Minnesota Technical Assistance Program

Lakeland Tool – Degreasing Success Story

In 2013, MnTAP began a VOC reduction project to improve Minnesota's air quality. One effort is helping businesses reduce solvents used for degreasing while still maintaining effectiveness and not increasing costs.

When Derek Gross, Operations manager at Lakeland Tool and Engineering in Anoka got a call from MnTAP's Jane Paulson asking if he would be interested in trying out some new, greener cleaning and degreasing products in exchange for free product, he didn't know what to think. Was she trying to sell him something? Get him in trouble with the County? After participating in the project, however, he now knows that MnTAP is dedicated to finding solutions that are a win for businesses *and* the environment.

Lakeland was originally referred to MnTAP by the Anoka County Hazardous Waste inspectors. Inspectors realized that elimination of their 359 lbs of parts washer waste could allow them to reduce their hazardous waste generator status from a small quantity generator to a very small quantity generator, with associated savings in license fees.

Taking a closer look at solvents

Lakeland Tool has two parts washers in their facility, a small one in the maintenance department that uses an aqueous cleaner, and a larger one in the tool cleaning room that uses mineral spirits. This washer is the source of the 359 lbs of waste referred to by the county. The parts washer is provided and serviced by Safety Kleen, who provides clean solvent monthly and takes the used solvent offsite for recycling. The parts washer is used about three times per week to remove mostly dirt and grease from steel and aluminum parts.

A small scale test of cleaning the tool room parts in the maintenance department's aqueous parts washer indicated that the aqueous cleaner was up to the job. However, consultation with Safety Kleen revealed that currently there is not an equivalent parts washer available large enough to meet the needs of the tool room. A custom parts washer could be fabricated to do the job, but the time and expense was not justified at this time. Implementation of a switch to an aqueous parts cleaner will be considered if appropriate equipment becomes available in the future.

Based on the types of parts and soils being cleaned, it was determined that the parts cleaning solvent could most likely be reclassified as non-hazardous. In consultation with Anoka County and Safety Kleen, a TCLP test was performed to prove that the solvent is not contaminated with heavy metals, and a flash point test was conducted to show that the flash point is above 140°F. This testing provided the evidence needed to reclassify the parts washer waste as non-hazardous, and allowed Lakeland Tool the potential to reduce their Hazardous Waste Generator status from SQG to VSQG.

What they said...

"Working with MnTAP and MnTAP's Jane Paulson was a win-win for Lakeland Tool, our employees and the environment. I would recommend this to any company or organization. Believe me it was a lot easier than I ever imagined!."

~**Derek Gross, Operations Manager**, ***Lakeland Tool***

New products improve work health and the environment

A big win for employee health and VOC reduction was the replacement of the solvent in the paint gun cleaning system. The original cleaning solvent was a Heavy Duty Lacquer Thinner, a variable mixture of many different chemicals, including several hazardous air pollutants (HAPs) and Minnesota Chemicals of Concern, with toluene as the primary ingredient. This was replaced with 100% acetone, which is VOC exempt, has much lower health risks, and was available for the same cost. Employees were very supportive of the change and the noticable difference in air quality in the shop.

> "We noticed right away that there was a change, because the new cleaner doesn't smell as bad, but it works just as well!"
>
> *~ Lakeland Tool employee*

The largest success for this project was the replacement of three different solvent-based aerosols used for mold cleaning with a single, water-based cleaner that was able to handle it all, Zep Tuff Green. After an initial trial in the tool cleaning room, the new product was introduced throughout the plant. It was generally well received, and after a few months, everyone has gotten on board and has used and likes the new cleaning product.

This change resulted in over 900 lbs of VOCs eliminated, and a reduction of over 1500 lbs of smog producing ozone. The new product is available in concentrated form, and can be dispensed from reusable squirt bottles, eliminating 1600 aerosol cans from solid waste. Best of all for Lakeland, they were able to reduce the number of cleaning products they must keep in inventory, and expect to see a savings of $7000 per year on cleaning products, without any reduction in their ability to clean any of their tooling.

Contact MnTAP Today

With these successes, Lakeland Tool is working with MnTAP to identify additional savings opportunities, such as optimizing their compressed air system and starting an air leak repair program to save energy.

If these results sound like something your business would like to pursue, contact Jane Paulson at janep2@umn.edu or 612-624-1826 to find out how MnTAP can help you!

About MnTAP

A program of the University of Minnesota, MnTAP offers a variety of technical assistance services to help Minnesota businesses implement industry-tailored solutions that maximize resource efficiency, prevent pollution, increase energy efficiency, and reduce costs. Our information resources are available online at <mntap.umn.edu>. Please call MnTAP at 612.624.1300 or 800.247.0015 for personal assistance.

MnTAP • 200 Oak Street SE, Suite 350 • Minneapolis, Minnesota 55455-2008
612.624.1300 • 800.247.0015 (Minnesota only) • FAX 612.624.3370 • www.mntap.umn.edu