degreasers based on terpene alcohols and hydrocarbons. Also offer aqueous based terpene formulations containing detergents and emulsifiers.

Aqueous, semi-aqueous, and various solvent cleaners for replacement of vapor degreasing and handwiping with solvents. Applications of cleaners can be spray immersion, ultrasonic or handwiping. Cleaners can be multimetal safe and contain corrosion inhibitors if necessary.

New low cost spray equipment manages extremely difficult cleaning jobs. Used with large and small parts containing baked grease and paint soils. Designed to be safe and environmentally secure with hydrocarbon and aqueous cleaning agents. Stainless steel construction.

Specialty industrial cleaners formulated utilizing SPC to meet the needs and cleaning requirements for the aerospace, aircraft, automotive, electronics, marine, military and nuclear industries. Existing vapor tanks can be used with minor modification in most cases.

Closed loop industrial cleaning systems. Spray washers, batch cleaning systems, vapor degreasing, and pretreatment systems available in new equipment and retrofits. Waste water treatment and recycling, 100% oil removal from the cleaning process.

United Laboratories, Inc.  
320 37th Ave.  
St. Charles, IL 60174  
Tel: (708) 773-0252  
Fax: (708) 773-0595

Aqueous cleaners for use on most metals.  
Can be used from ambient temperatures to 200°, direct spray, spray under immersion, or in ultrasonic operations.

U.S. Polychemical Corp.  
Route 45 Chestnut Ridge Road  
Chestnut Ridge, NY 10977  
Tel: (914) 356-5530  
(800) 431-2072  
Fax: (914) 356-6656

Manufacturers of oil and grease buffing compounds, flux removing chemistries with non-chlorinated solvents, semi-aqueous, and aqueous technologies. Also automated cleaning systems with recirculating agitation or ultrasonics for turn-key applications.

Working Solutions, Inc.  
321 Heights Blvd.  
Houston, TX 77007  
Tel: (800) 829-4419  
Fax: (713) 862-5591

Aqueous, semi-aqueous and solvent cleaning technologies and equipment.

Zelman International Ltd.  
PO Box 1112  
Studio City, CA 91614  
Tel: (818) 786-9488  
(310) 576-6830 sales  
Fax: (818) 787-8560  
(310) 576-6832

Homogeneous blend of colloids, surfactants, hyper-wetting agents and water in an industrial non-toxic, non-caustic cleaner designed to clean commercial and military aircraft, as well as metal surfaces such as aluminum and magnesium alloys, removing mill markings, mill inks and shop soils such as dirt, coolants, lubricants, forming and cutting oils, and other common shop contaminants. Highly diluted, it is also used in ultrasonic and precision cleaning and degreasing.

#### AQUEOUS CLEANING EQUIPMENT

ACCEL  
1825 E. Piano Parkway  
Piano, TX 75074-8129  
Tel: (972) 424-3525  
Fax: (972) 424-7526

System utilizing centrifugal cleaning to provide superior washing, effective rinsing, and drying of populated printed circuit boards and hybrid circuits. Includes automatic solvent recycling and rinse water purification with no required drain. Compatible with chlorocarbons, fluorocarbons, H<sub>2</sub>O, and terpenes.



ADF Systems, Ltd.  
1302 19th Street. N.  
Humboldt, IA 50548  
Tel: (515) 332-5400  
Fax: (800) 798-5100

Offers detergents both liquid and powder designed for use in all type of aqueous washing equipment. Offers non-foaming formulations with and without glycol ethers and with and without rust inhibitors for all applications. Has parts washing equipment designed for the type of uses experienced in maintenance operations.

Advanced Curing Systems, Inc.  
3701 S. Ashland Ave.  
Chicago, IL 60609  
Tel: (312) 247-3600

Advanced Deburring and Finishing  
25 Marianne Dr.  
PO Box 2491  
York, PA 17405  
Tel: (717) 767-4843  
(800) 553-7060

Altos Engineering, Inc.  
6009 N. 61 Ave  
Glendale, AZ 85301  
Tel: (602) 931-8434  
Fax: (602) 937-6396

Batch and inline cleaning equipment with non-chemical, thermal vacuum drying of rinse waters. Detergent formulations available with and without glycol ethers.

ATCOR Corp.  
150 Great Oaks Blvd.  
San Jose, CA 95119-1367  
Tel: (408) 629-6080  
(800) 827-6080  
Fax: (408) 629-9009

Babcock & Wilcox CIM Systems  
4004 Murray Place  
Lynchburg, VA 24501  
Tel: (804) 948-1361  
Fax: (804) 948-1313

Provide turnkey automated cleaning and inspection (SQCISPC) systems for complete integration into process cleaning lines, including aqueous and non-aqueous systems, material handling, drying, cleanliness and geometric inspection, and computer protocol communication. Full-scope of services from process selection, development, installation, training, and continued follow-up support.

Baron-Blakeslee, Inc.  
1500 West 16th St.  
Long Beach, CA 90813  
Tel: (800) 548-4422  
Fax: (310) 491-1091

Barrett Centrifugals  
Box 15059  
Worcester, MA 01615-0059  
Tel: (508) 755-4306  
(800) 228-6442  
Fax: (508) 753-4805

Better Engineering Mfg., Inc.  
8361 Town Center Court  
Baltimore, MD 21236  
Tel: (410) 931-0000  
(800) 229-3380  
Fax: (410) 931-0053

Bio-Chem of Illinois, Inc.  
3335 No. Lewis Avenue  
Waukegan, IL 60087  
Tel: (708) 249-5770  
Fax: (708) 623-6919

Blackstone Ultrasonics, Inc.  
9 North Main St.  
Jamestown, NY 14701  
Tel: (716) 665-2340  
(800) 766-6606  
Fax: (716) 665-2480

Blue Wave Ultrasonics  
Div. of Alpheus Cleaning Technologies Corp.  
P.o. Box 1317, Dept. TR  
Davenport, IA 52808-1317  
Tel: (319) 322-0144  
(800) 611-2011  
Fax: (319) 322-7180

Bowden Industries Inc.  
1004 Oster Dr. NW  
Huntsville, AL 35816  
Tel: (800) 553-3637

Full line of cleaning equipment for use with aqueous, semi-aqueous, HCFC, and chlorinated solvents. Closed loop system incorporating vacuum drying available (near zero emissions).

Centrifugal equipment for washing and drying small, irregularly shaped parts using detergent/water solution. With custom fixturing, can be adapted for larger, more complex parts or assemblies.

Manufacturers of industrial cleaning equipment, including automatic jet washers compatible with biodegradable detergents and water solutions. Also cleaning systems with wash, rinse, and dry cycles, custom systems, extended wash cabinets, large capacity systems, and tumbling systems.

Complete range of ultrasonic cleaning products from stand-alone and bench-top heated tanks to wash/multiple rinse/dry console systems with optional material handling and automation. Also, fluxless ultrasonic solder pots for tinning leads and electronics.

Ultrasonic cleaning equipment built for various applications specific to the customer's needs. Effective in cleaning different products and materials throughout the scope of fabricated metals, plastics, and ceramics. Also offer aqueous based detergents that are environmentally safe.

Branson Ultrasonics Inc.  
41 Eagle Rd.  
Danbury, CT 06810  
Tel: (203) 796-0400  
Fax: (203) 796-0381

Ultrasonic cleaning equipment and integrated cleaning systems for metal, electronic, and precision cleaning requirements. Manual and fully automated material handling/transport systems. Equipment for aqueous, semi-aqueous and solvent chemistry.

CD Nelson Manufacturing Company  
P.O. Box 726  
Wauconda, IL 60084  
Tel: (847) 487-4870  
Fax: (847) 487-4873

Steam cleaning equipment for removing polishing paste, oils, pollutants, and other contaminants from metals, plastics, ceramics, silicone wafers. Removal of small burrs, rouges, casting materials, waxes from precious metals, ferrous and non-ferrous metals, ceramics, plastics. Ultrasonic cleaning of all above materials.

Chem-Tech International  
1800 Diagonal Rd., Suite 600  
Alexandria, VA 22314  
Tel: (703) 549-1001  
Fax: (703) 549-1003

Aqueous-based formulations containing detergents with and without glycol ethers for removing corrosion, grime, oil, and other soils from electronic and electro-mechanical components; a hydrocarbon based formulation with advanced cleaning and water displacement properties. Also specially designed cleaning equipment.

Cincinnati Industrial Machinery  
PO Box 62027  
3280 Hageman St.  
Cincinnati, OH 45241 (street add.)  
45262 (PO  
Box) Tel: (513) 769-0700  
Fax: (513) 769-0697

Custom designed machines for cleaning, surface preparation and other processing of metal and non-metallic parts.

Corpane Industries  
10100 Bluegrass Parkway  
Louisville, KY 40299  
Tel: (502) 491-4433  
Fax: (502) 491-9944

Aqueous, semi-aqueous and neat solvent cleaning systems for electronic, metals, and precision cleaning with ultrasonics and closed loop recycling options. Available in-line conveyor or batch configurations with customizing as required.

Creative Enterprises  
105 Anyway, Suite 209  
Lake Jackson, TX 77566  
Tel: (409) 292-0244  
Fax: (409) 292-0440

Specialize in low cost conversion of existing facilities to safely use alternative cleaning agents. Design new or custom cleaning equipment and processes. Also design environmentally secure drying equipment and processes.

Crest Ultrasonics  
Scotch Rd. - Mercer County Airport  
P0 Box 7266  
Trenton, NJ 08628  
Tel: (609) 883-4000  
(800) 441-9675  
Fax: (609) 883-6452

Detrex Corporation  
4000 Town Center, Suite 1100  
Southfield, MI 48075  
Tel: (810) 358-5800  
Fax: (810) 358-5803

Ecolink  
1481 Rock Mountain Blvd.  
Stone Mountain, GA 30083  
Tel: (770) 621-8240  
(800) 886-8240  
Fax: (770) 621-8245

Electronic Controls Design, Inc.  
4287-A SE International Way  
Milwaukee, OR 97006  
Tel: (503) 659-6100  
(800) 323-4548  
Fax: (503) 659-4422

Electrovert  
805 W. North Carrier Parkway  
Grand Prairie, TX 75050  
Tel: (214) 606-1900  
Fax: (214) 606-1700

Precision cleaning equipment (primarily ultrasonic systems) from standard wash-rinse-dry cleaning consoles to large custom automated batch cleaning equipment. Ultrasonic generator is sweep frequency generator capable of cavitating both aqueous and semi-aqueous chemistries. Full line of aqueous-based cleaning chemistries for ultrasonic applications as well.

Aqueous micro-emulsion solution for gross metal cleaning and equipment for use with the cleaning solution. Alternatively vapor degreasing process, specialty equipment and solvents for metals and electronics cleaning, chlorinated and HCFC solvents, and aqueous and semi-aqueous solvents.

Wide range of aqueous, semi-aqueous and non-aqueous chemistries. Formulations include a variety of hydrocarbon, NMP, DBE and terpene products as well as non-ozone depleting halogenated solvents. Manufacture a complete line of batch cleaning units for use with these solvents.

Full line of polypropylene and stainless steel in-line aqueous cleaning equipment. Also semi-aqueous in-line and aqueous and semi-aqueous batch equipment.

Environmental Recovery Resources, Inc.  
PO Box 36  
South Salem, NY 10590  
Tel: (914) 533-6175  
Fax: (914) 533-6275

Floating, dispersed, and dissolved hydrocarbon contaminants removed to surface water discharge limits, using: no coalescing plates, no centrifugal, no carbon absorption, no solvent waste. Also offer systems and services to extend cleaning bath 'life' for more cost effective aqueous systems and waste water processing, and waste-minimized settling-pond and separator maintenance/ remediation.

Finishing Equipment Inc.  
3640 Kennebec Dr.  
St. Paul, MN 55122  
Tel: (612) 452-1860  
Fax: (612) 452-9851

Aqueous, semi-aqueous and solvent cleaning systems available. From manual systems to automated high-production cleaning lines, with ultrasonics available as needed. Specialize in automated enclosed vapor degreasers for efficient use of the non-ozone depleting chlorinated solvents.

FMT Inc. (Findlay Machine & Tool)  
1950 Industrial Dr.  
Findlay, OH 45840  
Tel: (419) 422-0768  
(800) 878-8011  
Fax: (419) 422-0072

Custom engineered parts cleaning equipment, standard parts cleaning equipment, and pollution control equipment.

Forward Technology Ind. Inc.  
13500 County Rd. 6  
Minneapolis, MN 55446-2777  
Tel: (612) 559-1785  
Fax: (612) 559-3929

Standard and custom aqueous systems featuring batch and part-by-part high speed automation, ultrasonics, high pressure spray, hot air drying, IPA drying, vacuum dryers, environmentally controlled enclosures. Semi-aqueous and solvent equipment also available.

Fremont Industries, Inc.  
4400 Valley Industrial Park  
Shakopee, MN 55379  
Tel: (612) 445-4121  
Fax: (612) 496-3027

Aqueous-based metal cleaning and non-metallic substrate cleaning formulations and application equipment. Includes spray, soak, and ultrasonic cleaners in rinse and no-rinse formulations.

George Koch Sons Inc.  
10 South 11th Ave.  
Evansville, IN 47744  
Tel: (812) 426-9600  
Fax: (812) 465-9724

Graymills Corporation  
3705 N. Lincoln Ave.  
Chicago, IL 60613-3594  
Tel: (773) 248-6825  
(773) 477-4100  
Fax: (773) 477-8673

The Hotsy Corp.  
21 Inverness Way E.  
Englewood, CO 80112-  
5796  
Tel: (303) 792-5200

Hydro-Blast, Inc.  
6917 NE 39th Court  
Vancouver, WA 98661  
Tel: (206) 690-4400  
Fax: (206) 696-5948

Jensen Fabricating Engineers, Inc.  
555 Wethersfield Rd.  
Berlin, CT 06037  
Tel: (203) 828-6516

JM Associates, Inc.  
225 Railroad Avenue  
Bedford Hills, NY 10507  
Tel: (914) 241-3795  
Fax: (914) 241-3731

K.E.W. Cleaning Systems, Inc.  
130B E. St. Charles Rd.  
Carol Stream, IL 60188  
Tel: (630) 690-3000

KLN Ultraschall GmbH  
Steinbacher Str.62  
D-64658 FurthiOdenwald  
GERMANY  
Tel: +49-06253i202-0  
Fax: +49-06253i202-35

Full line of cabinet style aqueous cleaning systems with built in waste water evaporation system. Cleaning solution can be heated with electricity or natural gas. Systems available in powder coated or all stainless steel.

New bioremediation technology: safe, non-toxic, non-caustic, neutral pH, non-flammable aqueous cleaning solution with hydrocarbons. Has successfully replaced hazardous solvents in vehicle maintenance, metals cleaning and precision manufacturing operations. Also solvents for auto, marine, contaminated soil and grease cleaning. Application of cleaners by immersion, spray or within closed-loop industrial systems.

Standard and custom aqueous systems featuring various types of batch automation, ultrasonics, high pressure spray, hot air drying, IPA drying, and vacuum dryers. Environmentally controlled enclosures. Also, aqueous and solvent formulations available.

Ney Ultrasonics  
1280 Blue Hills Avenue  
Bloomfield, CT 06002  
Tel: (860) 286-6149  
Fax: (860) 286-6150

Nobles Mfg. Inc.  
645 East 7th St.  
St. Paul, MN 55106  
Tel: (612) 771-5581  
Fax: (612) 771-7855

Pillar Power Sonics  
6480 Dobbin Road  
Columbia, MD 21045  
Tel: (410) 740-7171  
Fax: (410) 740-7480

Proceco  
7300 Tellier St.  
Montreal, Quebec  
Canada H1N 3T7  
Tel: (514) 254-8494  
Fax: (514) 254-8184  
(514) 254-6922

Protonique S.A.  
PO Box 78  
CH-1032 Romanel-Sur-Lausanne  
SWITZERLAND  
Tel: 41-21-648 23 34  
Fax: 41-21-648 24 11

Ramco Equipment Corporation  
32 Montgomery Street  
Hillside, NJ 07205  
Tel: (908) 687-6700  
(800) 248-WASH  
Fax: (908) 687-0653

Equipment for batch manual and batch automated cleaning using aqueous, water-miscible, semi-aqueous, and solvent chemistries. Complete application development laboratory to assist users.

Aqueous formulations containing detergents. Hydrocarbon and blends of hydrocarbons. Centrifugal washing and drying equipment used extensively in the metal working and electronic industry.

Manufacturers of ultrasonic cleaning equipment for precision aqueous cleaning. Immersible transducers for large tanks, bench top units for small applications, console line-ups for application specific process stages, dryers, and automated transfers systems.

Aqueous spray washers (turntable, belt conveyor, and immersion types). Also supply contaminated cleaning solutions recycling systems.

High performance batch cleaners and dryers for 'hi-tech' and other applications. Can be used with water-soluble chemistry, saponifiers, hydrocarbon surfactant (semi-aqueous) processes and others. Optional water purification and waste-water pollution control systems. Optional automatic handling. Low water and energy requirements.

Standard line of single and multi-station aqueous degreasing systems with a wide selection of options including platform oscillation, directional turbulence, oil removal, ultrasonics, filtration, parts rotators and dryers. Nationwide network of application engineers to assist from process development through installation.

Ransohoff Co.  
4933 Provident Dr.  
Cincinnati, OH 45246  
Tel: (513) 863-5813  
(800) 248-WASH  
Fax: (513) 863-8908

Rapid Engineering, Inc.  
1100 Seven Mile Road N.W.  
Comstock Park, MI 49321-0700  
Tel: (616) 784-0500  
Fax: (616) 784-0435

R.G. Hanson Co., Inc.  
703 E. Lincoln  
Bloomington, IL 61701  
Tel: (309) 828-5070  
(800) 392-0903  
Fax: (309) 829-3294

RotoJet  
2819 San Fernando Blvd.  
Burbank, CA 91504  
Tel: (818) 841-1520  
Fax: (818) 841-6448

SAMSCO, Inc.  
18 Cote Avenue  
Goffstown, NH 03045  
Tel: (603) 668-7111  
Fax: (603) 647-0537

S.A.S., Inc.  
2435 North Indian Hill Blvd  
Claremont, CA 91711-1730  
Tel: (909) 624-0396  
Fax: (909) 624-6336

Standard and custom aqueous and semi-aqueous cleaning equipment for small through high production parts cleaning requirements, as well as very small to large part configurations and various part materials. Expertise in precision cleaning. Patented, mechanically agitated aqueous technology for high volume intricately shaped or machined parts as a direct replacement of solvent vapor degreasing and ultrasonic cleaning systems.

Parts washers utilizing low to medium pressure spraying of aqueous solutions on metal and plastic substrates. Exhaust incinerators for lowering VOC discharge to the atmosphere.

Aqueous cleaning chemicals and equipment. New equipment using only steam to clean also available.

The SAMSCO water evaporator evaporates efficiently and economically. Typical applications include machining grinding coolants, alkaline cleaners, floor scrubber waters, vibratory solutions, stamping drawing compounds, wire drawing compounds and die casting solutions.

Aqueous cleaning machines, part washers using spray, immersion, agitation, and ultrasonics. Range of detergents, cleaners, oil skimmers, exhaust systems, filtering systems, auto rinse systems, and hot air dryers.



Smart Sonic SMT Cleaning Systems  
2373 Teller Rd., #107  
Newbury Park, CA 91320  
Tel: (805) 499-7440  
Fax: (805) 375-5781

SONICOR Instrument Corp.  
100 Wartburg Ave.  
Copiague, NY 11726  
Tel: (516) 842-3344  
Fax: (516) 842-3389

Stoelting  
502 Highway 67  
Kiel, WI 53042  
Tel: (414) 894-2293  
(800) 558-5807  
Fax: (414) 894-7029

Surface Dynamics Inc.  
9185 General Court  
Plymouth, MI 48170  
Tel: (313) 459-0010

Surfran  
Division of Robert Bosch Corporation  
30250 Stephenson Hwy  
Madison Heights, MI 48071  
Tel: (810) 691-2560  
Fax: (810) 847-0206

Swen Sonic Corp.  
PO Box 4347  
Davenport, IA 52808  
Tel: (319) 322-0144  
Fax: (319) 322-7180

Tally Cleaning Systems  
Division of Metfab Engineering  
332 John Diestch Blvd.  
Attleboro Falls, MA 02763  
Tel: (508) 695-1007  
Fax: (508) 695-6335

Ultrasonic screenstencil cleaning and PCA (fine pitch) cleaning. Cleans all types of solder paste, flux residues and SMT adhesives. Optional waste water evaporator eliminates liquid hazardous waste disposal.

Ultrasonic cleaning equipment, automated aqueous cleaning systems. Environmentally safe alternatives to cleaning with hazardous solvents.

Precision and non-precision aqueous cleaning equipment. Environmentally sound chemical cleaners and rust inhibitors for aqueous cleaning.

Single and multiple stage ultrasonic cleaning systems which utilize aqueous based cleaning formulations. Complete systems available which include ultrasonic, wash, rinse, rustinhibit, hot air dry, particle filtration, oil separation, etc. Standard or custom engineered units.

Thierica  
900 Clancy Ave.  
Grand Rapids, MI 49503  
Tel: (616) 458-1538  
Fax: (616) 458-7120

New low cost spray equipment manages extremely difficult cleaning jobs. Used with large and small parts containing baked grease and paint soils. Designed to be safe and environmentally secure with hydrocarbon and aqueous cleaning agents. Stainless steel construction.

Tiyoda Mfg. U.S.A., Inc.  
1613 Lockness Place  
Torrance, CA 90501  
Tel: (310) 539-5471  
Fax: (310) 539-5881

Vacuum desiring ultrasonic batch cleaning system provides instantaneous cleaning solution penetration into small tubes and holes and promotes superior cleaning. Vacuum drying system uses vacuum, hot air, ultra-pure steam heating and far-infrared heater.

Ultrasound Fabrications, Inc.  
1 Maple St.  
Shelton, CT 06484  
Tel: (203) 924-1624  
Fax: (203) 924-1625

Ultrasonic parts washing systems with standard tank volumes of 5, 10, 20, and 30 gallons, as well as special sizes if required. Systems provide for ultrasonic washing, spray or different types of immersion rinsing and hot air drying to achieve clean, dry, spot free parts.

