

MicroCare[®]



Discover Perfectly Clean

High Performance Precision Cleaning Fluids



Precision Cleaning Fluids from MicroCare

MicroCare offers a wide array of vapor degreasing fluids engineered to clean specific soils, meet compatibility requirements, achieve economic objectives and/or comply with environmental, health or safety standards. With more than 300 years of combined experience, nobody knows

more about the vapor degreasing process than the experts at MicroCare. This means customers get a cleaning process that is predictable, consistent and affordable. With MicroCare engineered solutions, you get a unique competitive edge over your competition.

<i>Applications & Contamination</i>	<i>Typical Parts</i>	<i>MicroCare Answers</i>
Precision Cleaning Greases, Medium to Heavy Oils, Vanishing Oils, Fluorinated Oils, Silicones; Replacing HCFCs or nPB	Bearings, Stampings, Medical Device Components, Alloys, Optics, Composites	<ul style="list-style-type: none"> • Tergo™ Metal Cleaning Fluid • Tergo™ Chlorine Free Fluid • Vertrel® Sion™ • Vertrel® SDG • MicroCare HDS
Flux Removal (RMAs, OAs) Polar and Non-Polar Contaminants, Fingerprints, Organic Activators	Electronics, PCBs/PWBs, Alloys	<ul style="list-style-type: none"> • Tergo™ HP Flux Remover • Tergo™ Metal Cleaning Fluid • Vertrel® Sion™ • Vertrel® SFR • Vertrel® SDG • MicroCare CMS
Flux Removal (Lead-Free or No-Clean) No-Clean Fluxes, Inorganics, Tac Fluxes, Aim and Indium Products	Hybrid Circuitry, BGAs	<ul style="list-style-type: none"> • Tergo™ HP Flux Remover • Tergo™ Metal Cleaning Fluid • Vertrel® SFR
Flux Removal (Chlorine-Free) Light Oils, Hydrocarbons, All Fluxes and Pastes, Ionics	Substrates with Potential Compatibility Issues, or Client Policy to Be Chlorine-Free	<ul style="list-style-type: none"> • Tergo™ Chlorine Free Fluid • MicroCare XE • MicroCare CFM
NASA / Military / LOx Electronics, "Tin Wiskering", Burned-on Contaminants, Fine Particulates, Liquid Oxygen System Purge, Liquid Oxygen System Verification	Space Components, Aircraft Components, Military Hardware, Tribology Components	<ul style="list-style-type: none"> • Tergo™ Metal Cleaning Fluid • Tergo™ Chlorine Free Fluid • Tergo™ Oxygen Service Grade • Vertrel® SDG • Vertrel® SFR • Vertrel® MCA • Vertrel® XP • MicroCare CF
Carrier Fluids/Deposition Halogenated, Hydrocarbon or Silicon Materials; Silicone Swelling Agents	Medical Lubricant Deposition, Syringe Treatments, Tube Wall Thickness Calibration	<ul style="list-style-type: none"> • Swellex® Silicone Swelling Fluid • Vertrel® XF • Vertrel® XSi • MicroCare Universal Carrier Fluid
Metal Cleaning Drawing Lubes, Waxes, Mixed Soils, TCE or nPB Replacements; Caked-on Soils	Drawn/Sintered Metals, Cast Metals, Metals for Rework, Heavily Soiled Substrates	<ul style="list-style-type: none"> • Tergo™ Metal Cleaning Fluid • Tergo™ Chlorine Free Fluid • Vertrel® Sion™ • MicroCare HDS



Cost-Effective, Modern Vapor Degreasing

Vapor degreasing is a safe, economical, and environmentally-friendly cleaning process that meets and even exceeds today's most critical cleaning requirements—

Basic Operation

A vapor degreaser is a simple, closed-loop cleaning system using non-aqueous cleaning fluids. The entire cleaning cycle – washing, rinsing and drying – is fully contained inside the machine.

The vapor degreasing process has been used for nearly 100 years. It is widely used throughout the medical device, military, aerospace, electronics and telecommunication industries.

Operationally, everything starts by boiling the cleaning fluid. The vapors from the boiling liquid rise upward. They are trapped inside the degreaser with simple refrigeration (the "primary condensing coils"). The warm vapors rise up to those coils and condense back into liquid form. The clean, freshly distilled liquid flows to the water separator and then to the rinse sump. The rinse sump overflows into the boil sump and the process begins again.

Cleaning with a Vapor Degreaser

The cleaning process is equally simple. Parts are placed in a mesh basket. The basket is lowered either into the boil sump or suspended in the vapors over it. (Cleaning in the boil sump is preferred for heavily contaminated substrates.)

After a fixed time, the basket is immersed into the rinse sump that rinses them in clean, pure fluid. Ultrasonics may be used to improve rinsing.

Lastly, the parts are moved upwards into the vapor zone. The warm vapors condense on the cool parts for a final rinse. The parts then are removed from the machine. They are clean, dry and ready for subsequent processing.

