



LEECH LAKE BAND OF OJIBWE – SAFER DEGREASING PRODUCTS

Challenge

The job is to repair, and tune cars and trucks. Keeping these vehicles running requires the use of an engine degreaser or brake cleaner to remove grease and grime so the mechanics can identify issues and make repairs. Unfortunately, most brake cleaners contain chemicals that are harmful to human health and the environment, and identifying economical safer products within the local supply chain is challenging.

Approach

These sites tested various blends of acetone, heptane, hydrocarbons as replacements for more hazardous blends containing xylene, toluene, PERC, TCE and methanol. The safer products were sourced from local Auto Value, Napa and O'Reilly Auto Parts stores. After identifying a working product, the auto shops were given a case of the product to continue testing it to ensure that it met cleaning expectations.

Aqueous Washers

Solvent washers in garages typically use mineral spirits to degrease larger parts. This project demonstrated two alternatives to this process. Ultrasonic washers use cavitation, or scrubbing bubbles with an aqueous cleaner to remove grease from parts. The SmartWasher Parts Washer uses OzzyJuice, an aqueous cleaning solution that uses microbes to bioremediate the solution, or break grease and oil down into carbon dioxide and water. This project also used grant funds to purchase one SmartWasher and four ultrasonic washers for selected sites to reduce solvent usage.

Results

Replaced hazardous automotive degreasers with safer alternatives.

27 Sites Engaged - 13 sites Implemented

1200 lb/yr VOC Reduction

520 lb/yr HAP Reduction

MINNESOTA TECHNICAL ASSISTANCE PROGRAM

612-624-1300

MnTAP.UMN.EDU

[Link to more information on safer products that work.](#)

Spotlight on: Leech Lake Small Vehicle Garage

Facility

The Leech Lake Band of Ojibwe Small Vehicle Garage provides repair services for Leech Lake Band Members. Members can bring their vehicle and parts to the garage, and have the parts installed free of charge.

Motivation

The Small Vehicle Garage had an interest in being cleaner, and using products that were safer for employees and the environment. Since they are already providing a free service to Leech Lake Band Members, keeping internal costs low is also important. The Garage didn't currently have a parts washer, and wanted to provide better service to Band Members.

"The parts washer works wonders. I barely use the [brake cleaner] spray cans and I like the parts washer better. [Spray can] fumes are nasty. I take parts off, clean them up in the parts washer, and a little water cleans them right up." - Rupert Olsen, Community Service Garage Mechanic

Process and Results

MnTAP worked with the Leech Lake Band of Ojibwe Air Quality Program and the Small Vehicle Garage to find safer alternatives for their current product, 3M High Power Brake Cleaner #08880. The Garage tried three different products from O'Reilly's and Auto Value, and found the Wearever Low VOC Brake Cleaner worked similarly to their current high VOC brake cleaner.

The Small Vehicle Garage also implemented a CRC SmartWasher with OzzyJuice formulation SW7. They found they were able to achieve a higher level of cleanliness for their customers, and reduce their brake cleaner consumption by 80%. Less brake cleaner also means less cans in the garbage, reducing the pounds of solid waste sent to landfill. These changes reduced VOC emissions by 89%, and eliminated the hazardous components found in brake cleaner.

Product	VOC Content	HAP Content
3M High Power Brake Cleaner #08880	100%	35%
Auto Value - Wearever Low VOC Brake Cleaner W7341	35%	0%
O'Reilly - SmartWasher - SW725	0%	0%

More information on safer products or on how to calculate the VOCs and HAPs in your products can be found on our website: <http://www.mntap.umn.edu/industries/air/degreasing.html>

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