



Discover Perfectly Clean

## INDUSTRY

Custom Metal Stamping

## ENVIRONMENT

Over 60,000 sq. feet of production space with highly-trained operators manufacturing and cleaning parts made from a diverse range of materials including steel, aluminum, copper, brass, bronze, foil, gold and nickel.

## CHALLENGE

- Improve worker safety by finding an alternate cleaning solution to the Trichloroethylene (TCE) industrial solvent
- Comply with environmental, health and safety standards
- Maintain compatibility between materials and cleaning fluid without damage to parts

## SOLUTION

- Upgrade to a new, modern vapor degreaser
- Switch to *MicroCare Tergo* Metal Cleaning Fluid

***“The fumes in the facility have been virtually eliminated.”***

**Steve Schmidt**

Vice President, LCS Company

## RESULTS

- Improved worker health and safety by switching to *Tergo* Metal Cleaning Fluid
- Reduced or removed environmental regulatory burdens
- Vastly reduced odors throughout the facility
- Retained parts cleanliness standards with no negative impact to materials or coatings
- Solvent and water cost savings



**Tergo™** Performance Fluids

- Safe
- Effective
- Stable
- Affordable

## LCS Company moves to a safer cleaning alternative with support from DGB Sales, Inc. and MicroCare™

### OVERVIEW

Paul Stotts, President and CEO of the LCS Company wanted to update conditions and efficiency in their vapor degreasing department. He spoke with his Vice President, Steve Schmidt about potential ways to improve employee surroundings and the company's impact to the environment. Schmidt contacted Dave Blackstone, vapor degreaser expert and owner of DGB Sales, Inc. Blackstone recommended better solvent options from *MicroCare*. The LCS Company did their research and transitioned to a new vapor degreasing machine from DGB Sales using *MicroCare Tergo* MCF (Metal Cleaning Fluid).



*Pictured from the left:*

*Dave Blackstone (DGB Sales, Inc.) and Steve Schmidt (LCS Company)*

### ABOUT LCS COMPANY



LCS Company

LCS Company manufactures precision electrical and metal stamped, tight tolerance ultra-thin miniature parts, laminations, drawn parts, shims, washers and gears for the industrial, automotive, aerospace, military and food-processing industries. LCS Company is headquartered in a 60,000 square ft. plant in St. Paul, Minnesota and ships products to customers worldwide.

### ABOUT DGB SALES, INC.



DGB Sales, Inc. is a distributor of *MicroCare* Precision Cleaning Fluids and supplier of vapor and aqueous degreasing equipment. They specialize in the design and fabrication of D-line degreasers using advanced technologies for parts cleaning. DGB Sales is located in Minneapolis, MN. Dave Blackstone has been supplying vapor degreasing equipment, parts, service and cleaning fluids to the market for over 35 years.

## BUSINESS CHALLENGE

LCS Company needed to deliver perfectly cleaned finished parts, free from manufacturing oils, to their customers. For over thirty years, they had been using TCE and a vapor spray degreaser to clean parts prior to shipping. TCE was an established solvent, cheap, widely available and cleaned very well. However, in recent years TCE (also referred to as Trichlor or Trike) has been proven to be a carcinogen and is on the U.S. EPA (United States Environmental Protection Agency) watch list as a health hazard to humans and the environment. The management team at LCS, concerned for their employees' safety and well-being, wanted to upgrade to a better cleaning process and cleaning fluid.

Additionally, they wanted to proactively comply with the increasingly stringent environmental recycling and disposal regulations being imposed by the federal and regional EPA departments. Their challenge was how to find a new cleaning fluid that would clean their parts and meet business needs around cost, while still improving worker safety and lessening the impact to the environment.



*Pictured: Newly installed vapor degreaser*

### ► DGB RECOMMENDATION

Blackstone from DGB Sales recommended upgrading LCS Company's cleaning equipment from an open top vapor spray machine to a new submersible vapor degreaser that allows parts to be dunked, soaked, cleaned and dried in one operation. LCS Company chose a 9 square ft., 125-gallon model with cooling, working mode cover and super heat systems.

When LCS decided to purchase a new vapor degreaser, the solvent Blackstone recommended for use with the machine was a fluorinated, nonflammable fluid (Brand X). LCS used the new fluid and was happy with it. It was safer to use and did not have the heavy regulatory burden TCE came with. However, it was expensive and LCS was looking for a more economical alternative that worked just as well, if not better.