Unique Industries, Inc.  
PO Box 417  
Mohawk Ave. Extension  
Derby, CT 06418  
Tel: (203) 735-8751

Closed loop industrial cleaning systems. Spray washers, batch cleaning systems, vapor degreasing, and pretreatment systems available in new equipment and retrofits. Waste water treatment and recycling, 100% oil removal from the cleaning process.

Unitech Industrial Inc.  
PO Box 330  
16 South Ave,  
Wappingers Falls, NY 12590  
Tel: (914) 297-0745  
(800) 277-5522  
Fax: (914) 297-2919

Manufacturers of oil and grease buffing compounds, flux removing chemistries with non-chlorinated solvents, semi-aqueous, and aqueous technologies. Also automated cleaning systems with recirculating agitation or ultrasonics for turn-key applications.

U.S. Polychemical Corp.  
Route 45 Chestnut Ridge Road  
Chestnut Ridge, NY 10977  
Tel: (914) 356-5530  
(800) 431-2072  
Fax: (914) 356-6656

Vitronics Corp.  
Forbes Rd.  
Newmarket Industrial Park  
Newmarket, NH 03857  
Tel: (603) 659-6550  
Fax: (603) 659-7194

Westek  
400 Rolyn Place  
Arcadia, CA 91007  
Tel: (818) 446-4444  
Fax: (818) 446-7341

Working Solutions, Inc.  
938 Cortlandt Street  
Houston, TX 77008  
Tel: (800) 829-4419  
Fax: (713) 862-5591

SEMI-AQUEOUS CLEANERS  
Aliphatic Hydrocarbon-Based

Aerocote Corporation  
P.O. Box 15849  
Houston, TX 77220  
Tel: (713) 224-6185  
Fax: (713) 223-5229

Aervoe-Pacific Co., Inc.  
1198 Sawmill Road  
Gardnerville, NV 89410  
Tel: (702) 782-0100  
Fax: (702) 782-4027

ARCO Chemical Co.  
3801 West Chester Pike  
Newtown Square, PA 19073-2387  
Tel: (215) 359-2441  
Fax: (215) 359-5753

A.W. Chesterton  
225 Fallon Road Middlesex  
Industrial Park Stoneham,  
MA 02180-2999  
Tel: (617) 438-7000  
Fax: (617) 438-8971

Inline aqueous and semi-aqueous cleaning equipment with closed loop water treatment systems.

Systems for cleaning and drying electronic and metal assemblies. Water treatment for effluent re-direction back for use again in the process. Polypropylene and stainless steel/titanium construction.

Aqueous, semi-aqueous and solvent cleaning technologies and equipment.

Aqueous, semi-aqueous cleaners and hydrocarbon solvents. Applications using agitation including spray wash cabinets. Also, spray in steam cleaning, pressure washing, soak immersion, ultrasonic, and hand wiping applications.

Hydrocarbon, alcohol and HFC-based cleaners, defluxers, lubricants, dust off and circuit freezing formulations designed for electronics. All products sold contain zero ozone depleting substances.

A complete line of aqueous cleaners containing detergents, with and without glycol ethers. Hydrocarbon solvents and solvent blends. Non-ozone depleting chlorinated solvents. Provide free assistance to customers wishing to replace ozone-depleting chemicals. Synthetic machining fluids, lubricants and maintenance specialties.

Brulin Corporation  
P0 Box 270  
2920 Dr. Andrew J. Brown Ave.  
Indianapolis, IN 46206  
Tel: (317) 923-3211  
Fax: (317) 925-4596

Calgon Corp.  
Chemical Technologies Group  
P0 Box 1346  
Pittsburgh, PA 15230  
Tel: (800) 955-0090  
Fax: (412) 777-8927

Chemtronics, Inc.  
8125 Cobb Center Dr.  
Kennesaw, GA 30144  
Tel: (404) 424-4888  
Fax: (404) 424-4267

Circle-Prosc0, Inc.  
2017 Yost Ave.  
Bloomington, IN 47403  
Tel: (812) 339-3653  
Fax: (812) 331-2566

Cobehn, Inc.  
640 Airport Road  
Winchester, VA 22602  
Tel: (703) 665-0707  
Fax: (703) 665-0768

Coleman Chemical, Inc.  
One Gemstar Lane  
Joliet, IL 60435  
Tel: (815) 727-3900  
Fax: (815) 727-3998

Advanced technology aqueous detergent systems for spray, immersion, ultrasonic, and passive process cleaning of fabricated metal or plastic parts.

Formulations include non-chelating, non-phosphate, readily biodegradable aqueous-based cleaners, non-chlorinated solvent cleaners and paint removing compounds, non-glycol based solvent enhanced general cleaners, neutral pH process cleaners, and industrial waste treatment polymers.

Ultra-pure cleaners for electronics and metal, flux removers for all types of printed circuit fluxes, conformal coatings for protection of finished circuit boards, solder masking agents, and lubricants for electronics.

Aqueous, alkaline, etchant cleaners for ferrous and non-ferrous applications. Aqueous, acidic, neutral, and alkaline oil rejecting cleaners with or without glycol ethers for ferrous and non-ferrous applications. Water miscible, semi-aqueous cleaners (electronics cleaning). Water emulsifiable cleaners containing aliphatic and terpene solvents. Evaporative oils for no clean applications.

Manufacturer of a non-solvent-based precision batch cleaning system, utilizing solvent materials filtered to .2um ppm. Process removes flux, oils and particulates by agitation, wetting and drying in an inert atmosphere. Also used for hybrids, and PCBs.

Specialty formulations of non-ozone depleting HFCs available in 1995.

Creative Enterprizes  
105 Anyway, Suite 209  
Lake Jackson, TX 77566  
Tel: (409) 292-0244  
Fax: (409) 292-0440

Detrex Corp.  
4000 Town Center, Suite 1100  
Southfield, MI 48175  
Tel: (313) 358-5800  
Fax: (313) 358-5803

Dow U.S.A.  
Midland, MI 48674  
Tel: (800) 447-4369  
Fax: (517) 832-1465

Ecolink  
1481 Rock Mountain Blvd.  
Stone Mountain, GA 30083  
Tel: (404) 621-8240  
(800) 886-8240  
Fax: (404) 621-8245

ETUS, Inc.  
1511 Kastner Place  
Sanford, FL 32771  
Tel: (407) 321-7910  
Fax: (407) 321-3098

Fine Organics Corp.  
205 Main St.  
PO Box 687  
Lodi, NJ 07644-0687  
Tel: (201) 472-6800  
(800) 526-7480  
Fax: (201) 472-6810

Specialize in low cost conversion of existing facilities to safely use alternative cleaning agents. Design new or custom cleaning equipment and processes. Also design environmentally secure drying equipment and processes.

Aqueous micro-emulsion solution for gross metal cleaning and equipment for use with the cleaning solution. Alternative vapor degreasing process, specialty equipment and solvents for metals and electronics cleaning, chlorinated and HCFC solvents, and aqueous and semi-aqueous solvents.

Formulations composed of paraffinic hydrocarbons and glycol ethers and blends of paraffinic hydrocarbons, glycol ethers, and surfactants.

Wide range of aqueous, semi-aqueous and non-aqueous chemistries. Formulations include a variety of hydrocarbon, NMP, DBE and terpene products as well as non-ozone depleting halogenated solvents. Manufacture a complete line of batch cleaning units for use with these solvents.

Formulations made of hydrocarbons and blends of hydrocarbons and emulsifiers. Also offer aqueous based formulations containing detergents with and without glycol ethers.

Non-hazardous and biodegradable solvent and solvent-emulsion based alternatives. Products are applicable to the transportation, aviation, electronics, and coatings industries. Also offer water-based alternative products.

Firefreeze Worldwide, Inc.  
270 Route 46 East  
Rockaway, NJ 07866  
Tel: (973) 627-0722  
Fax: (973) 627-2982

JnJ Industries  
195 E. Main St.  
Suite 303  
Milford, MA 01757  
Tel: (800) 554-9994  
Fax: (508) 478-2221

MacDermid, Inc.  
245 Freight St.  
Waterbury, CT 06702  
Tel: (203) 575-5700  
Fax: (203) 575-5630

Micro Care Corp.  
34 Ronzo Rd.  
Bristol, CT 06010  
Tel: (203) 585-7912  
Fax: (203) 585-7378

Multicore Solders Inc.  
1751 Jay Ell Drive  
Richardson, TX 75081  
Tel: (214) 238-1224  
Fax: (214) 644-9309

Navy Brand Mfg Co.  
Division of Chemstar, Inc.  
5111 Southwest Avenue  
St. Louis, MO 63110-3496  
Tel: (800) 325-3312  
(314) 865-5500  
Fax: (314) 865-5509

Aqueous based degreasing, cleaning and odor eliminating formulations. Products are plant derived, environmentally friendly, non-corrosive, non-flammable, and fully biodegradable. Unique applications for waste water and sludge treatment and oilgrease separation and removal. Can be used in hand sprayers, water pressurized units, power washers, and other spray equipment.

Manufacturer of eight non-CFC formulations including a supersaturated wipe solvent.

Full range of aqueous-based formulations and terpene-based formulations for the metalworking, aerospace, automotive, electronic, military, and printing industries. Designed to meet military specifications. Products leave no residue following proper cleaning and rinsing. Formulations available with and without glycol ethers.

Solvent cleaners based on, but not limited to, terpene hydrocarbons, alcohol or HCFC technologies. Formulations are engineered for use in non-automated hand cleaning applications where rinsing is not available. Cleaners are effective in touch-up cleaning and precision cleaning of all types of flux residues, oils, grease and grime.

Oxygenated solvent blend especially effective in removing rosin flux residues requiring only simple water rinsing.

Industrial degreasers for metal cleaning and parts cleaning. Formulations are based on non-ozone depleting solvents. Also solvent-based, aqueous-based and also semi-aqueous-based products for a variety of cleaning applications on a host of substrates, both metallic and non-metallic.

Orange Sol Industrial Products, Inc.  
955 North Fiesta Blvd, Suite 1  
Gilbert, AZ 85233-2801  
Tel: (602) 497-8822  
Fax: (602) 497-0444

Aqueous, semi-aqueous cleaners, hydrocarbon-based products and other cleaning alternatives and equipment (parts, washers). Effective cleaners for metal, electronic, precision and maintenance cleaning, suitable for agitation, soak, spray, ultrasonic and handwipe cleaning.

Petroferm Inc.  
5415 First Coast Highway  
Fernandina Beach, FL 32034  
Tel: (904) 261-8286  
Fax: (904) 261-6994

Broad line of formulations based on terpenes, ester, and aliphatic hydrocarbons and blends of these organic solvents with surfactants. Products are used for cold (hand) cleaning and in combination with various cleaning equipment. Products can be removed by evaporation, water, alcohols or nonflammable fluorinated solvents. Both products and rinse media can be recycled.

P-T Technologies, Inc.  
108 4th Ave. South  
Safety Harbor, FL 34695  
Tel: (800) 441-7874  
Fax: (813) 725-9544

Non-halogenated hydrocarbon based and water based degreasers and cleaners. Specialty formulations for electronics, cable manufacturing, process cleaning, and utility applications general cleanup.

Ramco Equipment Corporation  
32 Montgomery Street  
Hillside, NJ 07205  
Tel: (908) 687-6700  
Fax: (908) 687-0653

Standard line of single and multi-station aqueous degreasing systems with a wide selection of options including platform oscillation, directional turbulation, oil removal, ultrasonics, filtration, parts rotators and dryers. Nationwide network of application engineers to assist from process development through installation.

The Rission Group Inc.  
13349 Michigan Ave.  
Dearborn, MI 48126  
Tel: (313) 581-2620  
Fax: (313) 581-3758

Aqueous and non-aqueous formulations containing surfactants with and without glycol ethers. Hydrocarbons and blends of hydrocarbons with emulsifiers also available.

Rochester Midland Corp.  
333 Hollenbeck St.  
Rochester, NY 14621  
Tel: (716) 336-2200  
Fax: (716) 467-4406

Formulations comprised of hydrocarbon and/or terpene solvents. Some also contain surfactants. Many contain alkaline builders and chelants as well as glycol ethers. Some aqueous-based or water-compatible formulations exhibit good biodegradability. Many products allow for good oilgrease separation upon standing.

Selig Chemical Industries  
PO Box 43106  
840 Selig Dr. SW  
Atlanta, GA 30378  
Tel: (404) 691-9220  
Fax: (404) 699-7024

Step Kare Corporation  
P.O. Box 211  
Highland Park, IL 60035  
Tel: (708) 358-2158  
Fax: (708) 358-2158

Texo Corp.  
2801 Highland Ave.  
Cincinnati, OH  
45212  
Tel: (513) 731-3400  
Fax: (513) 731-8113

U.S. Polychemical Corp.  
Route 45 Chestnut Ridge Road  
Chestnut Ridge, NY 10977  
Tel: (914) 356-5530  
(800) 431-2072  
Fax: (914) 356-6656

Working Solutions, Inc.  
938 Cortlandt Street  
Houston, TX 77008  
Tel: (800) 829-4419  
Fax: (713) 862-5591

#### Terpene-Based

Aerocote Corporation  
P.O. Box 15849  
Houston, TX 77220  
Tel: (713) 224-6185  
Fax: (713) 223-5229

Formulations made of hydrocarbons and blends of hydrocarbons and emulsifiers. Also offer aqueous-based formulations containing detergents with and without glycol ethers and some containing d-limonene.

Water-based flux remover, effective on rosin and non-rosin fluxes; aqueous coating remover. Also removes cutting oils and other contaminants. Non-aqueous coating remover contains no petroleum distillates or glycol ethers. Capable of removing conformal coatings or rosin fluxes in a non-aqueous formulation.

Aqueous, semi-aqueous, and various solvent cleaners for replacement of vapor degreasing and handwiping with solvents. Applications of cleaners can be spray immersion, ultrasonic or handwiping. Cleaners can be multimetal safe and contain corrosion inhibitors if necessary.

Manufacturers of oil and grease buffing compounds, flux removing chemistries with non-chlorinated solvents, semi-aqueous, and aqueous technologies. Also automated cleaning systems with recirculating agitation or ultrasonics for turn-key applications.

Aqueous, semi-aqueous and solvent cleaning technologies and equipment.

Aqueous, semi-aqueous cleaners and hydrocarbon solvents. Applications using agitation including spray wash cabinets. Also, spray in steam cleaning, pressure washing, soak immersion, ultrasonic, and hand wiping applications.



BioChem Systems  
14452 W. 44th Avenue  
Golden, Colorado 80403  
Tel: (303) 277-9700  
(800) 777-7870  
Fax: (303) 277-9596

Complete line of safe environmentally friendly products based on terpene chemistry for use in many cleaning and degreasing operations. Both water dilutable and non-dilutable products are offered which will remove most organic contaminants from a wide variety of substrates and leave a clean, virtually residue free surface with no adverse effects on the surface being cleaned.

Chemtronics, Inc.  
8125 Cobb Center Dr.  
Kennesaw, GA 30144  
Tel: (404) 424-4888  
Fax: (404) 424-4267

Ultra-pure cleaners for electronics and metal, flux removers for all types of printed circuit fluxes, conformal coatings for protection of finished circuit boards, solder masking agents, and lubricants for electronics.

Circle-Proscopro, Inc.  
2017 Yost Ave.  
Bloomington, IN 47403  
Tel: (812) 339-3653  
Fax: (812) 331-2566

Aqueous, alkaline, etchant cleaners for ferrous and non-ferrous applications. Aqueous, acidic, neutral, and alkaline oil rejecting cleaners with or without glycol ethers for ferrous and non-ferrous applications. Water miscible, semi-aqueous cleaners (electronics cleaning). Water emulsifiable cleaners containing aliphatic and terpene solvents. Evaporative oils for no clean applications.

Coleman Chemical, Inc.  
One Gemstar Lane  
Joliet, IL 60435  
Tel: (815) 727-3900  
Fax: (815) 727-3998

Specialty formulations of non-ozone depleting HFCs available in 1995.

Ecolink  
1481 Rock Mountain Blvd.  
Stone Mountain, GA 30083  
Tel: (404) 621-8240  
(800) 886-8240  
Fax: (404) 621-8245

Wide range of aqueous, semi-aqueous and non-aqueous chemistries. Formulations include a variety of hydrocarbon, NMP, DBE and terpene products as well as non-ozone depleting halogenated solvents. Manufacture a complete line of batch cleaning units for use with these solvents.

Environmental Scientific, Inc.  
P.O. Box 13486  
Research Triangle Park, NC 27709-3486  
Tel: (919) 941-0847  
Fax: (919) 941-0652

A wide variety of corrosion inhibitors, hydrocarbon emulsifiers and carbon product removers that are non-hazardous and non-toxic.

Environmental Solvents Corp.  
1840 Southside Blvd.  
Jacksonville, FL 32216  
Tel: (904) 724-1990  
Fax: (904) 724-2508

Envirosolutions Inc.  
335 Post Road West  
Westport, CT 06880  
Tel: (203) 454-5902  
Fax: (203) 222-0190

Fine Organics Corp.  
205 Main St.  
PO Box 687  
Lodi, NJ 07644-0687  
Tel: (201) 472-6800  
(800) 526-7480  
Fax: (201) 472-6810

Glidco Organics  
P.O. Box 389  
Jacksonville, FL. 32201  
Tel: (800) 231-6728  
(904) 768-5800  
Fax: (904) 768-2200

Inland Technology, Inc.  
2612 Pacific Highway East  
Tacoma, WA 98424  
Tel: (206) 922-8932  
(800) 552-3100  
Fax: (206) 926-0577

MacDermid, Inc.  
245 Freight St.  
Waterbury, CT 06702  
Tel: (203) 575-5700  
Fax: (203) 575-5630

Blend of coniferous (pine) terpenes, surfactants, and rust inhibitor. Alternative to conventional alkaline detergents. Removes hydrocarbon grease/oil where it floats to the surface and is skimmed off.

Biodegradable, non-caustic, neutral pH cleaner which is used in a closed loop parts washing system. Several different formulations developed to suit a variety of cleaning needs. Customized parts washing equipment is matched to the cleaning chemicals to ensure optimum performance.

Non-hazardous and biodegradable solvent and solvent-emulsion based alternatives. Products are applicable to the transportation, aviation, electronics, and coatings industries. Also offer water-based alternative products.

State-of-the-art terpene-based cleaning agents for cold cleaning, hand-wipe cleaning, semi-aqueous cleaning, maintenance cleaning, and solvent-solvent cleaning. Glidsafe® cleaning agents employ unique terpene systems for optimal performance.

Range of aqueous cleaners used in hand-wipe cleaning. Also other non ozone-depleting biodegradable solvents for various cleaning applications, including vapor degreasing, precision cleaning, paint stripping, and resin removal.

Cleaners/degreasers for water dilutable or ready to use applications. Formulations to remove oils, greases, and adhesives residues in production and maintenance applications.

Micro Care Corp.  
34 Ronzo Rd.  
Bristol, CT 06010  
Tel: (203) 585-7912  
Fax: (203) 585-7378

Oakite Products, Inc.  
50 Valley Road  
Berkeley Heights, NJ 07922  
Tel: (908) 508-2107  
Fax: (908) 464-9250

Orange-Sol Industrial Products, Inc  
955 North Fiesta Blvd, Suite 1  
Gilbert, AZ 85233-2801  
Tel: (602) 497-8822  
Fax: (602) 497-0444

Petroferm Inc.  
5415 First Coast Highway  
Fernandina Beach, FL 32034  
Tel: (904) 261-8286  
Fax: (904) 261-6994

Solvent cleaners based on but not limited to terpene hydrocarbons, alcohol or HCFC technologies. Formulations are engineered for use in non-automated hand cleaning applications where rinsing is not available. Cleaners are effective in touch-up cleaning and precision cleaning of all types of flux residues, oils, grease and grime.

High-tech, state-of-the-art, recyclable cleaning products for use in immersion, ultrasonic, hand wipe, and other cleaning applications. Many aqueous and semi-aqueous formulations adhere to the Clean Air Act, OSHA regulations, and do not contain SARA 313 ingredients. Comprehensive lines of products that exhibit biodegradability, oil splitting or emulsifying features. Terpene-based cleaners have no flash point, and alkaline, aqueous formulations include non-phosphated, non-chelated, mildly alkaline cleaners.

Aqueous, semi-aqueous cleaners, hydrocarbon-based products and other cleaning alternatives and equipment (parts, washers). Effective cleaners for metal, electronic, precision and maintenance cleaning, suitable for agitation, soak, spray, ultrasonic and handwipe cleaning.

Broad line of formulations based on terpenes, ester, and aliphatic hydrocarbons and blends of these organic solvents with surfactants. Products are used for cold (hand) cleaning and in combination with various cleaning equipment. Products can be removed by evaporation, water, alcohols or nonflammable fluorinated solvents. Both products and rinse media can be recycled.

Rite Off, Inc.  
Seaford Industrial Park  
P.O. Box 1070  
Seaford, DE 19973  
Tel: (800) 645-5853  
(302) 628-2100  
Fax: (800) 571-2211

Rochester Midland Corp.  
333 Hollenbeck St.  
Rochester, NY 14621  
Tel: (716) 336-2200  
Fax: (716) 467-4406

Selig Chemical Industries  
PO Box 43106  
840 Selig Dr. SW  
Atlanta, GA 30378  
Tel: (404) 691-9220  
Fax: (404) 699-7024

Storchem Inc.  
3600 Billings Court, Suite 110  
Burlington, Ontario  
Canada L7N 3N6  
Tel: (416) 639-9700  
Fax: (416) 639-5244

Terpene Technologies Inc.  
3400 Ridge Rd. W, Suite 293  
Rochester, NY 14626  
Tel: (716) 546-8455  
(716) 777-0790  
Fax: (716) 227-3834

Ultrasound Fabrications, Inc.  
1 Maple St.  
Shelton, CT 06484  
Tel: (203) 924-1624  
Fax: (203) 924-1625

Wide variety of cleaning and maintenance formulations using alcohols, terpenes, HFCs, hydrocarbons and chlorinated solvents. Specialists in aerosol technology, liquid formulations also available.

Formulations comprised of hydrocarbon and/or terpene solvents. Some also contain surfactants. Many contain alkaline builders and chelants as well as glycol ethers. Some aqueous-based or water-compatible formulations exhibit good biodegradability. Many products allow for good oil/grease separation upon standing.