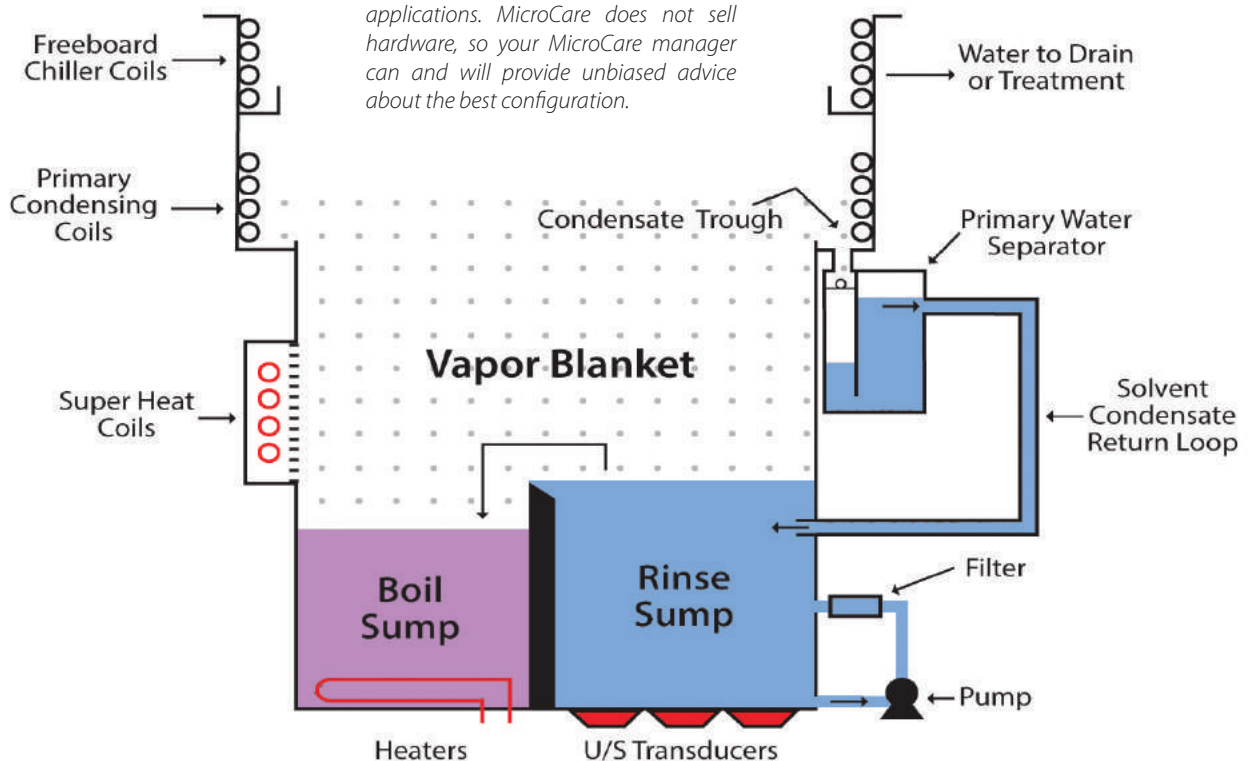
Technical Support

As simple as vapor degreasing is, there are a few subtle parameters involved in the deployment of fast, reliable cleaning processes. With hundreds of years of experience and thousands of installations, MicroCare will step clients through the options simply and quickly. These include identifying the proper hardware, selecting the best cleaning fluid, defining the details of the cleaning process, training operators, and adapting the process as client requirements evolve.

MicroCare operates a fully-capable analytical lab to support customers and our field engineers. This group is second-to-none in process definition. Additionally, the broad array of cleaning choices easily accommodates diverse client requirements. The exclusive MicroCare Product Stewardship program ensures the cleaning process will be fast, easy, adaptable and very forgiving in virtually all manufacturing environments.

Nobody does this better than MicroCare.

This schematic shows the design of a basic vapor degreaser. There are many options and choices to optimize this simple design to better fit specific applications. MicroCare does not sell hardware, so your MicroCare manager can and will provide unbiased advice about the best configuration.



Why Choose MicroCare?

<i>Cleaning Fluid Characteristic</i>	<i>Benefits to Users</i>
High Purity, No Residues	Easy to Get Clean Parts
Thermal & Chemical Stability	Long Fluid Life Saves Money
Excellent Materials Compatibility	Safe for Most Components
Low Surface Tension, Low Viscosity, High Density	Better Results than Aqueous Cleaners
Hostile to Pyrogens	Easy Process Validation
Low Odor	No Complaints from Operators
Excellent Toxicity Ratings	Very Safe for Your People
Nonflammable	Very Safe for Your Facility
Recycling Is an Automatic Part of the Cleaning Process	Reduces the Cost-per-Part-Cleaned



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About MicroCare

MicroCare Corp. is a global manufacturer of high-performance products used for cleaning, coating and lubrication. Since 1983 MicroCare has resolved tough cleaning situations in electronics, telecommunications, aerospace, military, transportation, medical devices and other industries. With a world-class portfolio of cleaners, processes and packaging, MicroCare delivers critical cleaning in the most cost-effective package. MicroCare will keep your people safe, your processes efficient and your costs low.

Product stewardship is an elemental process at MicroCare which maximizes efficiencies and minimizes industrial risks. This industry-leading program includes safety training, managing environmental issues, dealing with regulatory concerns, and storage, handling and waste disposal programs. MicroCare supplements those services with safety training, checklists, equipment configuration guides and maintenance procedures. Nobody knows safe and efficient critical cleaning better than MicroCare.

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