### ► WHY MICROCARE™ Tergo™ PERFORMANCE FLUID?

That is when Blackstone at DGB and Rob Lee, Senior Market and Technical Manager at *MicroCare*, recommended *MicroCare Tergo* Metal Cleaning Fluid. New to the market, the *Tergo* worked even better than its predecessors and was more economical. LCS Company was willing to try but wanted to do some testing first. DGB Sales loaned LCS a very small degreaser and *MicroCare* provided 5 gallons of *Tergo* MCF so LCS could test it out on some of their stamped parts.



***"Since we got the new vapor degreaser and the Tergo fluid, it's like the stars aligned. We're doing more degreasing than we ever have before."***

**Steve Schmidt**  
Vice President, LCS Company

Schmidt was concerned that mixing the old (Brand X) and new *Tergo* MCF solvents together in the vapor degreaser would create an explosive hazard or some other dangerous chemical reaction. *MicroCare* performed mixing tests on the previous solvent (Brand X) and the new *Tergo* MCF in their own Critical Cleaning Lab in New Britain, CT to ensure it was safe. LCS was cleared to go ahead with the mix. The *Tergo* MCF went right in to the vapor degreaser on top of the other existing solvent (Brand X). Schmidt also received permission from his county to combine the two solvents into one drum for hazmat disposal, without any extra documentation or special processes.

LCS specializes in making electric motor laminations and about 80% of the parts they make have special electrical coatings. When using the spraying method with the TCE, the chemical would soften the coating, causing the tightly racked and stacked parts to stick together. This problem required additional labor to pry the parts apart and then to re-inspect and re-clean them if necessary. The *Tergo* MCF, with its low surface tension and low viscosity, got in-between each part to clean all the surfaces without damaging the substrate or the coating.

Additionally, the parts needed to be perfectly clean, without chips, grease or oils, for their customers to paint, plate, heat-treat or weld. *MicroCare* performed beta-tests in their Critical Cleaning Lab to ensure LCS would get perfectly cleaned parts with no films or residues left behind. LCS also performed their own extensive, independent cleaning trials to ensure their customers were satisfied with the final products being delivered.

## RESULTS

Using the new vapor degreaser and *Tergo* MCF has helped LCS improve their worker health and safety. Unlike TCE, *Tergo* MCF has excellent toxicity ratings, making it safer for LCS workers to be around. The cleaning fluid is very low odor, giving operators a more pleasant work area. According to Schmidt, “the fumes in the facility have been virtually eliminated. We hardly smell it at all”. *Tergo* MCF is also nonflammable, helping prevent fire in their facility. “Since we got the new vapor degreaser and the *Tergo* MCF fluid, it’s like the stars aligned. We’re doing more degreasing than we ever have before. It’s been amazing how much we’ve been doing,” said Schmidt.

The environmental impact has also been significantly reduced for LCS. By moving to the *Tergo* MCF cleaning fluid, they no longer have to submit their NESHAP (National Emission Standards for Hazardous Air Pollutants) reports twice a year. *Tergo* is also accepted by the SNAP (Significant New Alternatives Program), created by the U.S. EPA to ensure any new chemical introduced into the market does not harm the stratospheric ozone layer. Plus, the most recent OSHA inspection of their vapor degreaser operations went very smoothly.

***“We are very happy and proud to be ahead of the ball game when it comes to safety and compliance.”***

**Steve Schmidt**

Vice President, LCS Company

Schmidt, worked closely with the Minnesota EPA, Chicago EPA and University of Minnesota to ensure LCS is meeting regulatory requirements and reports that all the organizations were very positive about LCS’s switch to *Tergo* MCF. “The county is loving us because we’ve already made the switch to a safer cleaning fluid,” said Schmidt. He is hopeful that other regulatory requirements, like special air permits, might also fall off in time. “We are very happy and proud to be ahead of the ball game when it comes to safety and compliance,” he said.

## SUMMARY

LCS Company is getting consistently superior cleaning results with no need for workers to pull apart or re-clean stuck components. LCS customers are happy with the quality of the finished product LCS is supplying. LCS employees now work in a safer, lower odor environment and the company’s environmental burden has been reduced. In the future, Stotts looks forward to upgrading their facility even more for better, faster, leaner production, but for now is happy to be safely manufacturing in the US thanks to the help of DGB Sales and *MicroCare Tergo* metal cleaning fluid.