Formulations made of hydrocarbons and blends of hydrocarbons and emulsifiers. Also offer aqueous-based formulations containing detergents with and without glycol ethers and some containing d-limonene.

Aqueous-based terpene formulations containing detergents and emulsifiers; semi-aqueous cleaners and degreasers based on terpene alcohols and hydrocarbons; terpene alcohol and hydrocarbon blends used as non-water soluble solvents.

Terpene alcohol and hydrocarbon blends used as non-water soluble solvents, semi-aqueous cleaners and degreasers based on terpene alcohols and hydrocarbons. Also offer aqueous based terpene formulations containing detergents and emulsifiers.

Ultrasonic parts washing systems with standard tank volumes of 5, 10, 20, and 30 gallons, as well as special sizes if required. Systems provide for ultrasonic washing, spray or different types of immersion rinsing and hot air drying to achieve clean, dry, spot free parts.

Union Camp Corp.  
Bush Boake Allen Division  
P0 Box 37617  
Jacksonville, FL 32236  
Tel: (904) 783-2180  
(800) 874-9220  
Fax: (904) 786-6495

Range of wood terpene based alternative solvents for semi-aqueous and solvent only cleaning processes and maintenance cleaning applications. High solvency and high soil loading properties for removal of solder fluxes, heavy oils and greases, polishing compounds, carbonaceous deposits etc. to the highest cleanliness standards.

U.S. Polychemical Corp.  
Route 45 Chestnut Ridge Road  
Chestnut Ridge, NY 10977  
Tel: (914) 356-5530  
(800) 431-2072  
Fax: (914) 356-6656

Manufacturers of oil and grease buffing compounds, flux removing chemistries with non-chlorinated solvents, semi-aqueous, and aqueous technologies. Also automated cleaning systems with recirculating agitation or ultrasonics for turn-key applications.

Working Solutions, Inc.  
938 Cortlandt Street  
Houston, TX 77008  
Tel: (800) 829-4419  
Fax: (713) 862-5591

Aqueous, semi-aqueous and solvent cleaning technologies and equipment.

#### Alcohol-Based

Aervoe-Pacific Co., Inc.  
1198 Sawmill Road  
Gardnerville, NV 89410  
Tel: (702) 782-0100  
Fax: (702) 782-4027

Hydrocarbon, alcohol and HFC-based cleaners, defluxers, lubricants, dust off and circuit freezing formulations designed for electronics. All products sold contain zero ozone depleting substances.

Ambassador Marketing  
Route 1-Box 207  
St. David, AZ 85630  
Tel: (602) 720-4310  
Fax: (602) 720-4068

Aqueous and alcohol based cleaners for low residue degreasing and dewaxing applications. Formulations are nonflammable and nonfuming.

ARC0 Chemical Co.  
3801 West Chester Pike  
Newtown Square, PA 19073-2387  
Tel: (215) 359-2441  
Fax: (215) 359-5753

Chemical Solvents, Inc.  
3751 Jennings Road  
Cleveland, OH 44109  
Tel: (216) 741-9310  
Fax: (216) 741-4080

Chemtronics, Inc.  
8125 Cobb Center Dr.  
Kennesaw, GA 30144  
Tel: (404) 424-4888  
Fax: (404) 424-4267

Cobehn, Inc.  
640 Airport Road  
Winchester, VA 22602  
Tel: (703) 665-0707  
Fax: (703) 665-0768

Coleman Chemical, Inc.  
One Gemstar Lane  
Joliet, IL 60435  
Tel: (815) 727-3900  
Fax: (815) 727-3998

Conceptronic, Inc.  
6 Post Rd.  
Portsmouth, NH 03801  
Tel: (603) 431-6262  
Fax: (603) 431-3303

Dell-Chem of Arizona  
7119 E. Shea Blvd., Suite 106-224  
Scottsdale, AZ 85254  
Tel: (602) 951-5812  
Fax: (602) 948-4172

Aliphatic hydrocarbon blends, terpenes, surfactants, biodegradable emulsifiers, non-ozone depleting halogenated solvents, HCFCs. Specialty formulations for metal, urethane fiberglass (resin) clean-up processes via spray, wipe and immersion systems. Turn-key parts cleaning services. Recycling, disposal of generated waste solvents and waters.

Ultra-pure cleaners for electronics and metal, flux removers for all types of printed circuit fluxes, conformal coatings for protection of finished circuit boards, solder masking agents, and lubricants for electronics.

Manufacturer of a non-solvent-based precision batch cleaning system, utilizing solvent materials filtered to .2um ppm. Process removes flux, oils and particulates by agitation, wetting and drying in an inert atmosphere. Also used for hybrids, and PCBs.

Specialty formulations of non-ozone depleting HFCs available in 1995.

Semi-aqueous, spray-based, totally closed-loop modular batch cleaning systems utilizing non-flammable, naturally derived alcohol solvents in solution with water. Also have an ultrasonic batch cleaning system for metallic and non-metallic electronic surfaces and other difficult-to-clean non-electronic parts of unusual geometric shape.

Aqueous and alcohol-based cleaners for low residue degreasing and dewaxing applications. Formulations are nonflammable and nonfuming.

Insitu Environmental Chemical Co.  
8402 East Redwing Rd.  
Scottsdale, AZ 85250-5740  
Tel: (602) 948-9209  
Fax: (602) 951-0715

JnJ Industries  
195 E. Main St.  
Suite 303  
Milford, MA 01757  
Tel: (800) 554-9994  
Fax: (508) 478-2221

Ken Seika Corp.  
314 Willow Dr.  
Little Silver, NJ 07739  
Tel: (908) 741-4920  
Fax: (908) 758-9531

Kester Solder Division Litton Industries  
515 E. Touhy Avenue  
Des Plaines, IL 60018-2675  
Tel: (708) 297-1600  
Fax: (708) 390-9338

Kyzen Corp.  
413 Harding Industrial Dr.  
Nashville, TN 37211  
Tel: (615) 831-0888  
(800) 845-5524  
Fax: (615) 831-0889

Micro Care Corp.  
34 Ronzo Rd.  
Bristol, CT 06010  
Tel: (203) 585-7912  
Fax: (203) 585-7378

Aqueous and alcohol based cleaners for low residue degreasing and dewaxing applications. Formulations are nonflammable and nonfuming.

Manufacturer of eight non-CFC formulations including a supersaturated wipe solvent.

Organic intermediates, specialty monomers- polymers, oligomers, etc. MMB for metal cleaning applications.

Alcohol-based cleaners, solvent blends, and aqueous saponifiers. Also manufacture no-clean, water-clean, and VOC-free; fluxes, solders, and solder pastes.

A broad line of non-hazardous, zero ODP, biodegradable, and low VOC cleaning products. Kyzen products are used for cold cleaning, immersion solvent cleaning, and aqueous spray cleaning. These materials are compatible with a wide range of cleaning machines: spray in air, spray in immersion, soak, and ultrasonic. Kyzen products can be used in closed looped systems for low zero discharge by a variety of commonly available water reuse systems.

Solvent cleaners based on but not limited to terpene hydrocarbons, alcohol or HCFC technologies. Formulations are engineered for use in non-automated hand cleaning applications where rinsing is not available. Cleaners are effective in touch-up cleaning and precision cleaning of all types of flux residues, oils, grease and grime.

Oakite Products, Inc.  
50 Valley Road  
Berkeley Heights, NJ 07922  
Tel: (908) 508-2107  
Fax: (908) 464-9250

High-tech, state-of-the-art, recyclable cleaning products for use in immersion, ultrasonic, hand wipe, and other cleaning applications. Many aqueous and semi-aqueous formulations adhere to the Clean Air Act, OSHA regulations, and do not contain SARA 313 ingredients. Comprehensive lines of products that exhibit biodegradability, oil splitting or emulsifying features. Terpene-based cleaners have no flash point, and alkaline, aqueous formulations include non-phosphated, non-chelated, mildly alkaline cleaners.

QO Chemicals, Inc.  
P.O.Box 2500  
One Great Lakes Blvd  
West Lafayette, IN 47906  
Tel: (800) 621-9521  
Fax: (317) 497-6287

Specialty solvents used in various cleaning applications. Solvents are bio-degradable, water miscible, and not photo-chemically reactive.

The Rission Group Inc.  
13349 Michigan Ave.  
Dearborn, MI 48126  
Tel: (313) 581-2620  
Fax: (313) 581-3758

Aqueous and non-aqueous formulations containing surfactants with and without glycol ethers. Hydrocarbons and blends of hydrocarbons with emulsifiers also available.

Rite Off, Inc.  
Seaford Industrial Park  
P.O. Box 1070  
Seaford, DE 19973  
Tel: (800) 645-5853  
(302) 628-2100  
Fax: (800) 571-2211

Wide variety of cleaning and maintenance formulations using alcohols, terpenes, HFCs, hydrocarbons and chlorinated solvents. Specialists in aerosol technology, liquid formulations also available.

Selig Chemical Industries  
PO Box 43106  
840 Selig Dr. SW  
Atlanta, GA 30378  
Tel: (404) 691-9220  
Fax: (404) 699-7024

Formulations made of hydrocarbons and blends of hydrocarbons and emulsifiers. Also offer aqueous-based formulations containing detergents with and without glycol ethers and some containing d-limonene.



Ultrasound Fabrications, Inc.  
1 Maple St.  
Shelton, CT 06484  
Tel: (203) 924-1624  
Fax: (203) 924-1625

Ultrasonic parts washing systems with standard tank volumes of 5, 10, 20, and 30 gallons, as well as special sizes if required. Systems provide for ultrasonic washing, spray or different types of immersion rinsing and hot air drying to achieve clean, dry, spot free parts.

U.S. Polychemical Corp.  
Route 45 Chestnut Ridge Road  
Chestnut Ridge, NY 10977  
Tel: (914) 356-5530  
(800) 431-2072  
Fax: (914) 356-6656

Manufacturers of oil and grease buffing compounds, flux removing chemistries with non-chlorinated solvents, semi-aqueous, and aqueous technologies. Also automated cleaning systems with recirculating agitation or ultrasonics for turn-key applications.

### SEMI-AQUEOUS CLEANING EQUIPMENT

ACCEL  
1825 E. Piano Parkway  
Piano, TX 75074-8129  
Tel: (214) 424-3525  
Fax: (214) 424-7526

System utilizing centrifugal cleaning to provide superior washing, effective rinsing, and drying of populated printed circuit boards and hybrid circuits. Includes automatic solvent recycling and rinse water purification with no required drain. Compatible with chlorocarbons, fluorocarbons, H<sub>2</sub>O, and terpenes.

Altos Engineering, Inc.  
6009 N. 61 Ave  
Glendale, AZ 85301  
Tel: (602) 931-8434  
Fax: (602) 937-6396

Batch and inline cleaning equipment with non-chemical, thermal vacuum drying of rinse waters. Detergent formulations available with and without glycol ethers.

Babcock & Wilcox CIM Systems  
4004 Murray Place  
Lynchburg, VA 24501  
Tel: (804) 948-1361  
Fax: (804) 948-1313

Provide turnkey automated cleaning and inspection (SQCiSPC) systems for complete integration into process cleaning lines, including aqueous and non-aqueous systems, material handling, drying, cleanliness and geometric inspection, and computer protocol communication. Full-scope of services from process selection, development, installation, training, and continued follow-up support.

Baron-Blakeslee, Inc.  
1500 West 16th St.  
Long Beach, CA 90813  
Tel: (800) 548-4422  
Fax: (310) 491-1091

Full line of cleaning equipment for use with aqueous, semi-aqueous, HCFC, and chlorinated solvents. Closed loop system incorporating vacuum drying available (near zero emissions).

Blackstone Ultrasonics, Inc.  
9 North Main St.  
Jamestown, NY 14701  
Tel: (716) 665-2340  
(800) 766-6606  
Fax: (716) 665-2480

Complete range of ultrasonic cleaning products from stand-alone and bench-top heated tanks to wash multiple rinse dry console systems with optional material handling and automation. Also, fluxless ultrasonic solder pots for tinning leads and electronics.

Blue Wave Ultrasonics  
Div. of Alpheus Cleaning Technologies Corp.  
960 S. Rolff St.  
Davenport, IA 52802  
Tel: (319) 322-0144  
(800) 373-0144  
Fax: (319) 322-7180

Ultrasonic cleaning equipment built for various applications specific to the customer's needs. Effective in cleaning different products and materials throughout the scope of fabricated metals, plastics, and ceramics. Also offer aqueous based detergents that are environmentally safe.

Branson Ultrasonics Inc.  
41 Eagle Rd.  
Danbury, CT 06810  
Tel: (203) 796-0400  
Fax: (203) 796-0381

Ultrasonic cleaning equipment and integrated cleaning systems for metal, electronic, and precision cleaning requirements. Manual and fully automated material handling transport systems. Equipment for aqueous, semi-aqueous and solvent chemistry.

CD Nelson Manufacturing Company  
28979 North Herkey Drive  
Lake Bluff, IL 60044  
Tel: (708) 362-3555  
Fax: (708) 362-0154

Steam cleaning equipment for removing polishing paste, oils, pollutants, and other contaminants from metals, plastics, ceramics, silicone wafers. Removal of small burrs, rouges, casting materials, waxes from precious metals, ferrous and non-ferrous metals, ceramics, plastics. Ultrasonic cleaning of all above materials.

Cincinnati Industrial Machinery  
PO Box 62027  
3280 Hageman St.  
Cincinnati, OH 45241 (street add.)  
45262 (PO Box)  
Tel: (513) 769-0700  
Fax: (513) 769-0697

Custom designed machines for cleaning, surface preparation and other processing of metal and non-metallic parts.

Conceptronic, Inc.  
6 Post Rd.  
Portsmouth, NH 03801  
Tel: (603) 431-6262  
Fax: (603) 431-3303

Semi-aqueous, spray-based, totally closed-loop modular batch cleaning systems utilizing non-flammable, naturally derived alcohol solvents in solution with water. Also have an ultrasonic batch cleaning system for metallic and non-metallic electronic surfaces and other difficult-to-clean non-electronic parts of unusual geometric shape.

Corpane Industries  
10100 Bluegrass Parkway  
Louisville, KY 40299  
Tel: (502) 491-4433  
Fax: (502) 491-9944

Creative Enterprizes  
105 Anyway, Suite 209  
Lake Jackson, TX 77566  
Tel: (409) 292-0244  
Fax: (409) 292-0440

Crest Ultrasonics  
Scotch Rd. - Mercer County Airport  
P0 Box 7266  
Trenton, NJ 08628  
Tel: (609) 883-4000  
(800) 441-9675  
Fax: (609) 883-6452

Ecolink  
1481 Rock Mountain Blvd.  
Stone Mountain, GA 30083  
Tel: (404) 621-8240  
(800) 886-8240  
Fax: (404) 621-8245

Electronic Controls Design, Inc.  
4287-A SE International Way  
Milwaukee, OR 97006  
Tel: (503) 659-6100  
(800) 323-4548  
Fax: (503) 659-4422

Electrovert  
805 W. North Carrier Parkway  
Grand Prairie, TX 75050  
Tel: (214) 606-1900  
Fax: (214) 606-1700

Aqueous, semi-aqueous and neat solvent cleaning systems for electronic, metals, and precision cleaning with ultrasonics and closed loop recycling options. Available in-line conveyor or batch configurations with customizing as required.

Specialize in low cost conversion of existing facilities to safely use alternative cleaning agents. Design new or custom cleaning equipment and processes. Also design environmentally secure drying equipment and processes.

Precision cleaning equipment (primarily ultrasonic systems) from standard wash-rinse-dry cleaning consoles to large custom automated batch cleaning equipment. Ultrasonic generator is sweep frequency generator capable of cavitating both aqueous and semi-aqueous chemistries. Full line of aqueous-based cleaning chemistries for ultrasonic applications as well.

Wide range of aqueous, semi-aqueous and non-aqueous chemistries. Formulations include a variety of hydrocarbon, NMP, DBE and terpene products as well as non-ozone depleting halogenated solvents. Manufacture a complete line of batch cleaning units for use with these solvents.

Full line of polypropylene and stainless steel in-line aqueous cleaning equipment. Also semi-aqueous in-line and aqueous and semi-aqueous batch equipment.

Envirosolutions Inc.  
335 Post Road West  
Westport, CT 06880  
Tel: (203) 454-5902  
Fax: (203) 222-0190

Biodegradable, non-caustic, neutral pH cleaner which is used in a closed loop parts washing system. Several different formulations developed to suit a variety of cleaning needs. Customized parts washing equipment is matched to the cleaning chemicals to ensure optimum performance.

Finishing Equipment Inc.  
3640 Kennebec Dr.  
St. Paul, MN 55122  
Tel: (612) 452-1860  
Fax: (612) 452-9851

Aqueous, semi-aqueous and solvent cleaning systems available. From manual systems to automated high-production cleaning lines, with ultrasonics available as needed. Specialize in automated enclosed vapor degreasers for efficient use of the non-ozone depleting chlorinated solvents.

Forward Technology Industries, Inc.  
13500 County Road 6  
Minneapolis, MN 55446-2777  
Tel: (612) 559-1785  
Fax: (612) 559-3929

Standard and custom semi-aqueous systems, featuring batch and part-by-part high speed automation, ultrasonics, emulsion rinse tanks with solvent separation, hot air drying, IPA drying, and vacuum dryers, environmentally controlled enclosures. Also aqueous and solvent formulations available.

Hurri-Kleen Corp.  
P0 Box 29  
Trussville, AL 35173  
Tel: (205) 655-8808  
Fax: (205) 655-5392

KLN Ultraschall GmbH  
Siegfriedstrasse 124  
D-64646 Heppenheim  
GERMANY  
Tel: +49-6252-14-0  
Fax: +49-6252-14-277

Standard and custom semi-aqueous systems featuring various types of batch automation, ultrasonics, emulsion rinse tanks with solvent separation, hot air drying, IPA drying, and vacuum dryers, environmentally controlled enclosures. Also aqueous and solvent formulations available.

Protonique S.A.  
P.O.Box 78  
CH-1032 Romanel-Sur-Lausanne  
SWITZERLAND  
Tel: 41-21-648 23 24  
Fax: 41-21-648 24 11

Ransohoff Co.  
North 5th St at Ford Boulevard  
Hamilton, OH 45011  
Tel: (513) 863-5813  
(800) 248-WASH  
Fax: (513) 863-8908

Rapid Engineering, Inc.  
P.O. Box 700  
1100 Seven Mile Road N.W.  
Comstock Park, MI 49321-0700  
Tel: (616) 784-0500  
Fax: (616) 784-0435

S&K Products International  
80 Red Schoolhouse Rd. #102  
Chestnut Ridge, NY 10977  
Tel: (914) 425-6200  
Fax: (914) 425-7602

Smart Sonic SMT Cleaning Systems  
2373 Teller Rd., #107  
Newbury Park, CA 91320  
Tel: (805) 499-7440  
Fax: (805) 375-5781

SONICOR Instrument Corp.  
100 Wartburg Ave.  
Copiague, NY 11726  
Tel: (516) 842-3344  
Fax: (516) 842-3389

High performance batch cleaners and dryers for 'hi-tech' and other applications. Can be used with water-soluble chemistry, saponifiers, hydrocarbonisurfactant (semi-aqueous) processes and others. Optional water purification and waste-water pollution control systems. Optional automatic handling. Low water and energy requirements.

Standard and custom aqueous and semi-aqueous cleaning equipment for small through high production parts cleaning requirements, as well as very small to large part configurations and various part materials. Expertise in precision cleaning. Patented, mechanically agitated aqueous technology for high volume intricately shaped or machined parts as a direct replacement of solvent vapor degreasing and ultrasonic cleaning systems.

Parts washers utilizing low to medium pressure spraying of aqueous solutions on metal and plastic substrates. Exhaust incinerators for lowering VOC discharge to the atmosphere.

Solvent wash followed by one or more aqueous rinses, including formulated surfactants; then to spot free, stain free, particulate free drying via isopropyl alcohol.

Ultrasonic screenstencil cleaning and PCA (fine pitch) cleaning. Cleans all types of solder paste, flux residues and SMT adhesives. Optional waste water evaporator eliminates liquid hazardous waste disposal.

Ultrasonic cleaning equipment, automated aqueous cleaning systems. Environmentally safe alternatives to cleaning with hazardous solvents.

Sonitech Inc.  
239 East Stephenson St.  
Freeport, IL 61032  
Tel: (815) 235-2400  
Fax: (815) 232-2150

Tiyoda Mfg. U.S.A., Inc.  
1613 Lockness Place  
Torrance, CA 90501  
Tel: (310) 539-5471  
Fax: (310) 539-5881

Ultrasound Fabrications, Inc.  
1 Maple St.  
Shelton, CT 06484  
Tel: (203) 924-1624  
Fax: (203) 924-1625

Unitech Industrial Inc.  
PO Box 330  
16 South Ave,  
Wappingers Falls, NY 12590  
Tel: (914) 297-0745  
(800) 277-5522  
Fax: (914) 297-2919

U.S. Polychemical Corp.  
Route 45 Chestnut Ridge Road  
Chestnut Ridge, NY 10977  
Tel: (914) 356-5530  
(800) 431-2072  
Fax: (914) 356-6656

Vitronics Corp.  
Forbes Rd.  
Newmarket Industrial Park  
Newmarket, NH 03857  
Tel: (603) 659-6550  
Fax: (603) 659-7194

Ultrasonic cleaning equipment using aqueous or semi-aqueous chemistries for a wide range of applications. Complete systems include cleaning tanks, rinse tanks, dryers and closed loop rinse water recirculation systems. System uses alcohol or other solvents with perfluorinated chemistry for rinsing and drying non-water contact applications.

Vacuum desiring ultrasonic batch cleaning system provides instantaneous cleaning solution penetration into small tubes and holes and promotes superior cleaning. Vacuum drying system uses vacuum, hot air, ultra-pure steam heating and far-infrared heater.

Ultrasonic parts washing systems with standard tank volumes of 5, 10, 20, and 30 gallons, as well as special sizes if required. Systems provide for ultrasonic washing, spray or different types of immersion rinsing and hot air drying to achieve clean, dry, spot free parts.

Closed loop industrial cleaning systems. Spray washers, batch cleaning systems, vapor degreasing, and pretreatment systems available in new equipment and retrofits. Waste water treatment and recycling, 100% oil removal from the cleaning process.

Manufacturers of oil and grease buffing compounds, flux removing chemistries with non-chlorinated solvents, semi-aqueous, and aqueous technologies. Also automated cleaning systems with recirculating agitation or ultrasonics for turn-key applications.

Inline aqueous and semi-aqueous cleaning equipment with closed loop water treatment systems.

#### HYDROCARBON-BASED SOLVENTS

Advanced Research Technologies  
312 South Vine St.  
Park Ridge, IL 60068  
Tel: (708) 696-9371  
Fax: (708) 696-4984

Aerocote Corporation  
P.O. Box 15849  
Houston, TX 77220  
Tel: (713) 224-6185  
Fax: (713) 223-5229

ARCO Chemical Co.  
3801 West Chester Pike  
Newtown Square, PA 19073-2387  
Tel: (215) 359-2441  
Fax: (215) 359-5753

A.W. Chesterton  
225 Fallon Road Middlesex  
Industrial Park Stoneham,  
MA 02180-2999  
Tel: (617) 438-7000  
Fax: (617) 438-8971

BASF Corp.  
100 Cherry Hill Rd.  
Parsippany, NJ 07054

Break-Free, Inc.  
1035 S. Linwood Avenue  
Santa Ana, CA 92705-4396  
Tel: (714) 953-1900  
Fax: (714) 953-0402

Ultra-low residue, high purity terpene hydrocarbon cleaning agents. Used in vapor degreasing applications for metals cleaning, electronics cleaning, and precision cleaning.

Aqueous, semi-aqueous cleaners and hydrocarbon solvents. Applications using agitation including spray wash cabinets. Also, spray in steam cleaning, pressure washing, soak immersion, ultrasonic, and hand wiping applications.

A complete line of aqueous cleaners containing detergents, with and without glycol ethers. Hydrocarbon solvents and solvent blends. Non-ozone depleting chlorinated solvents. Provide free assistance to customers wishing to replace ozone-depleting chemicals. Synthetic machining fluids, lubricants and maintenance specialties.

Unique blend of orange oils and highly refined synthetic hydrocarbons formulated as a safe replacement for most chlorinated or halogenated, ozone-depleting solvents. Applications include degreasing, removal of oils, wax, tar, adhesives, fresh paint and oil-based inks. Also water-based, alkaline cleaners for the removal of heavy soil contaminants.

Calgon Corp.  
Chemical Technologies Group  
PO Box 1346  
Pittsburgh, PA 15230  
Tel: (800) 955-0090  
Fax: (412) 777-8927

Carroll Company  
2900 W. Kingsley Road  
Garland, TX 75041  
Tel: (800) 527-5722  
Fax: (214) 840-0678

Chemical Marketing Corporation of America  
9945 Flanders Ct NE  
Blaine, MN 55449  
Tel: 763-785-0055  
866-388-6827  
Fax: 763-785-0088

Chemical Solvents, Inc.  
3751 Jennings Rd.  
Cleveland, OH 44109  
Tel: (216) 741-9310  
(800) 362-0693  
Fax: (216) 741-4080

Chemical Technologies, Inc.  
1610 Clara Street  
Jackson, MI 49203  
Tel: (800) 688-8262  
Fax: (517) 782-2448

Chem-Tech International  
1800 Diagonal Rd., Suite 600  
Alexandria, VA 22314  
Tel: (703) 549-1001  
Fax: (703) 549-1003

Formulations include non-chelating, non-phosphate, readily biodegradable aqueous-based cleaners, non-chlorinated solvent cleaners and paint removing compounds, non-glycol based solvent enhanced general cleaners, neutral pH process cleaners, and industrial waste treatment polymers.

Aqueous cleaning formulations containing detergents with and without glycol ethers. Formulations made from hydrocarbons and terpenes with and without emulsifiers. Specialty solvent blends for printing ink cleanup, electric motor degreasing, cleaning printed circuit boards, and assorted textile mill applications.

Common solvents including aliphatics, aromatics, alcohols, chlorinateds, and ketones.

Odor-free synthetic carbon blends to replace ozone-depleting halogenated solvents. Also aqueous and semi-aqueous degreasers and aqueous cleaners providing corrosion protection.

Aqueous-based formulations containing detergents with and without glycol ethers for removing corrosion, grime, oil, and other soils from electronic and electro-mechanical components; a hydrocarbon based formulation with advanced cleaning and water displacement properties. Also specially designed cleaning equipment.



Chemtronics, Inc.  
8125 Cobb Center Dr.  
Kennesaw, GA 30144  
Tel: (404) 424-4888  
Fax: (404) 424-4267

Cobehn, Inc.  
640 Airport Road  
Winchester, VA 22602  
Tel: (703) 665-0707  
Fax: (703) 665-0768

Coleman Chemical, Inc.  
One Gemstar Lane  
Joliet, IL 60435  
Tel: (815) 727-3900  
Fax: (815) 727-3998

CRC Industries, Inc.  
885 Louis Dr.  
Warminster, PA 18974  
Tel: (215) 674-4300  
Fax: (215) 674-2196

Creative Enterprizes  
105 Anyway, Suite 209  
Lake Jackson, TX 77566  
Tel: (409) 292-0244  
Fax: (409) 292-0440

Detrex Corp.  
4000 Town Center, Suite 1100  
Southfield, MI 48175  
Tel: (313) 358-5800  
Fax: (313) 358-5803

Dynamold Solvents, Inc.  
2905 Shamrock Ave.  
Fort Worth, TX 76107  
Tel: (817) 335-0862  
Fax: (817) 877-5203

Ultra-pure cleaners for electronics and metal, flux removers for all types of printed circuit fluxes, conformal coatings for protection of finished circuit boards, solder masking agents, and lubricants for electronics.

Manufacturer of a non-solvent-based precision batch cleaning system, utilizing solvent materials filtered to .2um ppm. Process removes flux, oils and particulates by agitation, wetting and drying in an inert atmosphere. Also used for hybrids, and PCBs.

Specialty formulations of non-ozone depleting HFCs available in 1995.

Aerosol and bulk packages of hydrocarbon blends. High dielectric strength products that leave no residue.

Specialize in low cost conversion of existing facilities to safely use alternative cleaning agents. Design new or custom cleaning equipment and processes. Also design environmentally secure drying equipment and processes.

Aqueous micro-emulsion solution for gross metal cleaning and equipment for use with the cleaning solution. Alternative vapor degreasing process, specialty equipment and solvents for metals and electronics cleaning, chlorinated and HCFC solvents, and aqueous and semi-aqueous solvents.

Non-flammable, low toxicity, low vapor pressure formulations of mixed esters and hydrocarbons. Used for cold wipe surface preparations, handwipe operations prior to painting, flux removal, and cold immersion cleaning. Leaves a bondable surface with no residue after drying at room temperature. Non-corrosive.

Ecolink  
1481 Rock Mountain Blvd.  
Stone Mountain, GA 30083  
Tel: (404) 621-8240  
(800) 886-8240  
Fax: (404) 621-8245

Electrolube Corporation USA  
8200 Saint James Ave.  
Elmhurst, NY 11373  
Tel: (718) 565-5200  
Fax: (718) 565-5715

Environmental Recovery Resources, Inc.  
PO Box 36  
South Salem, NY 10590  
Tel: (914) 533-6175  
Fax: (914) 533-6275

Enviro Tech International  
2201 Clement Ave. #43  
Alameda, CA 94501-1487  
Tel: (510) 436-7603  
Fax: (510) 436-7345

ETUS, Inc.  
1511 Kastner Place  
Sanford, FL 32771  
Tel: (407) 321-7910  
Fax: (407) 321-3098

Wide range of aqueous, semi-aqueous and non-aqueous chemistries. Formulations include a variety of hydrocarbon, NMP, DBE and terpene products as well as non-ozone depleting halogenated solvents. Manufacture a complete line of batch cleaning units for use with these solvents.

Non-toxic, non-flammable, biodegradable aqueous solvents suitable for in-line and batch equipment without modification. Also ideal for screen and pallet cleaning and precision metal degreasing (ferrous and non-ferrous). Also range of zero ODP inon-CFC conformal coatings, service aids, contact lubricants, and cleaning products. Application oriented packaging such as aerosols, containers, and syringes.

Floating, dispersed, and dissolved hydrocarbon contaminants removed to surface water discharge limits, using: no coalescing plates, no centrifugal, no carbon absorption, no sorbent waste. Also offer systems and services to extend cleaning bath 'life' for more cost effective aqueous systems and waste water processing, and waste-minimized settling-pond and separator maintenance/ remediation.

Non-flammable, drop-in replacement solvent for vapor degreasing of metals, electronics, and precision components. Leaves no residue. Requires no additional cleaning. For use in existing vapor degreasers. Also, cold or wipe cleaning applications of metals, high voltage circuits, oxygen system cleaning, and spot cleaning of electronics.

Formulations made of hydrocarbons and blends of hydrocarbons and emulsifiers. Also offer aqueous based formulations containing detergents with and without glycol ethers.

Fine Organics Corp.  
205 Main St.  
PO Box 687  
Lodi, NJ 07644-0687  
Tel: (201) 472-6800  
(800) 526-7480  
Fax: (201) 472-6810

Non-hazardous and biodegradable solvent and solvent-emulsion based alternatives. Products are applicable to the transportation, aviation, electronics, and coatings industries. Also offer water-based alternative products.

Firefreeze Worldwide, Inc.  
270 Route 46 East  
Rockaway, NJ 07866  
Tel: (973) 627-0722  
Fax: (973) 627-2982

Aqueous based degreasing, cleaning and odor eliminating formulations. Products are plant derived, environmentally friendly, non-corrosive, non-flammable, and fully biodegradable. Unique applications for waste water and sludge treatment and oilgrease separation and removal. Can be used in hand sprayers, water pressurized units, power washers, and other spray equipment.

Inland Technology, Inc.  
2612 Pacific Highway East  
Tacoma, WA 98424  
Tel: (206) 922-8932  
(800) 552-3100  
Fax: (206) 926-0577

Range of aqueous cleaners used in hand-wipe cleaning. Also other non ozone-depleting biodegradable solvents for various cleaning applications, including vapor degreasing, precision cleaning, paint stripping, and resin removal.

International Specialty Products  
1361 Alps Rd.  
Wayne, NJ 07470  
Tel: (201) 628-3000  
Fax: (201) 628-4117

Specialty solvents comprised of N-methyl-2-pyrrolidone (NMP) and gamma-butyrolactone (BLO) as well as other proprietary ingredients. Products are biodegradable, water soluble, and recyclable.

JnJ Industries  
195 E. Main St., Suite 303  
Milford, MA 01757  
Tel: (800) 554-9994  
Fax: (508) 478-2221

Manufacturer of eight non-CFC formulations including a supersaturated wipe solvent.

Koch Specialty Chemicals  
P.O. Box 2608  
Corpus Christi, TX 78403  
Tel: (512) 242-8350  
Fax: (512) 242-8353

A variety of aromatic and aliphatic hydrocarbon solvents, with a range of flashpoints, solvency power, and HAP content.

LPS Laboratories, Inc.  
4647 Hugh Howell Rd.  
Tucker, GA 30084  
Tel: (800) 241-8334  
Fax: (404) 493-9206

MacDermid Incorporated  
245 Freight Street  
Waterbury, CT 06702  
Tel: (203) 575-5700  
Fax: (203) 575-5630

Micro Care Corp.  
34 Ronzo Rd.  
Bristol, CT 06010  
Tel: (203) 585-7912  
Fax: (203) 585-7378

Multicore Solders Inc.  
1751 Jay Ell Drive  
Richardson, TX 75081  
Tel: (214) 238-1224  
Fax: (214) 644-9309

Navy Brand Mfg Co.  
Division of Chemstar, Inc.  
5111 Southwest Avenue  
St. Louis, MO 63110-3496  
Tel: (800) 325-3312  
(314) 865-5500  
Fax: (314) 865-5509

Nobles Mfg. Inc.  
645 East 7th St.  
St. Paul, MN 55106  
Tel: (612) 771-5581  
Fax: (612) 771-7855

Low residue, low toxicity formulations, used for hand wipe operations, cold immersion tanks or other areas where precision cleaning is required.

Solvent cleaners based on but not limited to terpene hydrocarbons, alcohol or HCFC technologies. Formulations are engineered for use in non-automated hand cleaning applications where rinsing is not available. Cleaners are effective in touch-up cleaning and precision cleaning of all types of flux residues, oils, grease and grime.

Specially developed formulation for rosin flux removal with no need for water rinsing.

Industrial degreasers for metal cleaning and parts cleaning. Formulations are based on non-ozone depleting solvents. Also solvent-based, aqueous-based and also semi-aqueous-based products for a variety of cleaning applications on a host of substrates, both metallic and non-metallic.

Aqueous formulations containing detergents. Hydrocarbon and blends of hydrocarbons. Centrifugal washing and drying equipment used extensively in the metal working and electronic industry.

Oakite Products, Inc.  
50 Valley Road  
Berkeley Heights, NJ 07922  
Tel: (908) 508-2107  
Fax: (908) 464-9250

High-tech, state-of-the-art, recyclable cleaning products for use in immersion, ultrasonic, hand wipe, and other cleaning applications. Many aqueous and semi-aqueous formulations adhere to the Clean Air Act, OSHA regulations, and do not contain SARA 313 ingredients. Comprehensive lines of products that exhibit biodegradability, oil splitting or emulsifying features. Terpene-based cleaners have no flash point, and alkaline, aqueous formulations include non-phosphated, non-chelated, mildly alkaline cleaners.

Occidental Chemical  
Corp. Technical Center  
P.O.Box 344  
Niagara Falls, NY 14302  
Tel: (800) 733-1165  
Fax: (716) 278-7297

Specially stabilized methylene chloride for a wide variety of applications. Formulations of halogenated toluenes and benzotrifluorides for cold cleaning of metals and electronics. Ethylene based glycol ethers for use in many cleaning formulations.

Orange Sol Industrial Products, Inc.  
955 North Fiesta Blvd, Suite 1  
Gilbert, AZ 85233-2801  
Tel: (602) 497-8822  
Fax: (602) 497-0444

Aqueous, semi-aqueous cleaners, hydrocarbon-based products and other cleaning alternatives and equipment (parts, washers). Effective cleaners for metal, electronic, precision and maintenance cleaning, suitable for agitation, soak, spray, ultrasonic and handwipe cleaning.

PDM Incorporated  
3512-6 Silverside Road  
Wilmington, DE 19810  
Tel: (302) 478-0768  
Fax: (302) 478-0299

Solvent formulations for cleaning/ removing grease, adhesives, tars/asphalt, waxes, and also used in degreasers, hand wipe cleaners, carpet cleaners and general purpose cleaners.

Petroferm Inc.  
5415 First Coast Highway  
Fernandina Beach, FL 32034  
Tel: (904) 261-8286  
Fax: (904) 261-6994

Broad line of formulations based on terpenes, ester, and aliphatic hydrocarbons and blends of these organic solvents with surfactants. Products are used for cold (hand) cleaning and in combination with various cleaning equipment. Products can be removed by evaporation, water, alcohols or nonflammable fluorinated solvents. Both products and rinse media can be recycled.

P-T Technologies, Inc.  
108 4th Ave. South  
Safety Harbor, FL 34695  
Tel: (800) 441-7874  
Fax: (813) 725-9544

Purac America, Inc  
111 Barclay Blvd  
Suite 280  
Lincolnshire, IL 60069  
Tel: (708) 634-6330  
Fax: (708) 634-1992

QO Chemicals, Inc.  
P.O. Box 2500  
One Great Lakes Blvd  
West Lafayette, IN 47906  
Tel: (800) 621-9521  
Fax: (317) 497-6287

The Rission Group Inc.  
13349 Michigan Ave.  
Dearborn, MI 48126  
Tel: (313) 581-2620  
Fax: (313) 581-3758

Rite Off, Inc.  
Seaford Industrial Park  
P.O. Box 1070  
Seaford, DE 19973  
Tel: (800) 645-5853  
(302) 628-2100  
Fax: (800) 571-2211

Rochester Midland Corp.  
333 Hollenbeck St.  
Rochester, NY 14621  
Tel: (716) 336-2200  
Fax: (716) 467-4406

Non-halogenated hydrocarbon based and water based degreasers and cleaners. Specialty formulations for electronics, cable manufacturing, process cleaning, utility applications general cleanup.

Range of lactate esters used as safe and environmental friendly cleaners. Applications include general degreasing, flux removal, polymer removal, metal finishing, wipe solvent, precision cleaning in various industries.

Specialty solvents used in various cleaning applications. Solvents are bio-degradable, water miscible, and not photo-chemically reactive.

Aqueous and non-aqueous formulations containing surfactants with and without glycol ethers. Hydrocarbons and blends of hydrocarbons with emulsifiers also available.

Wide variety of cleaning and maintenance formulations using alcohols, terpenes, HFCs, hydrocarbons and chlorinated solvents. Specialists in aerosol technology, liquid formulations also available.

Formulations comprised of hydrocarbon and/or terpene solvents. Some also contain surfactants. Many contain alkaline builders and chelants as well as glycol ethers. Some aqueous-based or water-compatible formulations exhibit good biodegradability. Many products allow for good oil/grease separation upon standing.

Roly International  
P.O. Box 5103  
Ventura, CA 93005  
Tel: (805) 644-8664  
Fax: (805) 650-8222

Selig Chemical Industries  
PO Box 43106  
840 Selig Dr. SW  
Atlanta, GA 30378  
Tel: (404) 691-9220  
Fax: (404) 699-7024

Solvent Kleene, Inc.  
131.5 Lynnfield Street  
Peabody, MA 01960  
Tel: (508) 531-2279  
Fax: (508) 532-9304

Storchem Inc.  
3600 Billings Court, Suite 110  
Burlington, Ontario  
Canada L7N 3N6

Tech Spray Inc.  
P.O. Box 949  
Amarillo, TX 79105-0949  
Tel: (806) 372-8523  
(800) 858-4043  
Fax: (806) 372-8750

Terpene Technologies Inc.  
3400 Ridge Rd. W, Suite 293  
Rochester, NY 14626  
Tel: (716) 546-8455  
(716) 777-0790  
Fax: (716) 227-3834

Cleaners for degreasing, cleaning and corrosion protection applications. Also other cleaners designed for avionics, computer applications, turbine blades used in jet engines, and glass cleaning.

Formulations made of hydrocarbons and blends of hydrocarbons and emulsifiers. Also offer aqueous-based formulations containing detergents with and without glycol ethers and some containing d-limonene.

Formulations, replacing chlorinated solvents, compatible with existing equipment, suitable with ferrous and non-ferrous metals, for oil removal, degreasing, removing flux, wax. Company offers on-site solvent-recovery closed-loop systems.

Aqueous-based terpene formulations containing detergents and emulsifiers; semi-aqueous cleaners and degreasers based on terpene alcohols and hydrocarbons; terpene alcohol and hydrocarbon blends used as non-water soluble solvents.

Manufacturer of CFC replacements including HCFCs, alcohols, hydrocarbons, high molecular weight hydrocarbons, PFCs, and concentrated aqueous cleaners. Products designed for use in vapor degreasing and other batch cleaning operations. Also packaged in aerosol form for field service and re-work applications.

Terpene alcohol and hydrocarbon blends used as non-water soluble solvents, semi-aqueous cleaners and degreasers based on terpene alcohols and hydrocarbons. Also offer aqueous based terpene formulations containing detergents and emulsifiers.

Thierica  
900 Clancy Ave.  
Grand Rapids, MI 49503  
Tel: (616) 458-1538  
Fax: (616) 458-7120

New low cost spray equipment manages extremely difficult cleaning jobs. Used with large and small parts containing baked grease and paint soils. Designed to be safe and environmentally secure with hydrocarbon and aqueous cleaning agents. Stainless steel construction.

Union Camp Corp.  
Bush Boake Allen Division  
PO Box 37617  
Jacksonville, FL 32236  
Tel: (904) 783-2180  
(800) 874-9220  
Fax: (904) 786-6495

Range of wood terpene based alternative solvents for semi-aqueous and solvent only cleaning processes and maintenance cleaning applications. High solvency and high soil loading properties for removal of solder fluxes, heavy oils and greases, polishing compounds, carbonaceous deposits etc. to the highest cleanliness standards.

U.S. Polychemical Corp.  
Route 45 Chestnut Ridge Road  
Chestnut Ridge, NY 10977  
Tel: (914) 356-5530  
(800) 431-2072  
Fax: (914) 356-6656

Manufacturers of oil and grease buffing compounds, flux removing chemistries with non-chlorinated solvents, semi-aqueous, and aqueous technologies. Also automated cleaning systems with recirculating agitation or ultrasonics for turn-key applications.

Working Solutions, Inc.  
938 Cortlandt Street  
Houston, TX 77008  
Tel: (800) 829-4419  
Fax: (713) 862-5591

Aqueous, semi-aqueous and solvent cleaning technologies and equipment.

#### NON-OZONE DEPLETING CHLORINATED SOLVENTS

Asahi Glass America, Inc.  
450 Lexington Ave., Suite 1920  
New York, NY 10017-3911  
Tel: (212) 687-4600  
Fax: (212) 687-4663

Methylene chloride for general metals, electronics and precision cleaning.



A.W. Chesterton  
225 Fallon Road Middlesex  
Industrial Park Stoneham,  
MA 02180-2999  
Tel: (617) 438-7000  
Fax: (617) 438-8971

Carroll Company  
2900 W. Kingsley Road  
Garland, TX 75041  
Tel: (800) 527-5722  
Fax: (214) 840-0678

Chemical Marketing Corporation of America  
180 Humboldt Avenue North  
Minneapolis, MN 55405  
Tel: (612) 377-1971  
Fax: (612) 377-5597

Chemical Solvents, Inc.  
3751 Jennings Rd.  
Cleveland, OH 44109  
Tel: (216) 741-9310  
(800) 362-0693  
Fax: (216) 741-4080

Chemtronics, Inc.  
8125 Cobb Center Dr.  
Kennesaw, GA 30144  
Tel: (404) 424-4888  
Fax: (404) 424-4267

Cobehn, Inc.  
640 Airport Road  
Winchester, VA 22602  
Tel: (703) 665-0707  
Fax: (703) 665-0768

A complete line of aqueous cleaners containing detergents, with and without glycol ethers. Hydrocarbon solvents and solvent blends. Non-ozone depleting chlorinated solvents. Provide free assistance to customers wishing to replace ozone-depleting chemicals. Synthetic machining fluids, lubricants and maintenance specialties.