## ADDITIONAL BENEFITS



**24 hours to transition**  
to modern equipment and  
*Tergo* Metal Cleaning Fluid



**50% reduction in usage**  
of cleaning fluid per year



**75% more parts cleaned**  
using vapor degreasing  
method

The primary motivation for LCS to make changes to their parts cleaning process was to ensure the health and safety of their employees and the environment. However, the switch also led to other benefits.

### ▸ **Water consumption is way down**

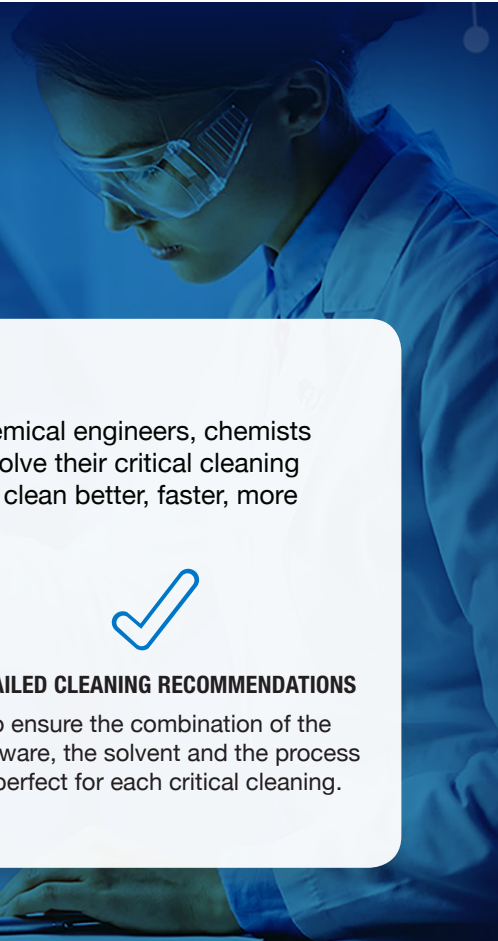
Previously LCS was using a city system with water running through it 24 hours a day, seven days a week. They were using thousands of gallons of city water each year. The new vapor degreaser, with its closed-loop air-cooled water chiller, has greatly reduced their environmental footprint and their water bills.

### ▸ **Cleaning fluid usage has dropped dramatically**

The old spray process was an enormous source of lost solvent. Workers needed to be carefully trained to ensure they were vigilant about waste. With the new vapor degreaser, cleaning fluid usage has been cut in half. There is minimal dragout and less waste. LCS went from using 25 gallons of cleaning fluid per month to approximately 12-1/4 gallons per month.

### ▸ **Lower annual solvent cost**

The combination of new tighter equipment and more economical *Tergo* MCF has enabled LCS to reduce their annual cleaning fluid consumption and costs.



## THE BENEFITS ARE REAL

At the heart of the *MicroCare* Critical Cleaning Lab is a team of enthusiastic chemical engineers, chemists and researchers who have the skills and the motivation to help our customers solve their critical cleaning problems. Nobody knows more about critical cleaning. We're eager to help you clean better, faster, more safely and more economically.



### ON-SITE CLEANING AUDITS

Demos with your team to showcase proper cleaning processes and potential results.



### IN-LAB CLEANING TRIALS

Trials are conducted on your parts and contamination to ensure you get the most effective cleaning.



### DETAILED CLEANING RECOMMENDATIONS

To ensure the combination of the hardware, the solvent and the process is perfect for each critical cleaning.



## CONTACT US TODAY



Call:  
(800) 638-0125



### Questions? Call Us Toll Free: (800) 638-0125

Speak to a Critical Cleaning Specialist to answer any questions you have.



Schedule



### Request an On-Site Audit

Schedule a demo to talk to a Field Engineer about your specific critical cleaning needs.



Call:  
(800) 638-0125



### Switch to *Tergo* Performance Fluids

Talk to a Critical Cleaning Specialist to determine if the switch to *Tergo* Cleaning Fluids is right for you.

[microcare.com](http://microcare.com)

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