Aqueous cleaning formulations containing detergents with and without glycol ethers. Formulations made from hydrocarbons and terpenes with and without emulsifiers. Specialty solvent blends for printing ink cleanup, electric motor degreasing, cleaning printed circuit boards, and assorted textile mill applications.

Common solvents including aliphatics, aromatics, alcohols, chlorinateds, and ketones.

Ultra-pure cleaners for electronics and metal, flux removers for all types of printed circuit fluxes, conformal coatings for protection of finished circuit boards, solder masking agents, and lubricants for electronics.

Manufacturer of a non-solvent-based precision batch cleaning system, utilizing solvent materials filtered to .2um ppm. Process removes flux, oils and particulates by agitation, wetting and drying in an inert atmosphere. Also used for hybrids, and PCBs.

Coleman Chemical, Inc.  
One Gemstar Lane  
Joliet, IL 60435  
Tel: (815) 727-3900  
Fax: (815) 727-3998

Detrex Corp.  
4000 Town Center, Suite 1100  
Southfield, MI 48175  
Tel: (313) 358-5800  
Fax: (313) 358-5803

Dow U.S.A.  
Midland, MI 48674  
Tel: (800) 337-4369  
Fax: (517) 832-1465

Ecolink  
1481 Rock Mountain Blvd.  
Stone Mountain, GA 30083  
Tel: (404) 621-8240  
(800) 886-8240  
Fax: (404) 621-8245

Electrolube Corporation USA  
8200 Saint James Ave.  
Elmhurst, NY 11373  
Tel: (718) 565-5200  
Fax: (718) 565-5715

Hubbard-Hall, Inc.  
PO Box 790  
Waterbury, CT 06725  
Tel: (203) 754-2171  
(800) 648-3412  
Fax: (203) 596-9544  
(203) 756-9017

Specialty formulations of non-ozone depleting HFCs available in 1995.

Aqueous micro-emulsion solution for gross metal cleaning and equipment for use with the cleaning solution. Alternative vapor degreasing process, specialty equipment and solvents for metals and electronics cleaning, chlorinated and HCFC solvents, and aqueous and semi-aqueous solvents.

Trichloroethylene, methylene chloride, and perchloroethylene.

Wide range of aqueous, semi-aqueous and non-aqueous chemistries. Formulations include a variety of hydrocarbon, NMP, DBE and terpene products as well as non-ozone depleting halogenated solvents. Manufacture a complete line of batch cleaning units for use with these solvents.

Non-toxic, non-flammable, biodegradable aqueous solvents suitable for in-line and batch equipment without modification. Also ideal for screen and pallet cleaning and precision metal degreasing (ferrous and non-ferrous). Also range of zero ODP non-CFC conformal coatings, service aids, contact lubricants, and cleaning products. Application oriented packaging such as aerosols, containers, and syringes.

Kester Solder Division Litton Industries  
515 E. Touhy Avenue  
Des Plaines, IL 60018-2675  
Tel: (708) 297-1600  
Fax: (708) 390-9338

London Chemical Co., Inc.  
240 Foster Ave.  
Bensenville, IL 60106  
Tel: (800) 323-9625  
Fax: (708) 860-1218

Multicore Solders Inc.  
1751 Jay Ell Drive  
Richardson, TX 75081  
Tel: (214) 238-1224  
Fax: (214) 644-9309

Navy Brand Mfg Co.  
Division of Chemstar, Inc.  
5111 Southwest Avenue  
St. Louis, MO 63110-3496  
Tel: (800) 325-3312  
(314) 865-5500  
Fax: (314) 865-5509

Nobles Mfg. Inc.  
645 East 7th St.  
St. Paul, MN 55106  
Tel: (612) 771-5581  
Fax: (612) 771-7855

Oakite Products, Inc.  
50 Valley Road  
Berkeley Heights, NJ 07922  
Tel: (908) 508-2107  
Fax: (908) 464-9250

Alcohol-based cleaners, solvent blends, and aqueous saponifiers. Also manufacture no-clean, water-clean, and VOC-free; fluxes, solders, and solder pastes.

Line of saponifiers with and without glycol ethers. Also offer a variety of no-clean fluxes and water soluble fluxes. In addition, aqueous defluxing systems, VOC free, ODP free, non-flammable IPCiEPA Phase II approved alternative.

Formulations available for effective removal of both rosin flux residues and no-clean flux residues from electronic products and processing equipment.

Industrial degreasers for metal cleaning and parts cleaning. Formulations are based on non-ozone depleting solvents. Also solvent-based, aqueous-based and also semi-aqueous-based products for a variety of cleaning applications on a host of substrates, both metallic and non-metallic.

Aqueous formulations containing detergents. Hydrocarbon and blends of hydrocarbons. Centrifugal washing and drying equipment used extensively in the metal working and electronic industry.

High-tech, state-of-the-art, recyclable cleaning products for use in immersion, ultrasonic, hand wipe, and other cleaning applications. Many aqueous and semi-aqueous formulations adhere to the Clean Air Act, OSHA regulations, and do not contain SARA 313 ingredients. Comprehensive lines of products that exhibit biodegradability, oil splitting or emulsifying features. Terpene-based cleaners have no flash point, and alkaline, aqueous formulations include non-phosphated, non-chelated, mildly alkaline cleaners.

Occidental Chemical  
Corp. Technical Center  
P.O.Box 344  
Niagara Falls, NY 14302  
Tel: (800) 733-1165  
Fax: (716) 278-7297

PPG Industries, Inc.  
Chemicals Group  
One PPG Place  
Pittsburgh, PA 15272  
Tel: (800) 243-6774  
Fax: (412) 434-2401

Rite Off, Inc.  
Seaford Industrial Park  
P.O. Box 1070  
Seaford, DE 19973  
Tel: (800) 645-5853  
(302) 628-2100  
Fax: (800) 571-2211

Rochester Midland Corp.  
333 Hollenbeck St.  
Rochester, NY 14621  
Tel: (716) 336-2200  
Fax: (716) 467-4406

Selig Chemical Industries  
PO Box 43106  
840 Selig Dr. SW  
Atlanta, GA 30378  
Tel: (404) 691-9220  
Fax: (404) 699-7024

Working Solutions, Inc.  
938 Cortlandt Street  
Houston, TX 77008  
Tel: (800) 829-4419  
Fax: (713) 862-5591

HCFCs

Specially stabilized methylene chloride for a wide variety of applications. Formulations of halogenated toluenes and benzotrifluorides for cold cleaning of metals and electronics. Ethylene based glycol ethers for use in many cleaning formulations.

Trichloroethylene, perchloroethylene, and methylene chloride.

Wide variety of cleaning and maintenance formulations using alcohols, terpenes, HFCs, hydrocarbons and chlorinated solvents. Specialists in aerosol technology, liquid formulations also available.

Formulations comprised of hydrocarbon and/or terpene solvents. Some also contain surfactants. Many contain alkaline builders and chelants as well as glycol ethers. Some aqueous-based or water-compatible formulations exhibit good biodegradability. Many products allow for good oil/grease separation upon standing.

Formulations made of hydrocarbons and blends of hydrocarbons and emulsifiers. Also offer aqueous-based formulations containing detergents with and without glycol ethers and some containing d-limonene.

Aqueous, semi-aqueous and solvent cleaning technologies and equipment.

Allied-Signal P0 Box  
1139R Morristown, NJ  
07960  
Tel: (201) 455-4848  
Fax: (201) 455-2745

Asahi Glass America, Inc.  
450 Lexington Ave., Suite 1920  
New York, NY 10017-3911  
Tel: (212) 687-4600  
Fax: (212) 687-4663

Atochem North America  
Three Parkway  
Philadelphia, PA 19102  
Tel: (215) 587-7192  
Fax: (215) 587-7199

A.W. Chesterton  
225 Fallon Road Middlesex  
Industrial Park Stoneham,  
MA 02180-2999  
Tel: (617) 438-7000  
Fax: (617) 438-8971

Chemical Solvents, Inc.  
3751 Jennings Road  
Cleveland, OH 44109  
Tel: (216) 741-9310  
Fax: (216) 741-4080

Chemtronics, Inc.  
8125 Cobb Center Dr.  
Kennesaw, GA 30144  
Tel: (404) 424-4888  
Fax: (404) 424-4267

HCFC-225caicb can be used as a single product as well as an alcohol mixture or with surface active agents. Compatible with most metals and plastics, and applicable for degreasing, defluxing, particle-removing, drying and dry-cleaning, with low total energy consumption.

A complete line of aqueous cleaners containing detergents, with and without glycol ethers. Hydrocarbon solvents and solvent blends. Non-ozone depleting chlorinated solvents. Provide free assistance to customers wishing to replace ozone-depleting chemicals. Synthetic machining fluids, lubricants and maintenance specialties.

Aliphatic hydrocarbon blends, terpenes, surfactants, biodegradable emulsifiers, non-ozone depleting halogenated solvents, HCFCs. Specialty formulations for metal, urethane fiberglass (resin) clean-up processes via spray, wipe and immersion systems. Turn-key parts cleaning services. Recycling, disposal of generated waste solvents and waters.

Ultra-pure cleaners for electronics and metal, flux removers for all types of printed circuit fluxes, conformal coatings for protection of finished circuit boards, solder masking agents, and lubricants for electronics.

Cobehn, Inc.  
640 Airport Road  
Winchester, VA 22602  
Tel: (703) 665-0707  
Fax: (703) 665-0768

Manufacturer of a non-solvent-based precision batch cleaning system, utilizing solvent materials filtered to .2um ppm. Process removes flux, oils and particulates by agitation, wetting and drying in an inert atmosphere. Also used for hybrids, and PCBs.

Coleman Chemical, Inc.  
One Gemstar Lane  
Joliet, IL 60435  
Tel: (815) 727-3900  
Fax: (815) 727-3998

Specialty formulations of non-ozone depleting HFCs available in 1995.

Corpane Industries  
10100 Bluegrass Parkway  
Louisville, KY 40299  
Tel: (502) 491-4433  
Fax: (502) 491-9944

Aqueous, semi-aqueous and neat solvent cleaning systems for electronic, metals, and precision cleaning with ultrasonics and closed loop recycling options. Available in-line conveyor or batch configurations with customizing as required.

CRC Industries, Inc.  
885 Louis Drive  
Warminster, PA 18974  
Tel: (215) 674-4300  
Fax: (215) 674-2196

Aerosol and bulk packages of HCFCs. Nonflammable and leaves no residue. May not be compatible with some plastics such as polycarbonates and polystyrene.

Detrex Corp.  
4000 Town Center, Suite 1100  
Southfield, MI 48175  
Tel: (313) 358-5800  
Fax: (313) 358-5803

Aqueous micro-emulsion solution for gross metal cleaning and equipment for use with the cleaning solution. Alternative vapor degreasing process, specialty equipment and solvents for metals and electronics cleaning, chlorinated and HCFC solvents, and aqueous and semi-aqueous solvents.

Ecolink  
1481 Rock Mountain Blvd.  
Stone Mountain, GA 30083  
Tel: (404) 621-8240  
(800) 886-8240  
Fax: (404) 621-8245

Wide range of aqueous, semi-aqueous and non-aqueous chemistries. Formulations include a variety of hydrocarbon, NMP, DBE and terpene products as well as non-ozone depleting halogenated solvents. Manufacture a complete line of batch cleaning units for use with these solvents.

Electrolube Corporation USA  
8200 Saint James Ave.  
Elmhurst, NY 11373  
Tel: (718) 565-5200  
Fax: (718) 565-5715

Non-toxic, non-flammable, biodegradable aqueous solvents suitable for in-line and batch equipment without modification. Also ideal for screen and pallet cleaning and precision metal degreasing (ferrous and non-ferrous). Also range of zero ODP inon-CFC conformal coatings, service aids, contact lubricants, and cleaning products. Application oriented packaging such as aerosols, containers, and syringes.

LPS Laboratories, Inc.  
4647 Hugh Howell Rd.  
Tucker, GA 30084  
Tel: (800) 241-8334  
Fax: (404) 493-9206

Solvent cleaners based on but not limited to terpene hydrocarbons, alcohol or HCFC technologies. Formulations are engineered for use in non-automated hand cleaning applications where rinsing is not available. Cleaners are effective in touch-up cleaning and precision cleaning of all types of flux residues, oils, grease and grime.

Micro Care Corp.  
34 Ronzo Rd.  
Bristol, CT 06010  
Tel: (203) 585-7912  
Fax: (203) 585-7378

Wide variety of cleaning and maintenance formulations using alcohols, terpenes, HFCs, hydrocarbons and chlorinated solvents. Specialists in aerosol technology, liquid formulations also available.

Rite Off, Inc.  
Seaford Industrial Park  
P.O. Box 1070  
Seaford, DE 19973  
Tel: (800) 645-5853  
(302) 628-2100  
Fax: (800) 571-2211

Selig Chemical Industries  
840 Selig Dr. SW  
Atlanta, GA 30336-2240  
Tel: (404) 691-9220  
Fax: (404) 699-7024

Formulations made of hydrocarbons and blends of hydrocarbons and emulsifiers. Also offer aqueous-based formulations containing detergents with and without glycol ethers and some containing d-limonene.

Tech Spray Inc.  
P.O. Box 949  
Amarillo, TX 79105-0949  
Tel: (806) 372-8523  
(800) 858-4043  
Fax: (806) 372-8750

Manufacturer of CFC replacements including HCFCs, alcohols, hydrocarbons, high molecular weight hydrocarbons, PFCs, and concentrated aqueous cleaners. Products designed for use in vapor degreasing and other batch cleaning operations. Also packaged in aerosol form for field service and re-work applications.

Working Solutions, Inc.  
938 Cortlandt Street  
Houston, TX 77008  
Tel: (800) 829-4419  
Fax: (713) 862-5591

Aqueous, semi-aqueous and solvent cleaning technologies and equipment.

### OTHER CLEANING ALTERNATIVES AND EQUIPMENT

3M Company  
Specialty Chemicals Division  
Building 223-65-04  
St. Paul, MN 55144  
Tel: (612) 733-1710  
Fax: (612) 733-6791

Perfluorocarbon-based fluids used as rinsing materials in specialty niche cleaning applications. These fluids are especially designed for cleaning processes for high-value parts when aqueous or semi-aqueous cleaning are not viable options.

ACCEL  
1825 E. Piano Parkway  
Piano, TX 75074-8129  
Tel: (214) 424-3525  
Fax: (214) 424-7526

System utilizing centrifugal cleaning to provide superior washing, effective rinsing, and drying of populated printed circuit boards and hybrid circuits. Includes automatic solvent recycling and rinse water purification with no required drain. Compatible with chlorocarbons, fluorocarbons, H<sub>2</sub>O, and terpenes.

Altos Engineering, Inc.  
6009 N. 61 Ave  
Glendale, AZ 85301  
Tel: (602) 931-8434  
Fax: (602) 937-6396

Batch and inline cleaning equipment with non-chemical, thermal vacuum drying of rinse waters. Detergent formulations available with and without glycol ethers.

Ambassador Marketing  
Route 1-Box 207  
St. David, AZ 85630  
Tel: (602) 720-4310  
Fax: (602) 720-4068

Aqueous and alcohol based cleaners for low residue degreasing and dewaxing applications. Formulations are nonflammable and nonfuming.



A.W. Chesterton  
225 Fallon Road Middlesex  
Industrial Park Stoneham,  
MA 02180-2999  
Tel: (617) 438-7000  
Fax: (617) 438-8971

Babcock & Wilcox CIM Systems  
4004 Murray Place  
Lynchburg, VA 24501  
Tel: (804) 948-1361  
Fax: (804) 948-1313

Baron-Blakeslee, Inc.  
1500 West 16th St.  
Long Beach, CA 90813  
Tel: (800) 548-4422  
Fax: (310) 491-1091

Blackstone Ultrasonics, Inc.  
9 North Main St.  
Jamestown, NY 14701  
Tel: (716) 665-2340  
(800) 766-6606  
Fax: (716) 665-2480

Branson Ultrasonics Inc.  
41 Eagle Rd.  
Danbury, CT 06810  
Tel: (203) 796-0400  
Fax: (203) 796-0381

A complete line of aqueous cleaners containing detergents, with and without glycol ethers. Hydrocarbon solvents and solvent blends. Non-ozone depleting chlorinated solvents. Provide free assistance to customers wishing to replace ozone-depleting chemicals. Synthetic machining fluids, lubricants and maintenance specialties.

Provide turnkey automated cleaning and inspection (SQCiSPC) systems for complete integration into process cleaning lines, including aqueous and non-aqueous systems, material handling, drying, cleanliness and geometric inspection, and computer protocol communication. Full-scope of services from process selection, development, installation, training, and continued follow-up support.

Full line of cleaning equipment for use with aqueous, semi-aqueous, HCFC, and chlorinated solvents. Closed loop system incorporating vacuum drying available (near zero emissions).

Complete range of ultrasonic cleaning products from stand-alone and bench-top heated tanks to wash multiple rinse dry console systems with optional material handling and automation. Also, fluxless ultrasonic solder pots for tinning leads and electronics.

Ultrasonic cleaning equipment and integrated cleaning systems for metal, electronic, and precision cleaning requirements. Manual and fully automated material handling transport systems. Equipment for aqueous, semi-aqueous and solvent chemistry.

Break-Free, Inc.  
1035 S. Linwood Avenue  
Santa Ana, CA 92705-4396  
Tel: (714) 953-1900  
Fax: (714) 953-0402

Unique blend of orange oils and highly refined synthetic hydrocarbons formulated as a safe replacement for most chlorinated or halogenated, ozone-depleting solvents. Applications include degreasing, removal of oils, wax, tar, adhesives, fresh paint and oil-based inks. Also water-based, alkaline cleaners for the removal of heavy soil contaminants.

Carroll Company  
2900 W. Kingsley Road  
Garland, TX 75041  
Tel: (800) 527-5722  
Fax: (214) 840-0678

Aqueous cleaning formulations containing detergents with and without glycol ethers. Formulations made from hydrocarbons and terpenes with and without emulsifiers. Specialty solvent blends for printing ink cleanup, electric motor degreasing, cleaning printed circuit boards, and assorted textile mill applications.

CF TECHnologies, Inc.  
1 Westinghouse Plaza, Suite 200  
Hyde Park, MA 02136-2059  
Tel: (617) 364-2500  
Fax: (617) 364-2550

Supercritical fluid extraction cleaning process for removing organic solvent, oil and lubricant residues. May also be effective for particulate removal when used in conjunction with agitation and/or ultrasonics.

Chemical Solvents, Inc.  
3751 Jennings Road  
Cleveland, OH 44109  
Tel: (216) 741-9310  
Fax: (216) 741-4080

Aliphatic hydrocarbon blends, terpenes, surfactants, biodegradable emulsifiers, non-ozone depleting halogenated solvents, HCFCs. Specialty formulations for metal, urethane fiberglass (resin) clean-up processes via spray, wipe and immersion systems. Turn-key parts cleaning services. Recycling, disposal of generated waste solvents and waters.

Chem-Tech International  
1800 Diagonal Rd., Suite 600  
Alexandria, VA 22314  
Tel: (703) 549-1001  
Fax: (703) 549-1003

Aqueous-based formulations containing detergents with and without glycol ethers for removing corrosion, grime, oil, and other soils from electronic and electro-mechanical components; a hydrocarbon based formulation with advanced cleaning and water displacement properties. Also specially designed cleaning equipment.

Church & Dwight Co., Inc.  
469 N. Harrison St.  
Princeton, NJ 08543-5297  
Tel: (609) 497-7230

Cincinnati Industrial Machinery  
P0 Box 62027  
3280 Hageman St.  
Cincinnati, OH 45241 (street add.)  
45262 (P0 Box)  
Tel: (513) 769-0700  
Fax: (513) 769-0697

Circle-Prosc0, Inc.  
2017 Yost Ave.  
Bloomington, IN 47403  
Tel: (812) 339-3653  
Fax: (812) 331-2566

Cobehn, Inc.  
640 Airport Road  
Winchester, VA 22602  
Tel: (703) 665-0707  
Fax: (703) 665-0768

Cold Jet, Inc.  
455 Wards Corner Rd.  
Loveland, OH 45140  
Tel: (513) 831-3211  
Fax: (513) 831-1209

Conceptronic, Inc.  
6 Post Rd.  
Portsmouth, NH 03801  
Tel: (603) 431-6262  
Fax: (603) 431-3303

Custom designed machines for cleaning, surface preparation and other processing of metal and non-metallic parts.

Aqueous, alkaline, etchant cleaners for ferrous and non-ferrous applications. Aqueous, acidic, neutral, and alkaline oil rejecting cleaners with or without glycol ethers for ferrous and non-ferrous applications. Water miscible, semi-aqueous cleaners (electronics cleaning). Water emulsifiable cleaners containing aliphatic and terpene solvents. Evaporative oils for no clean applications.

Manufacturer of a non-solvent-based precision batch cleaning system, utilizing solvent materials filtered to .2um ppm. Process removes flux, oils and particulates by agitation, wetting and drying in an inert atmosphere. Also used for hybrids, and PCBs.

Dry ice blasting process using small pellets of carbon dioxide (dry ice) as the blasting media. Pellets sublimate on contact leaving no media for containment or disposal. Process currently being used in molded products, baking food production, hazardous cleaning, automotive, aerospace (military and commercial) and contract cleaning industries.

Semi-aqueous, spray-based, totally closed-loop modular batch cleaning systems utilizing non-flammable, naturally derived alcohol solvents in solution with water. Also have an ultrasonic batch cleaning system for metallic and non-metallic electronic surfaces and other difficult-to-clean non-electronic parts of unusual geometric shape.

Corpane Industries  
10100 Bluegrass Parkway  
Louisville, KY 40299  
Tel: (502) 491-4433  
Fax: (502) 491-9944

Creative Enterprizes  
105 Anyway, Suite 209  
Lake Jackson, TX 77566  
Tel: (409) 292-0244  
Fax: (409) 292-0440

Crest Ultrasonics  
Scotch Rd. - Mercer County Airport  
PO Box 7266  
Trenton, NJ 08628  
Tel: (609) 883-4000  
(800) 441-9675  
Fax: (609) 883-6452

DEFLEX Corp.  
631 Ruberta Ave.  
Glendale, CA 91201  
Tel: (818) 241-7500  
Fax: (818) 241-7532

Dell-Chem of Arizona  
7119 E. Shea Blvd., Suite 106-224  
Scottsdale, AZ 85254  
Tel: (602) 951-5812  
Fax: (602) 948-4172

Dow Corning Corp.  
PO Box 994  
Midland, MI 48686-0994  
Tel: (517) 496-4000  
Fax: (517) 496-4511

Aqueous, semi-aqueous and neat solvent cleaning systems for electronic, metals, and precision cleaning with ultrasonics and closed loop recycling options. Available in-line conveyor or batch configurations with customizing as required.

Specialize in low cost conversion of existing facilities to safely use alternative cleaning agents. Design new or custom cleaning equipment and processes. Also design environmentally secure drying equipment and processes.

Precision cleaning equipment (primarily ultrasonic systems) from standard wash-rinse-dry cleaning consoles to large custom automated batch cleaning equipment. Ultrasonic generator is sweep frequency generator capable of cavitating both aqueous and semi-aqueous chemistries. Full line of aqueous-based cleaning chemistries for ultrasonic applications as well.

Energized supercritical fluids. Gross and precision cleaning machines which accept most standard baskets and loads to 250 lbs for cleaning a variety of products. Other products include dense fluid recycling systems and various racks/fixtures.

Aqueous and alcohol-based cleaners for low residue degreasing and dewaxing applications. Formulations are nonflammable and nonfuming.

Volatile methyl siloxane (VMS) fluids containing no additives. Effective in removing cutting fluids, greases, body oils, and particles in cleaning of precision parts and metals. Easily recyclable by distillation or filtration.

Ecolink  
1481 Rock Mountain Blvd.  
Stone Mountain, GA 30083  
Tel: (404) 621-8240  
(800) 886-8240  
Fax: (404) 621-8245

Wide range of aqueous, semi-aqueous and non-aqueous chemistries. Formulations include a variety of hydrocarbon, NMP, DBE and terpene products as well as non-ozone depleting halogenated solvents. Manufacture a complete line of batch cleaning units for use with these solvents.

EcoSoft Systems Industrial  
104 Clearfield Lane, Suite 204  
Coatesville, PA 19320  
Tel: (215) 384-7200  
Fax: (215) 383-9951

Electronic descaling systems for hard water treatment.

Electronic Controls Design Inc.  
4287-A SE International Way  
Milwaukee, OR 97006  
Tel: (503) 659-6100  
(800) 323-4548  
Fax: (503) 659-4422

Blend of coniferous (pine) terpenes, surfactants, and rust inhibitor. Alternative to conventional alkaline detergents. Removes hydrocarbon grease/oil where it floats to the surface and is skimmed off.

Environmental Solvents Corp.  
1840 Southside Blvd.  
Jacksonville, FL 32216  
Tel: (904) 724-1990  
Fax: (904) 724-2508

Biodegradable, non-caustic, neutral pH cleaner which is used in a closed loop parts washing system. Several different formulations developed to suit a variety of cleaning needs. Customized parts washing equipment is matched to the cleaning chemicals to ensure optimum performance.

Envirosolutions Inc.  
335 Post Road West  
Westport, CT 06880  
Tel: (203) 454-5902  
Fax: (203) 222-0190

Exxon Chemical Co.  
PO Box 3272  
Houston, TX 77253-3272  
Tel: (800) 526-0749  
Fax: (713) 870-6661

Acetate ester cleaners, as well as hydrocarbon fluid components with a broad range of properties available for use in blended formulations. Low residue, low corrosivity to metals. Effective for broad range of grimes (electronics). Formulations comprised of esters and hydrocarbon components effective in removing greases, oils and waxes found in metal, electronics, and precision cleaning.

Finishing Equipment Inc.  
3640 Kennebec Dr.  
St. Paul, MN 55122  
Tel: (612) 452-1860  
Fax: (612) 452-9851

Aqueous, semi-aqueous and solvent cleaning systems available. From manual systems to automated high-production cleaning lines, with ultrasonics available as needed. Specialize in automated enclosed vapor degreasers for efficient use of the non-ozone depleting chlorinated solvents.

Firefreeze Worldwide, Inc.  
270 Route 46 East  
Rockaway, NJ 07866  
Tel: (973) 627-0722  
Fax: (973) 627-2982

Aqueous based degreasing, cleaning and odor eliminating formulations. Products are plant derived, environmentally friendly, non-corrosive, non-flammable, and fully biodegradable. Unique applications for waste water and sludge treatment and oilgrease separation and removal. Can be used in hand sprayers, water pressurized units, power washers, and other spray equipment.

Flura Corporation  
610 Rock Hill Road  
Newport, TN 37821  
Tel: (615) 623-4111  
Fax: (615) 623-4111

Perfluorocarbons used for high performance cleaning applications where no other compatible cleaners are available.

FMT Inc. (Findlay Machine & Tool)  
1950 Industrial Dr.  
Findlay, OH  
45840 Tel: (419)  
422-0768  
(800) 878-8011  
Fax: (419) 422-0072

Custom engineered parts cleaning equipment, standard parts cleaning equipment, and pollution control equipment.

Forward Technology Industries, Inc.  
13500 County Road 6  
Minneapolis, MN 55446-2777  
Tel: (612) 559-1785  
Fax: (612) 559-3929

Standard and custom FM-approved flammable solvent vapor degreasers for use with alcohol, cyclohexane, VMS solvents, azeotropes, and co-solvent applications. MiBACT vapor degreasers for use with PFCs, HCFCs and HFCs. Automation and superheat drying offered. Also other custom aqueous and semi-aqueous cleaning equipment available.

Fremont Industries, Inc.  
4400 Valley Industrial Park  
Shakopee, MN 55379  
Tel: (612) 445-4121  
Fax: (612) 496-3027

Aqueous-based metal cleaning and non-metallic substrate cleaning formulations and application equipment. Includes spray, soak, and ultrasonic cleaners in rinse and no-rinse formulations.

GaSonicsIPC  
2730 Junction Ave.  
San Jose, CA 95134-1909  
Tel: (408) 944-0212  
Fax: (408) 473-9530

Insitu Environmental Chemical Co.  
8402 East Redwing Rd.  
Scottsdale, AZ 85250-5740  
Tel: (602) 948-9209  
Fax: (602) 951-0715

International Specialty Products  
1361 Alps Rd.  
Wayne, NJ 07470  
Tel: (201) 628-3000  
Fax: (201) 628-4117

JM Associates, Inc.  
225 Railroad Avenue  
Bedford Hills, NY 10507  
Tel: (914) 241-3795  
Fax: (914) 241-3731

JnJ Industries  
195 E. Main St.  
Suite 303  
Milford, MA 01757  
Tel: (800) 554-9994  
Fax: (508) 478-2221

KLN Ultraschall GmbH  
Siegfriedstrasse 124  
D-64646 Heppenheim  
GERMANY  
Tel: +49-6252-14-0  
Fax: +49-6252-14-277

Low temperature plasma (RF discharge) equipment/process utilizes industrial grade gases such as oxygen, air, and nitrogen or combinations thereof. Highly effective on all materials and widely used in electronic device cleaning, flux/solder removal and medical device cleaning.

Aqueous and alcohol based cleaners for low residue degreasing and dewaxing applications. Formulations are nonflammable and nonfuming.

Specialty solvents comprised of N-methyl-2-pyrrolidone (NMP) and gamma-butyrolactone (BLO) as well as other proprietary ingredients. Products are biodegradable, water soluble, and recyclable.

New bioremediation technology: safe, non-toxic, non-caustic, neutral pH, non-flammable aqueous cleaning solution with hydrocarbons. Has successfully replaced hazardous solvents in vehicle maintenance, metals cleaning and precision manufacturing operations. Also solvents for auto, marine, contaminated soil and grease cleaning. Application of cleaners by immersion, spray or within closed-loop industrial systems.

Manufacturer of eight non-CFC formulations including a supersaturated wipe solvent.

Standard and custom flammable solvent vapor degreasers for use with alcohol, cyclohexane, VMS solvents, azeotropes, and co-solvent applications, with automation. IPA dryers for post-aqueous drying. Also other custom aqueous and semi-aqueous cleaning equipment.

Kyzen Corporation  
430 Harding Industrial Drive  
Nashville, TN 37211  
Tel: (615) 831-0888  
Fax: (615) 831-0889

A broad line of non-hazardous, zero ODP, biodegradable, and low VOC cleaning products. Kyzen products are used for cold cleaning, immersion solvent cleaning, and aqueous spray cleaning. These materials are compatible with a wide range of cleaning machines: spray in air, spray in immersion, soak, and ultrasonic. Kyzen products can be used in closed looped systems for low zero discharge by a variety of commonly available water reuse systems.

Liquid Carbonic Supercritical  
966 Postal Rd.  
Allentown, PA 18103  
Tel: (215) 266-9693  
Fax: (215) 266-1482

Supercritical carbon dioxide cleaning technology and equipment. Closed loop or open loop recirculation systems effectively remove organic material from the component to be cleaned.

London Chemical Co., Inc.  
240 Foster Ave.  
Bensenville, IL 60106  
Tel: (800) 323-9625  
Fax: (708) 860-1218

Line of saponifiers with and without glycol ethers. Also offer a variety of no-clean fluxes and water soluble fluxes. In addition, aqueous defluxing systems, VOC free, ODP free, non-flammable IPCiEPA Phase II approved alternative.

Micro Care Corp.  
34 Ronzo Rd.  
Bristol, CT 06010  
Tel: (203) 585-7912  
Fax: (203) 585-7378

Solvent cleaners based on but not limited to terpene hydrocarbons, alcohol or HCFC technologies. Formulations are engineered for use in non-automated hand cleaning applications where rinsing is not available. Cleaners are effective in touch-up cleaning and precision cleaning of all types of flux residues, oils, grease and grime.

Multicore Solders Inc.  
1751 Jay Ell Drive  
Richardson, TX 75081  
Tel: (214) 238-1224  
Fax: (214) 644-9309

Formulations of water washable fluxes that require no additional solvents.



NAPCO, Inc.  
Division of Thermo Electron  
Plymouth Industrial Park  
Terryville, CT 06786  
Tel: (203) 589-7800  
Fax: (203) 589-7304

Ney Ultrasonics  
1280 Blue Hills Avenue  
Bloomfield, CT 06002  
Tel: (203) 286-6149  
Fax: (203) 286-6150

Occidental Chemical  
Corp. Technical Center  
PO Box 344  
Niagara Falls, NY 14302  
Tel: (800) 733-1165  
Fax: (716) 278-7297

Performance Manufacturing Co.  
Malsbary Division  
9615 Inter Ocean Drive  
Cincinnati, OH 45246  
Tel: (513) 870-0200  
Fax: (513) 870-0182

Petroferm Inc.  
5415 First Coast Highway  
Fernandina Beach, FL 32034  
Tel: (904) 261-8286  
Fax: (904) 261-6994

Aqueous cleaning systems using a series of tanks to clean, rinse, and dry parts in either manual or fully automated systems. Parts are cleaned using soak, spray under immersion, mechanical agitation or ultrasonic activation. Aqueous cleaning systems are available separately or in conjunction with a wide range of waste treatment systems including closed loop systems for zero discharge.

Equipment for batch manual and batch automated cleaning using aqueous, water-miscible, semi-aqueous, and solvent chemistries. Complete application development laboratory to assist users.

Specially stabilized methylene chloride for a wide variety of applications. Formulations of halogenated toluenes and benzotrifluorides for cold cleaning of metals and electronics. Ethylene based glycol ethers for use in many cleaning formulations.

Steam Jet parts cleaning systems used in the removal of machining oils, dye penetrants, wax, and other contaminants from complex machined or cast parts.

Broad line of formulations based on terpenes, ester, and aliphatic hydrocarbons and blends of these organic solvents with surfactants. Products are used for cold (hand) cleaning and in combination with various cleaning equipment. Products can be removed by evaporation, water, alcohols or nonflammable fluorinated solvents. Both products and rinse media can be recycled.

Proformix, Inc.  
P.O. Box 22  
Route 22 West  
Whitehouse Station, NJ 08889  
Tel: (908) 534-6400  
Fax: (908) 534-9161

Non-toxic, non-flammable, biodegradable aqueous-based cleaners used to sanitize, and eliminate electrostatic discharge from optical surfaces or electronic devices. Other applications also include cleaning of precision optical components. Formulations are VOC and solvent-free and are packaged as pump sprays.

Protonique S.A.  
PO Box 78  
CH-1032 Romanel-Sur-Lausanne  
SWITZERLAND  
Tel: 41-21-648 23 34  
Fax: 41-21-648 24 11

High performance batch cleaners and dryers for 'hi-tech' and other applications. Can be used with water-soluble chemistry, saponifiers, hydrocarbonisurfactant (semi-aqueous) processes and others. Optional water purification and waste-water pollution control systems. Optional automatic handling. Low water and energy requirements.

P-T Technologies  
108 4th Avenue South  
Safety Harbor, FL 34695  
Tel: (800) 441-7874  
(813) 726-4644  
Fax: (813) 725-9544

Non-halogenated hydrocarbon-based specialty cleaning and degreasing formulations for precision cleaning. Also offer vapor degreaser alternatives, ionic contaminant removers, acetone, MEK alternatives for specific industrial applications.

Ramco Equipment Corporation  
32 Montgomery Street  
Hillside, NJ 07205  
Tel: (908) 687-6700  
Fax: (908) 687-0653

Standard line of single and multi-station aqueous degreasing systems with a wide selection of options including platform oscillation, directional turbulence, oil removal, ultrasonics, filtration, parts rotators and dryers. Nationwide network of application engineers to assist from process development through installation.

Ransohoff Co.  
North 5th St at Ford Boulevard  
Hamilton, OH 45011  
Tel: (513) 863-5813  
(800) 248-WASH  
Fax: (513) 863-8908

Standard and custom aqueous and semi-aqueous cleaning equipment for small through high production parts cleaning requirements, as well as very small to large part configurations and various part materials. Expertise in precision cleaning. Patented, mechanically agitated aqueous technology for high volume intricately shaped or machined parts as a direct replacement of solvent vapor degreasing and ultrasonic cleaning systems.

Rapid Engineering, Inc.  
P.O. Box 700  
1100 Seven Mile Road N.W.  
Comstock Park, MI 49321-0700  
Tel: (616) 784-0500  
Fax: (616) 784-0435

REM Sales  
34 Bradley Park Road  
East Grandie, CT 06026  
Tel: (203) 653-0071  
Fax: (203) 653-0393

R.G. Hanson Co., Inc.  
703 E. Lincoln  
Bloomington, IL 61701  
Tel: (309) 828-5070  
(800) 392-0903  
Fax: (309) 829-3294

S.A.S., Inc.  
2435 North Indian Hill Blvd  
Claremont, CA 91711-1730  
Tel: (909) 624-0396  
Fax: (909) 624-6336

Serec Corp.  
P.O. Box 28129  
Providence, RI 02908  
Tel: (401) 421-6080  
Fax: (401) 521-5690

S&K Products International  
80 Red Schoolhouse Rd. #102  
Chestnut Ridge, NY 10977  
Tel: (914) 425-6200  
Fax: (914) 425-7602

Smart Sonic SMT Cleaning Systems  
2372 Teller Rd., #107  
Newbury Park, CA 91320  
Tel: (805) 499-7440  
Fax: (805) 375-5781

Parts washers utilizing low to medium pressure spraying of aqueous solutions on metal and plastic substrates. Exhaust incinerators for lowering VOC discharge to the atmosphere.

Very low emission, closed-loop vapor degreasing equipment for chlorinated solvents.

Aqueous cleaning chemicals and equipment. New equipment using only steam to clean also available.

Aqueous cleaning machines, part washers using spray, immersion, agitation, and ultrasonics. Range of detergents, cleaners, oil skimmers, exhaust systems, filtering systems, auto rinse systems, and hot air dryers.

Manufacturers and designers of cleaning equipment using organic and chlorinated solvents. Equipment design uses vacuum technology to reduce emissions to near zero without refrigeration.

Isopropyl alcohol cleaning, degreasing, vapor drying systems.

Ultrasonic screenstencil cleaning and PCA (fine pitch) cleaning. Cleans all types of solder paste, flux residues and SMT adhesives. Optional waste water evaporator eliminates liquid hazardous waste disposal.

Solidstrip Inc.  
601 Interchange Blvd.  
Newark, DE 19711  
Tel: (302) 292-8340  
(800) 677-4568  
Fax: (302) 292-8321

Sonitech Inc.  
239 East Stephenson St.  
Freeport, IL 61032  
Tel: (815) 235-2400  
Fax: (815) 232-2150

Step Kare Corporation  
P.O. Box 211  
Highland Park, IL 60035  
Tel: (708) 358-2158  
Fax: (708) 358-2158

Sub-Micron Cleaning Systems  
P.O.Box 219  
Carpinteria, CA 93013  
Tel: (805) 566-3830  
Fax: (805) 566-3813

Surftran  
Division of Robert Bosch Corporation  
30250 Stephenson Hwy  
Madison Heights, MI 48071  
Tel: (810) 691-2560  
Fax: (810) 847-0206

Acrylic plastic blasting media for paint stripping.

Ultrasonic cleaning equipment using aqueous or semi-aqueous chemistries for a wide range of applications. Complete systems include cleaning tanks, rinse, tanks, dryers and closed loop rinse water recirculation systems. System uses alcohol or other solvents with perfluorinated chemistry for rinsing and drying non-water contact applications.

Water-based flux remover, effective on rosin and non-rosin fluxes; aqueous coating remover. Also removes cutting oils and other contaminants. Non-aqueous coating remover contains no petroleum distillates or glycol ethers. Capable of removing conformal coatings or rosin fluxes in a non-aqueous formulation.

Solidigas CO<sub>2</sub> spray cleaning equipment for removing particulate contamination from critical surfaces, and the removal of sub- micron size particles. Applications include cleaning commercial and military optical components and systems, hard disk drives, semiconductor manufacturing equipment, electro-plating and polishing, and cleaning medical equipment.

Precision and non-precision aqueous cleaning equipment. Environmentally sound chemical cleaners and rust inhibitors for aqueous cleaning.

Tally Cleaning Systems  
Division of Letfab Engineering  
332 John Diestch Blvd.  
Attleboro Falls, MA 02763  
Tel: (508) 695-1007  
Fax: (508) 695-6335

Thierica  
900 Clancy Ave.  
Grand Rapids, MI 49503  
Tel: (616) 458-1538  
Fax: (616) 458-7120

Tiyoda Mfg. U.S.A., Inc.  
1613 Lockness Place  
Torrance, CA 90501  
Tel: (310) 539-5471  
Fax: (310) 539-5881

Ultronix Inc.  
104 Niantic Rd.  
Barto, PA 19504  
Tel: (800) 553-7881  
Fax: (215) 845-3995

Unitech Industrial Inc.  
PO Box 330  
16 South Ave,  
Wappingers Falls, NY 12590  
Tel: (914) 297-0745  
(800) 277-5522  
Fax: (914) 297-2919

Vector Environmental, Inc.  
3374 West Hopkins Street  
Milwaukee, WI 53216  
Tel: (414) 444-4010  
Fax: (414) 449-2628

Single and multiple stage flat belt spraywashers, monorail spraywashers and rotary drum spraywashers which utilize aqueous-based cleaning formulations. Complete custom systems available which include spraywash, sprayrinse, rustinhibit, hot air dry, particle filtration, oil separation, etc.

New low cost spray equipment manages extremely difficult cleaning jobs. Used with large and small parts containing baked grease and paint soils. Designed to be safe and environmentally secure with hydrocarbon and aqueous cleaning agents. Stainless steel construction.

Closed-loop and self-contained ultrasonic batch cleaning system. Ultrasonic immersion (spray is optional) and vapor cleaning combined with vacuum drying provide complete cleaning and drying of virtually any component or part. Near zero emissions.

Retrofit existing equipment for HCFCs chlorinated solvents, perfluorinated chemicals, and hydrocarbon-based solvents. New equipment (manual or automated) for efficient use of non-aqueous vapor phase chemicals.

Closed loop industrial cleaning systems. Spray washers, batch cleaning systems, vapor degreasing, and pretreatment systems available in new equipment and retrofits. Waste water treatment and recycling, 100% oil removal from the cleaning process.

Manufacturers of solvent emission control technologies including closed-loop systems for flushing, spraying, degreasing, ultrasonics, drying, coating, and bonding. All equipment compatible with flammable solvents, blends, and azeotropes.

## POLLUTION CONTROL EQUIPMENT

American Metal Wash, Inc.  
PO Box 265  
360 Euclid Ave.  
Canonsburg, PA 15317  
Tel: (412) 746-4203  
Fax: (412) 746-5738

Baron-Blakeslee, Inc.  
1500 West 16th St.  
Long Beach, CA 90813  
Tel: (800) 548-4422  
Fax: (310) 491-1091

Better Engineering Mfg., Inc.  
8361 Town Center Court  
Baltimore, MD 21236-4964  
Tel: (410) 931-0000  
(800) 229-3380  
Fax: (410) 931-0053

Break-Free, Inc.  
1035 S. Linwood Avenue  
Santa Ana, CA 92705-4396  
Tel: (714) 953-1900  
Fax: (714) 953-0402

CF TECHnologies, Inc.  
1 Westinghouse Plaza, Suite 200  
Hyde Park, MA 02136-2059  
Tel: (617) 364-2500  
Fax: (617) 364-2550

Cincinnati Industrial Machinery  
PO Box 62027  
3280 Hageman St.  
Cincinnati, OH 45241 (street add.)  
45262 (PO Box)  
Tel: (513) 769-0700  
Fax: (513) 769-0697

Line of evaporator, coalescer, and solution filtration systems designed to assist in cleaning up the cleaning solutions. Units can be provided as batch components to be added to current systems or totally automated to be incorporated with an existing system or with new cleaning equipment.

Full line of cleaning equipment for use with aqueous, semi-aqueous, HCFC, and chlorinated solvents. Closed loop system incorporating vacuum drying available (near zero emissions).

Manufacturers of industrial cleaning equipment, including automatic jet washers compatible with biodegradable detergents and water solutions. Also cleaning systems with wash, rinse, and dry cycles, custom systems, extended wash cabinets, large capacity systems, and tumbling systems.

Unique blend of orange oils and highly refined synthetic hydrocarbons formulated as a safe replacement for most chlorinated or halogenated, ozone-depleting solvents. Applications include degreasing, removal of oils, wax, tar, adhesives, fresh paint and oil-based inks. Also water-based, alkaline cleaners for the removal of heavy soil contaminants.

Supercritical fluid extraction cleaning process for removing organic solvent, oil and lubricant residues. May also be effective for particulate removal when used in conjunction with agitation and/or ultrasonics.

Custom designed machines for cleaning, surface preparation and other processing of metal and non-metallic parts.

Cobehn, Inc.  
640 Airport Road  
Winchester, VA 22602  
Tel: (703) 665-0707  
Fax: (703) 665-0768

Creative Enterprizes  
105 Anyway, Suite 209  
Lake Jackson, TX 77566  
Tel: (409) 292-0244  
Fax: (409) 292-0440

Detrex Corp.  
4000 Town Center, Suite 1100  
Southfield, MI 48175  
Tel: (313) 358-5800  
Fax: (313) 358-5803

Ecolink  
1481 Rock Mountain Blvd.  
Stone Mountain, GA 30083  
Tel: (404) 621-8240  
(800) 886-8240  
Fax: (404) 621-8245

Ecology Systems, Inc.  
PO Box 391  
Bellingham, MA 02019  
Tel: (508) 966-0396

Electrovert  
805 W. North Carrier Parkway  
Grand Prairie, TX 75050  
Tel: (214) 606-1900  
Fax: (214) 606-1700

Manufacturer of a non-solvent-based precision batch cleaning system, utilizing solvent materials filtered to .2um ppm. Process removes flux, oils and particulates by agitation, wetting and drying in an inert atmosphere. Also used for hybrids, and PCBs.

Specialize in low cost conversion of existing facilities to safely use alternative cleaning agents. Design new or custom cleaning equipment and processes. Also design environmentally secure drying equipment and processes.

Aqueous micro-emulsion solution for gross metal cleaning and equipment for use with the cleaning solution. Alternative vapor degreasing process, specialty equipment and solvents for metals and electronics cleaning, chlorinated and HCFC solvents, and aqueous and semi-aqueous solvents.

Wide range of aqueous, semi-aqueous and non-aqueous chemistries. Formulations include a variety of hydrocarbon, NMP, DBE and terpene products as well as non-ozone depleting halogenated solvents. Manufacture a complete line of batch cleaning units for use with these solvents.

Full line of polypropylene and stainless steel in-line aqueous cleaning equipment. Also semi-aqueous in-line and aqueous and semi-aqueous batch equipment.

Environmental Recovery Resources, Inc.  
PO Box 36  
South Salem, NY 10590  
Tel: (914) 533-6175  
Fax: (914) 533-6275

Floating, dispersed, and dissolved hydrocarbon contaminants removed to surface water discharge limits, using: no coalescing plates, no centrifugal, no carbon absorption, no sorbent waste. Also offer systems and services to extend cleaning bath 'life' for more cost effective aqueous systems and waste water processing, and waste-minimized settling-pond and separator maintenance/ remediation.

ETUS, Inc.  
1511 Kastner Place  
Sanford, FL 32771  
Tel: (407) 321-7910  
Fax: (407) 321-3098

Formulations made of hydrocarbons and blends of hydrocarbons and emulsifiers. Also offer aqueous based formulations containing detergents with and without glycol ethers.

FMT Inc. (Findlay Machine & Tool)  
1950 Industrial Dr.  
Findlay, OH 45840  
Tel: (419) 422-0768  
(800) 878-8011  
Fax: (419) 422-0072

Custom engineered parts cleaning equipment, standard parts cleaning equipment, and pollution control equipment.

Hotsy Equipment Co.  
67 Sprague St.  
Boston, MA 02136  
Tel: (800) 544-7790

Hoyt Corp.  
Forgs Rd.  
Westport, MA 02790-0217  
Tel: (508) 636-8811  
Fax: (508) 636-2088

Hurricane Systems, Inc.  
2080 Brooklyn Rd.  
PO Box 867  
Jackson, MI 49204  
Tel: (517) 787-3481  
Fax: (517) 787-2349

Wide range of "off-the-shelf", semi-custom, and custom parts cleaning systems using water-based cleaning compounds. Systems include: belt, rotary and overhead conveyors for continuous and batch processing; carousel, cabinet, and agitation tank washers; multi-stage wash, rinse, oxidation inhibit, and dry; oil removal and oil skimming devices; electric, gas, and steam heat packages.



Infinitem  
PO Box 383  
10100 Main St.  
Clarence, NY 14031  
Tel: (716) 759-6983  
Fax: (716) 759-2050

JM Associates, Inc.  
225 Railroad Avenue  
Bedford Hills, NY 10507  
Tel: (914) 241-3795  
Fax: (914) 241-3731

Membrex, Inc.  
155 Route 46 West  
Fairfield, NJ 07004  
Tel: (201) 575-8388  
Fax: (201) 575-7011

Met-Pro Corp.  
Systems Division  
160 Cassell Rd.  
Harleysville, PA 19438  
Tel: (215) 723-6751  
Fax: (215) 723-6161

Midbrook Industries  
1745 West Hamlin Rd.  
Rochester Hills, MI 48309  
Tel: (313) 852-2490  
(800) 966-9274  
Fax: (313) 852-5520

Ultrafiltration systems for oil and water separation.

New bioremediation technology: safe, non-toxic, non-caustic, neutral pH, non-flammable aqueous cleaning solution with hydrocarbons. Has successfully replaced hazardous solvents in vehicle maintenance, metals cleaning and precision manufacturing operations. Also solvents for auto, marine, contaminated soil and grease cleaning. Application of cleaners by immersion, spray or within closed-loop industrial systems.

Membrane based separation processes to recycle, wash, and rinse waters from aqueous based and organic cleaning solutions.

Activated carbon fiber adsorption systems for control and recovery of cleaning solvent air emissions. Recovers solvent in higher quality and with less energy use than granular carbon. Systems can be regenerated with steam, air or nitrogen.

Chemical flocculation waste water treatment systems for heavy metal emulsified oil, suspended solid removal to render industrial waste water suitable for sewerage.  
Ultrafiltration waste water treatment systems for pretreatment of oily waste water for either reuse or disposal. Metal working fluid filtration systems to extend working life of fluids. Oil separation systems including skimmers and coalescers to separate tramp oils from metal working fluids.

NAPCO, Inc.  
Division of Thermo Electron  
Plymouth Industrial Park  
Terryville, CT 06786  
Tel: (203) 589-7800  
Fax: (203) 589-7304

Proceco  
7300 Tellier St.  
Montreal, Quebec  
Canada H1N 3T7  
Tel: (514) 254-8494  
Fax: (514) 254-8184  
(514) 254-6922

Prosys Corp.  
187 Billarica Rd.  
Chelmsford, MA 01824  
Tel: (508) 250-4940  
Fax: (508) 250-4977

Quantum Technologies  
PO Box 223  
Jones Mill Industrial Park  
Jones Mill, AR 72105  
Tel: (501) 844-4700  
Fax: (501) 844-4711

Rapid Engineering, Inc.  
P.O. Box 700  
1100 Seven Mile Road N.W.  
Comstock Park, MI 49321-0700  
Tel: (616) 784-0500  
Fax: (616) 784-0435

R.G. Hanson Co., Inc.  
703 E. Lincoln  
Bloomington, IL 61701  
Tel: (309) 828-5070  
(800) 392-0903  
Fax: (309) 829-3294

Aqueous cleaning systems using a series of tanks to clean, rinse, and dry parts in either manual or fully automated systems. Parts are cleaned using soak, spray under immersion, mechanical agitation or ultrasonic activation. Aqueous cleaning systems are available separately or in conjunction with a wide range of waste treatment systems including closed loop systems for zero discharge.

Aqueous spray washers (turntable, belt conveyor, and immersion types). Also supply contaminated cleaning solutions recycling systems.

Parts washers utilizing low to medium pressure spraying of aqueous solutions on metal and plastic substrates. Exhaust incinerators for lowering VOC discharge to the atmosphere.

Aqueous cleaning chemicals and equipment. New equipment using only steam to clean also available.

SAMSCO, Inc.  
18 Cote Ave.  
Goffstown, NH 03045  
Tel: (603) 668-7111  
Fax: (603) 647-0537

The SAMSCO water evaporator evaporates efficiently and economically. Typical applications include machining/grinding coolants, alkaline cleaners, floor scrubber waters, vibratory solutions, stamping/drawing compounds, wire drawing compounds and die casting solutions.

Separation Technologists, Inc.  
100 Griffin Brook Park  
Methuen, MA 01844  
Tel: (508) 794-1170  
Fax: (508) 794-0933

Scrubber systems for near zero VOC emissions, when using isopropyl alcohol cleaning and drying systems.

S&K Products International  
80 Red Schoolhouse Rd. #102  
Chestnut Ridge, NY 10977  
Tel: (914) 425-6200  
Fax: (914) 425-7602

Ultrasonic screen/stencil cleaning and PCA (fine pitch) cleaning. Cleans all types of solder paste, flux residues and SMT adhesives. Optional waste water evaporator eliminates liquid hazardous waste disposal.

Smart Sonic SMT Cleaning Systems  
2373 Teller Rd., #107  
Newbury Park, CA 91320  
Tel: (805) 499-7440  
Fax: (805) 375-5781

Formulations, replacing chlorinated solvents, compatible with existing equipment, suitable with ferrous and non-ferrous metals, for oil removal, degreasing, removing flux, wax. Company offers on-site solvent-recovery closed-loop systems.

Solvent Kleene, Inc.  
131.5 Lynnfield Street  
Peabody, MA 01960  
Tel: (508) 531-2279  
Fax: (508) 532-9304

Sonitech Inc.  
239 East Stephenson St.  
Freeport, IL 61032  
Tel: (815) 235-2400  
Fax: (815) 232-2150

Ultrasonic cleaning equipment using aqueous or semi-aqueous chemistries for a wide range of applications. Complete systems include cleaning tanks, rinse tanks, dryers and closed loop rinse water recirculation systems. System uses alcohol or other solvents with perfluorinated chemistry for rinsing and drying non-water contact applications.

Ultronix Inc.  
104 Niantic Rd.  
Barto, PA 19504  
Tel: (800) 553-7881  
Fax: (215) 845-3995

Retrofit existing equipment for HCFCs chlorinated solvents, perfluorinated chemicals, and hydrocarbon-based solvents. New equipment (manual or automated) for efficient use of non-aqueous vapor phase chemicals.

Unitech Industrial Inc.  
PO Box 330  
16 South Ave,  
Wappingers Falls, NY 12590  
Tel: (914) 297-0745  
(800) 277-5522  
Fax: (914) 297-2919

Vector Environmental, Inc.  
3374 West Hopkins Street  
Milwaukee, WI 53216  
Tel: (414) 444-4010  
Fax: (414) 449-2628

Westek  
400 Rolyln Place  
Arcadia, CA 91007  
Tel: (818) 446-4444  
Fax: (818) 446-7341

Zenon Environmental Inc.  
845 Harrington Court  
Burlington, Ontario L7N 3P3  
Canada  
Tel: (416) 639-6320  
Fax: (416) 639-1812

Zenon-Kyzen, Inc.  
13 Hampshire Drive  
Hudson, NH 03051  
Tel: (603) 886-8200  
Fax: (603) 886-8272

Closed loop industrial cleaning systems.  
Spray washers, batch cleaning systems, vapor  
degreasing, and pretreatment systems  
available in new equipment and retrofits.  
Waste water treatment and recycling, 100%  
oil removal from the cleaning process.

Manufacturers of solvent emission control  
technologies including closed-loop systems  
for flushing, spraying, degreasing, ultrasonics,  
drying, coating, and bonding. All equipment  
compatible with flammable solvents, blends,  
and azeotropes.

Systems for cleaning and drying electronic and  
metal assemblies. Water treatment for effluent  
re-direction back for use again in the process.  
Polypropylene and stainless steel/titanium  
construction.

Membrane, filtration, distillation and  
biodegradation technologies for industrial  
water generation and reuse system  
requirements. These systems are designed for  
use with small batch equipment up to the  
largest in-line processes.

## RETROFIT ALTERNATIVES

Allied-Signal PO Box  
1139R Morristown, NJ  
07960  
Tel: (201) 455-4848  
Fax: (201) 455-2745

Altos Engineering, Inc.  
6009 N. 61 Ave  
Glendale, AZ 85301  
Tel: (602) 931-8434  
Fax: (602) 937-6396

Baron-Blakeslee, Inc.  
1500 West 16th St.  
Long Beach, CA 90813  
Tel: (800) 548-4422  
Fax: (310) 491-1091

Blue Wave Ultrasonics  
Div. of Alpheus Cleaning Technologies Corp.  
960 S. Rolff St.  
Davenport, IA 52802  
Tel: (319) 322-0144  
(800) 373-0144  
Fax: (319) 322-7180

Branson Ultrasonics Inc.  
41 Eagle Rd.  
Danbury, CT 06810  
Tel: (203) 796-0400  
Fax: (203) 796-0381

Coleman Chemical, Inc.  
One Gemstar Lane  
Joliet, IL 60435  
Tel: (815) 727-3900  
Fax: (815) 727-3998

Creative Enterprizes  
105 Anyway, Suite 209  
Lake Jackson, TX 77566  
Tel: (409) 292-0244  
Fax: (409) 292-0440

Batch and inline cleaning equipment with non-chemical, thermal vacuum drying of rinse waters. Detergent formulations available with and without glycol ethers.

Full line of cleaning equipment for use with aqueous, semi-aqueous, HCFC, and chlorinated solvents. Closed loop system incorporating vacuum drying available (near zero emissions).

Ultrasonic cleaning equipment built for various applications specific to the customer's needs. Effective in cleaning different products and materials throughout the scope of fabricated metals, plastics, and ceramics. Also offer aqueous based detergents that are environmentally safe.

Ultrasonic cleaning equipment and integrated cleaning systems for metal, electronic, and precision cleaning requirements. Manual and fully automated material handling/transport systems. Equipment for aqueous, semi-aqueous and solvent chemistry.

Specialty formulations of non-ozone depleting HFCs available in 1995.

Specialize in low cost conversion of existing facilities to safely use alternative cleaning agents. Design new or custom cleaning equipment and processes. Also design environmentally secure drying equipment and processes.

Dover Soltec  
7 Perimeter Rd.  
Manchester, NH 03103  
Tel: (603) 647-6005  
Fax: (603) 647-6501

Environmental Recovery Resources, Inc.  
PO Box 36  
South Salem, NY 10590  
Tel: (914) 533-6175  
Fax: (914) 533-6275

Environmental Solvents Corp.  
1840 Southside Blvd.  
Jacksonville, FL 32216  
Tel: (904) 724-1990  
Fax: (904) 724-2508

Envirosolutions Inc.  
335 Post Road West  
Westport, CT 06880  
Tel: (203) 454-5902  
Fax: (203) 222-0190

ETUS, Inc.  
1511 Kastner Place  
Sanford, FL 32771  
Tel: (407) 321-7910  
Fax: (407) 321-3098

FMT Inc. (Findlay Machine & Tool)  
1950 Industrial Dr.  
Findlay, OH 45840  
Tel: (419) 422-0768  
(800) 878-8011  
Fax: (419) 422-0072

Retrofit spray flux kits for no clean flux, retrofit nitrogen hoods, conventional wave soldering machines, conventional wave soldering machines with nitrogen hoods, fully inerted nitrogen wave soldering machines, fully inerted 100% forced convection nitrogen reflow soldering system for no clean applications.

Floating, dispersed, and dissolved hydrocarbon contaminants removed to surface water discharge limits, using: no coalescing plates, no centrifugal, no carbon absorption, no sorbent waste. Also offer systems and services to extend cleaning bath 'life' for more cost effective aqueous systems and waste water processing, and waste-minimized settling-pond and separator maintenance/ remediation.

Blend of coniferous (pine) terpenes, surfactants, and rust inhibitor. Alternative to conventional alkaline detergents. Removes hydrocarbon grease/oil where it floats to the surface and is skimmed off.

Biodegradable, non-caustic, neutral pH cleaner which is used in a closed loop parts washing system. Several different formulations developed to suit a variety of cleaning needs. Customized parts washing equipment is matched to the cleaning chemicals to ensure optimum performance.

Formulations made of hydrocarbons and blends of hydrocarbons and emulsifiers. Also offer aqueous based formulations containing detergents with and without glycol ethers.

Custom engineered parts cleaning equipment, standard parts cleaning equipment, and pollution control equipment.

NAPCO, Inc.  
Division of Thermo Electron  
Plymouth Industrial Park  
Terryville, CT 06786  
Tel: (203) 589-7800  
Fax: (203) 589-7304

Occidental Chemical  
Corp. Technical Center  
PO Box 344  
Niagara Falls, NY 14302  
Tel: (800) 733-1165  
Fax: (716) 278-7297

Petroferm Inc.  
5415 First Coast Highway  
Fernandina Beach, FL 32034  
Tel: (904) 261-8286  
Fax: (904) 261-6994

Pillar Power Sonics  
6480 Dobbin Road  
Columbia, MD 21045  
Tel: (410) 740-7171  
Fax: (410) 740-7480

Rapid Engineering, Inc.  
P.O. Box 700  
1100 Seven Mile Road N.W.  
Comstock Park, MI 49321-0700  
Tel: (616) 784-0500  
Fax: (616) 784-0435

S.A.S., Inc.  
2435 North Indian Hill Blvd  
Claremont, CA 91711-1730  
Tel: (909) 624-0396  
Fax: (909) 624-6336

Aqueous cleaning systems using a series of tanks to clean, rinse, and dry parts in either manual or fully automated systems. Parts are cleaned using soak, spray under immersion, mechanical agitation or ultrasonic activation. Aqueous cleaning systems are available separately or in conjunction with a wide range of waste treatment systems including closed loop systems for zero discharge.

Specially stabilized methylene chloride for a wide variety of applications. Formulations of halogenated toluenes and benzotrifluorides for cold cleaning of metals and electronics. Ethylene based glycol ethers for use in many cleaning formulations.

Broad line of formulations based on terpenes, ester, and aliphatic hydrocarbons and blends of these organic solvents with surfactants. Products are used for cold (hand) cleaning and in combination with various cleaning equipment. Products can be removed by evaporation, water, alcohols or nonflammable fluorinated solvents. Both products and rinse media can be recycled.

Manufacturers of ultrasonic cleaning equipment for precision aqueous cleaning. Immersible transducers for large tanks, bench top units for small applications, console line-ups for application specific process stages, dryers, and automated transfers systems.

Parts washers utilizing low to medium pressure spraying of aqueous solutions on metal and plastic substrates. Exhaust incinerators for lowering VOC discharge to the atmosphere.

Aqueous cleaning machines, part washers using spray, immersion, agitation, and ultrasonics. Range of detergents, cleaners, oil skimmers, exhaust systems, filtering systems, auto rinse systems, and hot air dryers.

SONICOR Instrument Corp.  
100 Wartburg Ave.  
Copiague, NY 11726  
Tel: (516) 842-3344  
Fax: (516) 842-3389

Ultronix Inc.  
104 Niantic Rd.  
Barto, PA 19504  
Tel: (800) 553-7881  
Fax: (215) 845-3995

Unitech Industrial Inc.  
PO Box 330  
16 South Ave,  
Wappingers Falls, NY 12590  
Tel: (914) 297-0745  
(800) 277-5522  
Fax: (914) 297-2919

U.S. Polychemical Corp.  
Route 45 Chestnut Ridge Road  
Chestnut Ridge, NY 10977  
Tel: (914) 356-5530  
(800) 431-2072  
Fax: (914) 356-6656

Working Solutions, Inc.  
938 Cortlandt Street  
Houston, TX 77008  
Tel: (800) 829-4419  
Fax: (713) 862-5591

#### NO CLEAN ALTERNATIVES

Blackstone Ultrasonics, Inc.  
9 North Main St.  
Jamestown, NY 14701  
Tel: (716) 665-2340  
(800) 766-6606  
Fax: (716) 665-2480

Interflux USA, Inc.  
2914 Ladybird Lane  
Dallas, TX 75220  
Tel: (800) 843-3589  
Fax: (617) 893-2989

Ultrasonic cleaning equipment, automated aqueous cleaning systems. Environmentally safe alternatives to cleaning with hazardous solvents.

Retrofit existing equipment for HCFCs chlorinated solvents, perfluorinated chemicals, and hydrocarbon-based solvents. New equipment (manual or automated) for efficient use of non-aqueous vapor phase chemicals.

Closed loop industrial cleaning systems. Spray washers, batch cleaning systems, vapor degreasing, and pretreatment systems available in new equipment and retrofits. Waste water treatment and recycling, 100% oil removal from the cleaning process.

Manufacturers of oil and grease buffing compounds, flux removing chemistries with non-chlorinated solvents, semi-aqueous, and aqueous technologies. Also automated cleaning systems with recirculating agitation or ultrasonics for turn-key applications.

Aqueous, semi-aqueous and solvent cleaning technologies and equipment.

Complete range of ultrasonic cleaning products from stand-alone and bench-top heated tanks to wash multiple rinse dry console systems with optional material handling and automation. Also, fluxless ultrasonic solder pots for tinning leads and electronics.

No residue flux, core solder, and wave soldering equipment. Applications assistance available at Technology Center (1-800-THE FLUX).



Kester Solder Division Litton Industries  
515 E. Touhy Avenue  
Des Plaines, IL 60018-2675  
Tel: (708) 297-1600  
Fax: (708) 390-9338

Kyzen Corporation  
430 Harding Industrial Drive  
Nashville, TN 37211  
Tel: (615) 831-0888  
Fax: (615) 831-0889

Alcohol-based cleaners, solvent blends, and aqueous saponifiers. Also manufacture no-clean, water-clean, and VOC-free; fluxes, solders, and solder pastes.

A broad line of non-hazardous, zero ODP, biodegradable, and low VOC cleaning products. Kyzen products are used for cold cleaning, immersion solvent cleaning, and aqueous spray cleaning. These materials are compatible with a wide range of cleaning machines: spray in air, spray in immersion, soak, and ultrasonic. Kyzen products can be used in closed looped systems for low zero discharge by a variety of commonly available water reuse systems.

#### NO-CLEAN FLUXES AND PASTES

AIM Products, Inc.  
9-T Rocky Hill Rd.  
Smithfield, RI 02917  
Tel: (401) 232-2772  
Fax: (401) 232-2802

Alpha Metals  
600 Route 440  
Jersey City, NJ 07304  
Tel: (201) 434-0098  
Fax: (201) 434-2529

Ardrox Inc.  
16961 Knott Ave.  
La Mirada, CA 90638  
Tel: (714) 739-2821  
Fax: (714) 670-6480

Chemtronics, Inc.  
8125 Cobb Center Dr.  
Kennesaw, GA 30144  
Tel: (404) 424-4888  
Fax: (404) 424-4267

No-clean fluxes that are halogen and phosphorous free and formulated for defect-free soldering. Residues are non-corrosive and non-combustible. Designed for both wave or spray applications.

Ultra-pure cleaners for electronics and metal, flux removers for all types of printed circuit fluxes, conformal coatings for protection of finished circuit boards, solder masking agents, and lubricants for electronics.

Circle-Prosc0, Inc.  
2017 Yost Ave.  
Bloomington, IN 47403  
Tel: (812) 339-3653  
Fax: (812) 331-2566

Aqueous, alkaline, etchant cleaners for ferrous and non-ferrous applications. Aqueous, acidic, neutral, and alkaline oil rejecting cleaners with or without glycol ethers for ferrous and non-ferrous applications. Water miscible, semi-aqueous cleaners (electronics cleaning). Water emulsifiable cleaners containing aliphatic and terpene solvents. Evaporative oils for no clean applications.

Cramco  
80 Sinnott Rd.  
Scarborough, Ontario  
CANADA M1L 4M7  
Tel: (416) 757-3667  
Fax: (416) 757-5530

ESP Solder Plus  
14 Blackstone Valley Place  
Lincoln, RI 02865-1145  
Tel: (401) 333-3800  
(800) 338-4353  
Fax: (401) 333-4954

Hi-grade Alloy Corp.  
17425-T S. Laflin Ave.  
PO Box 155  
East Hazel Crest, IL 60429  
Tel: (708) 798-8300  
Fax: (708) 798-8924

Indium Corporation of America  
1676 Lincoln Ave.  
Utica, NY 13502  
Tel: (315) 768-6400  
Fax: (315) 768-6362

Interflux USA, Inc.  
2914 Ladybird Lane  
Dallas, TX 75220  
Tel: (214)350-5565  
(800) 842-4366  
Fax: (214) 352-6748

Kester Solder  
515 East Touhy Ave.  
Des Plaines, IL 60018-2675  
Tel: (708) 297-1600  
Fax: (708) 390-9338

London Chemical Co., Inc.  
240 Foster Ave.  
Bensenville, IL 60106  
Tel: (800) 323-9625  
Fax: (708) 860-1218

Multicore Solders Ltd.  
1751 Jay Ell Dr.  
Richardson, TX 75081  
Tel: (214) 238-1224  
Fax: (214) 644-9309

Senju Pastes  
Christopher Associates  
2601 S. Oak St.  
Santa Ana, CA 92707  
Tel: (714) 979-7500

Line of saponifiers with and without glycol ethers. Also offer a variety of no-clean fluxes and water soluble fluxes. In addition, aqueous defluxing systems, VOC free, ODP free, non-flammable IPCiEPA Phase II approved alternative.

Complete line of no-clean fluxes or solder creams to eliminate the cleaning process. Water based low VOC no-clean fluxes are also available.

#### CONTROLLED ATMOSPHERE SOLDERING EQUIPMENT

Blackstone Ultrasonics, Inc.  
9 North Main St.  
Jamestown, NY 14701  
Tel: (716) 665-2340  
(800) 766-6606  
Fax: (716) 665-2480

Dover Soltec  
7 Perimeter Rd.  
Manchester, NH 03103  
Tel: (603) 647-6005  
Fax: (603) 647-6501

Retrofit spray flux kits for no clean flux, retrofit nitrogen hoods, conventional wave soldering machines, conventional wave soldering machines with nitrogen hoods, fully inerted nitrogen wave soldering machines, fully inerted 100% forced convection nitrogen reflow soldering system for no clean applications.

Electrovert USA Corp.  
805 W. North Carrier Parkway  
Suite 200  
Grand Prairie, TX 75050  
Tel: (214) 606-1900  
Fax: (214) 606-1700

Complete range of ultrasonic cleaning products from stand-alone and bench-top heated tanks to wash multiple rinse dry console systems with optional material handling and automation. Also, fluxless ultrasonic solder pots for tinning leads and electronics.

Hollis Automation, Inc.  
15-T Charron Ave.  
Nashua, NH 03063  
Tel: (603) 889-1121  
Fax: (603) 880-0939

**SEHO**  
SMT-Automation, Inc.  
325-L Hill Carter Parkway  
Ashland, VA 23005  
Tel: (804) 798-6000  
Fax: (804) 798-5933

#### SPRAY FLUXING EQUIPMENT

AT&T  
PO Box 900 569 Carter  
Rd. Princeton, NJ 08542-  
0900  
Tel: (609) 639-2232  
Fax: (609) 639-2818

Electrovert USA Corp.  
805 W. North Carrier Parkway  
Suite 200  
Grand Prairie, TX 75050  
Tel: (214) 606-1900  
Fax: (214) 606-1700

Precision Dispensing Equipment, Inc.  
PO Box 40370  
Bay Village, OH 44140-0370  
Tel: (216) 899-9911

Process Control Technologies, Inc.  
9100 West Plainfield Rd #12  
Brookfield, IL 60513-2422  
Tel: (708) 387-0906  
Fax: (708) 387-0937

**SEHO**

SMT-Automation, Inc.  
325-L Hill Carter Parkway  
Ashland, VA 23005  
Tel: (804) 798-6000  
Fax: (804) 798-5933

Sonatech, Inc.  
702 Botello Rd.  
Goleta, CA 93017  
Tel: (805) 967-0437

Wenesco, Inc.  
6423-T N. Ravenswood Ave.  
Chicago, IL 60626  
Tel: (312) 973-4430 ext. 65  
Fax: (312) 973-5104

**INDUSTRIAL GRADE NITROGEN**

AGA Gas, Inc.  
6225 Oaktree Blvd.  
Cleveland, OH 44131  
Tel: (216) 642-6600  
Fax: (216) 642-6746

Airco Gases  
575 Mountain Ave.  
Murray Hill, NJ 07974  
Tel: (201) 464-8100  
Fax: (201) 464-3379

Air Products & Chemicals, Inc.  
7201 Hamilton Blvd.  
Allentown, PA 18195  
Tel: (215) 481-4911  
Fax: (215) 481-5900

Blackstone Ultrasonics, Inc.  
9 North Main St.  
Jamestown, NY 14701  
Tel: (716) 665-2340  
(800) 766-6606  
Fax: (716) 665-2480

Complete range of ultrasonic cleaning products from stand-alone and bench-top heated tanks to wash multiple rinse dry console systems with optional material handling and automation. Also, fluxless ultrasonic solder pots for tinning leads and electronics.

Dover Soltec  
7 Perimeter Rd.  
Manchester, NH 03103  
Tel: (603) 647-6005  
Fax: (603) 647-6501

Retrofit spray flux kits for no clean flux, retrofit nitrogen hoods, conventional wave soldering machines, conventional wave soldering machines with nitrogen hoods, fully inerted nitrogen wave soldering machines, fully inerted 100% forced convection nitrogen reflow soldering system for no clean applications.

Liquid Air Corp.  
2121-T N. California Blvd.  
Walnut Creek, CA 94596  
Tel: (415) 977-6500  
Fax: (415) 977-6840

MG Industries  
2460A Boulevard of the Generals  
PO Box 945  
Valley Forge, PA 19482  
Tel: (215) 630-5400  
Fax: (215) 630-5600

Union Carbide Industrial Gases Inc.  
Linde Division  
39 Old Ridgebury Rd.  
Danbury, CT 06817-0001  
Tel: (800) 521-1737

#### MAINTENANCE CLEANING

ADF Systems, Ltd.  
1302 19th Street. N.  
Humboldt, IA 50548  
Tel: (515) 332-5400  
Fax: (800) 798-5100

Offers detergents both liquid and powder designed for use in all type of aqueous washing equipment. Offers non-foaming formulations with and without glycol ethers and with and without rust inhibitors for all applications. Has parts washing equipment designed for the type of uses experienced in maintenance operations.

A.W. Chesterton  
225 Fallon Road Middlesex  
Industrial Park Stoneham,  
MA 02180-2999  
Tel: (617) 438-7000  
Fax: (617) 438-8971

A complete line of aqueous cleaners containing detergents, with and without glycol ethers. Hydrocarbon solvents and solvent blends. Non-ozone depleting chlorinated solvents. Provide free assistance to customers wishing to replace ozone-depleting chemicals. Synthetic machining fluids, lubricants and maintenance specialties.

Better Engineering Mfg., Inc.  
8361 Town Center Court  
Baltimore, MD 21236-4964  
Tel: (410) 931-0000  
(800) 229-3380  
Fax: (410) 931-0053

Manufacturers of industrial cleaning equipment, including automatic jet washers compatible with biodegradable detergents and water solutions. Also cleaning systems with wash, rinse, and dry cycles, custom systems, extended wash cabinets, large capacity systems, and tumbling systems.

BioChem Systems  
14452 W. 44th Avenue  
Golden, Colorado 80403  
Tel: (303) 277-9700  
(800) 777-7870  
Fax: (303) 277-9596

Complete line of safe environmentally friendly products based on terpene chemistry for use in many cleaning and degreasing operations. Both water dilutable and non-dilutable products are offered which will remove most organic contaminants from a wide variety of substrates and leave a clean, virtually residue free surface with no adverse effects on the surface being cleaned.

Break-Free, Inc.  
1035 S. Linwood Avenue  
Santa Ana, CA 92705-4396  
Tel: (714) 953-1900  
Fax: (714) 953-0402

Unique blend of orange oils and highly refined synthetic hydrocarbons formulated as a safe replacement for most chlorinated or halogenated, ozone-depleting solvents. Applications include degreasing, removal of oils, wax, tar, adhesives, fresh paint and oil-based inks. Also water-based, alkaline cleaners for the removal of heavy soil contaminants.

BY\*PAS International Corporation  
P.O. Box 14  
Hudsonville, MI 49426  
Tel: (616) 875-7234  
Fax: (616) 875-7743

Calgon Corp.  
Chemical Technologies Group  
PO Box 1346  
Pittsburgh, PA 15230  
Tel: (800) 955-0090  
Fax: (412) 777-8927

Formulations include non-chelating, non-phosphate, readily biodegradable aqueous-based cleaners, non-chlorinated solvent cleaners and paint removing compounds, non-glycol based solvent enhanced general cleaners, neutral pH process cleaners, and industrial waste treatment polymers.

Carroll Company  
2900 W. Kingsley Road  
Garland, TX 75041  
Tel: (800) 527-5722  
Fax: (214) 840-0678

Cobehn, Inc.  
640 Airport Road  
Winchester, VA 22602  
Tel: (703) 665-0707  
Fax: (703) 665-0768

Coleman Chemical, Inc.  
One Gemstar Lane  
Joliet, IL 60435  
Tel: (815) 727-3900  
Fax: (815) 727-3998

Creative Enterprizes  
105 Anyway, Suite 209  
Lake Jackson, TX 77566  
Tel: (409) 292-0244  
Fax: (409) 292-0440

Chemtronics, Inc.  
8125 Cobb Center Dr.  
Kennesaw, GA 30144  
Tel: (404) 424-4888  
Fax: (404) 424-4267

EXXON Chemical Co.  
PO Box 3272  
Houston, TX 77253-3272  
Tel: (800) 526-0749  
Fax: (713) 870-6661

International Products Corp.  
P.O. Box 70  
Burlington, NJ 08016-0070  
Tel: (609) 386-8770  
Fax: (609) 386-8438

Aqueous cleaning formulations containing detergents with and without glycol ethers. Formulations made from hydrocarbons and terpenes with and without emulsifiers. Specialty solvent blends for printing ink cleanup, electric motor degreasing, cleaning printed circuit boards, and assorted textile mill applications.

Manufacturer of a non-solvent-based precision batch cleaning system, utilizing solvent materials filtered to .2um ppm. Process removes flux, oils and particulates by agitation, wetting and drying in an inert atmosphere. Also used for hybrids, and PCBs.

Specialty formulations of non-ozone depleting HFCs available in 1995.

Ultra-pure cleaners for electronics and metal, flux removers for all types of printed circuit fluxes, conformal coatings for protection of finished circuit boards, solder masking agents, and lubricants for electronics.

Cleaners comprised of narrow boiling range, high flash point aliphatic hydrocarbons. Low olefin and aromatic content. Low residue, low corrosivity to metals, low odor, low toxicity. Requires no water handling. Recycle by distillation. Effective against a wide range of waxes, oils, and greases.

Biodegradable formulations with low toxicity, no phosphates or CFCs used in precision and critical cleaning operations.



JM Associates, Inc.  
225 Railroad Avenue  
Bedford Hills, NY 10507  
Tel: (914) 241-3795  
Fax: (914) 241-3731

New bioremediation technology: safe, non-toxic, non-caustic, neutral pH, non-flammable aqueous cleaning solution with hydrocarbons. Has successfully replaced hazardous solvents in vehicle maintenance, metals cleaning and precision manufacturing operations. Also solvents for auto, marine, contaminated soil and grease cleaning. Application of cleaners by immersion, spray or within closed-loop industrial systems.

JnJ Industries  
195 E. Main St., Suite 303  
Milford, MA 01757  
Tel: (800) 554-9994  
Fax: (508) 478-2221

Manufacturer of eight non-CFC formulations including a supersaturated wipe solvent.

Kyzen Corporation  
430 Harding Industrial Drive  
Nashville, TN 37211  
Tel: (615) 831-0888  
Fax: (615) 831-0889

A broad line of non-hazardous, zero ODP, biodegradable, and low VOC cleaning products. Kyzen products are used for cold cleaning, immersion solvent cleaning, and aqueous spray cleaning. These materials are compatible with a wide range of cleaning machines: spray in air, spray in immersion, soak, and ultrasonic. Kyzen products can be used in closed looped systems for low zero discharge by a variety of commonly available water reuse systems.

LPS Laboratories, Inc.  
4647 Hugh Howell Rd.  
Tucker, GA 30084  
Tel: (800) 241-8334  
Fax: (404) 493-9206

Environmentally safe products, aqueous and hydrocarbon-based blends for degreasing.

MacDermid Incorporated  
245 Freight Street  
Waterbury, CT 06702  
Tel: (203) 575-5700  
Fax: (203) 575-5630

Micro Care Corp.  
34 Ronzo Rd.  
Bristol, CT 06010  
Tel: (203) 585-7912  
Fax: (203) 585-7378

Solvent cleaners based on but not limited to terpene hydrocarbons, alcohol or HCFC technologies. Formulations are engineered for use in non-automated hand cleaning applications where rinsing is not available. Cleaners are effective in touch-up cleaning and precision cleaning of all types of flux residues, oils, grease and grime.

Miller-Stephenson Chemical Co., Inc. George  
Washington Highway  
Danbury, CT 06810  
Tel: (203) 743-4447  
Fax: (203) 791-8702

Navy Brand Mfg Co.  
Division of Chemstar, Inc.  
5111 Southwest Avenue  
St. Louis, MO 63110-3496  
Tel: (800) 325-3312  
(314) 865-5500  
Fax: (314) 865-5509

Industrial degreasers for metal cleaning and parts cleaning. Formulations are based on non-ozone depleting solvents. Also solvent-based, aqueous-based and also semi-aqueous-based products for a variety of cleaning applications on a host of substrates, both metallic and non-metallic.

Ney Ultrasonics  
1280 Blue Hills Avenue  
Bloomfield, CT 06002  
Tel: (203) 286-6149  
Fax: (203) 286-6150

Equipment for batch manual and batch automated cleaning using aqueous, water-miscible, semi-aqueous, and solvent chemistries. Complete application development laboratory to assist users.

Oakite Products, Inc.  
50 Valley Road  
Berkeley Heights, NJ 07922  
Tel: (908) 508-2107  
Fax: (908) 464-9250

High-tech, state-of-the-art, recyclable cleaning products for use in immersion, ultrasonic, hand wipe, and other cleaning applications. Many aqueous and semi-aqueous formulations adhere to the Clean Air Act, OSHA regulations, and do not contain SARA 313 ingredients. Comprehensive lines of products that exhibit biodegradability, oil splitting or emulsifying features. Terpene-based cleaners have no flash point, and alkaline, aqueous formulations include non-phosphated, non-chelated, mildly alkaline cleaners.

Orange-Sol Industrial Products, Inc  
955 North Fiesta Blvd, Suite 1  
Gilbert, AZ 85233-2801  
Tel: (602) 497-8822  
Fax: (602) 497-0444

Aqueous, semi-aqueous cleaners, hydrocarbon-based products and other cleaning alternatives and equipment (parts, washers). Effective cleaners for metal, electronic, precision and maintenance cleaning, suitable for agitation, soak, spray, ultrasonic and handwipe cleaning.

Petroferm Inc.  
5415 First Coast Highway  
Fernandina Beach, FL 32034  
Tel: (904) 261-8286  
Fax: (904) 261-6994

Broad line of formulations based on terpenes, ester, and aliphatic hydrocarbons and blends of these organic solvents with surfactants. Products are used for cold (hand) cleaning and in combination with various cleaning equipment. Products can be removed by evaporation, water, alcohols or nonflammable fluorinated solvents. Both products and rinse media can be recycled.

Proformix, Inc.  
P.O. Box 22  
Route 22 West  
Whitehouse Station, NJ 08889  
Tel: (908) 534-6400  
Fax: (908) 534-9161

Non-toxic, non-flammable, biodegradable aqueous-based cleaners used to sanitize, and eliminate electrostatic discharge from optical surfaces or electronic devices. Other applications also include cleaning of precision optical components. Formulations are VOC and solvent-free and are packaged as pump sprays.

P-T Technologies  
108 4th Avenue South  
Safety Harbor, FL 34695  
Tel: (800) 441-7874  
(813) 726-4644  
Fax: (813) 725-9544

Non-halogenated hydrocarbon-based specialty cleaning and degreasing formulations for precision cleaning. Also offer vapor degreaser alternatives, ionic contaminant removers, acetone, MEK alternatives for specific industrial applications.

Ramco Equipment Corporation  
32 Montgomery Street  
Hillside, NJ 07205  
Tel: (908) 687-6700  
Fax: (908) 687-0653

Standard line of single and multi-station aqueous degreasing systems with a wide selection of options including platform oscillation, directional turbulation, oil removal, ultrasonics, filtration, parts rotators and dryers. Nationwide network of application engineers to assist from process development through installation.

Rite Off, Inc.  
Seaford Industrial Park  
P.O. Box 1070  
Seaford, DE 19973  
Tel: (800) 645-5853  
(302) 628-2100  
Fax: (800) 571-2211

Rochester Midland Corp.  
333 Hollenbeck St.  
Rochester, NY 14621  
Tel: (716) 336-2200  
Fax: (716) 467-4406

S.A.S., Inc.  
2435 North Indian Hill Blvd  
Claremont, CA 91711-1730  
Tel: (909) 624-0396  
Fax: (909) 624-6336

Star Cleaning Miracle, Inc.  
P.O. Box 14  
Hudsonville, MI 49426  
Tel: (616) 875-7234  
Fax: (616) 875-7743

SWR Corporation  
127 East Washtenaw  
Lansing, MI 48933  
Tel: (517) 487-6390  
Fax: (517) 487-8205

Tech Spray Inc.  
P.O. Box 949  
Amarillo, TX 79105-0949  
Tel: (806) 372-8523  
(800) 858-4043  
Fax: (806) 372-8750

Wide variety of cleaning and maintenance formulations using alcohols, terpenes, HFCs, hydrocarbons and chlorinated solvents. Specialists in aerosol technology, liquid formulations also available.

Formulations comprised of hydrocarbon and/or terpene solvents. Some also contain surfactants. Many contain alkaline builders and chelants as well as glycol ethers. Some aqueous-based or water-compatible formulations exhibit good biodegradability. Many products allow for good oil/grease separation upon standing.

Aqueous cleaning machines, part washers using spray, immersion, agitation, and ultrasonics. Range of detergents, cleaners, oil skimmers, exhaust systems, filtering systems, auto rinse systems, and hot air dryers.

Cleaners include biodegradable, non-toxic, aqueous cleaner/degreaser surfactants that have a powerful affinity for removing grease, oil and grime emulsions. The SWR™ cleaners also remove oils and grease coatings from machine and electronic parts with no remaining residue. As non-toxic compounds, SWR™ cleaners reduce associated end-use disposal costs.

Manufacturer of CFC replacements including HCFCs, alcohols, hydrocarbons, high molecular weight hydrocarbons, PFCs, and concentrated aqueous cleaners. Products designed for use in vapor degreasing and other batch cleaning operations. Also packaged in aerosol form for field service and re-work applications.

Terpene Technologies Inc.  
3400 Ridge Rd. W, Suite 293  
Rochester, NY 14626  
Tel: (716) 546-8455  
(716) 777-0790  
Fax: (716) 227-3834

Union Camp Corp.  
Bush Boake Allen Division  
P0 Box 37617  
Jacksonville, FL 32236  
Tel: (904) 783-2180  
(800) 874-9220  
Fax: (904) 786-6495

U.S. Polychemical Corp.  
Route 45 Chestnut Ridge Road  
Chestnut Ridge, NY 10977  
Tel: (914) 356-5530  
(800) 431-2072  
Fax: (914) 356-6656

Working Solutions, Inc.  
938 Cortlandt Street  
Houston, TX 77008  
Tel: (800) 829-4419  
Fax: (713) 862-5591

Terpene alcohol and hydrocarbon blends used as non-water soluble solvents, semi-aqueous cleaners and degreasers based on terpene alcohols and hydrocarbons. Also offer aqueous based terpene formulations containing detergents and emulsifiers.

Range of wood terpene based alternative solvents for semi-aqueous and solvent only cleaning processes and maintenance cleaning applications. High solvency and high soil loading properties for removal of solder fluxes, heavy oils and greases, polishing compounds, carbonaceous deposits etc. to the highest cleanliness standards.

Manufacturers of oil and grease buffing compounds, flux removing chemistries with non-chlorinated solvents, semi-aqueous, and aqueous technologies. Also automated cleaning systems with recirculating agitation or ultrasonics for turn-key applications.

Aqueous, semi-aqueous and solvent cleaning technologies and equipment.