

Challenges

A major automotive producer's current cleaner/corrosion preventive was not providing adequate rust prevention and was leaving a tacky residue on the washer parts. In addition the solution had limited biostability resulting in a decreased sump life. The combination of these problems was causing high chemical usage. This major automotive producer was looking for a cleaner that could combat these problems and reduce the chemical usage.

Quaker Chemical introduced QUAKERCLEAN® 624 MPC liquid alkaline type cleaner/corrosion preventive into this operation. The product resulted in improved part quality and removed the tacky residue from the piping and insides of the washers. It also resulted in reduced chemical usage and a total chemical cost reduction for the year.

Providing Solutions

Changing to the QUAKERCLEAN® 624 MPC resulted in a total chemical cost savings of \$38,795 per year.

In addition to the chemical cost savings, QUAKERCLEAN® 624 MPC also improved part quality and removed the tacky residue from the piping insides of the washers left by the previous fluid.

The following tables provide a comparison of the fluid characteristics and fluid analysis of QUAKERCLEAN® 624 MPC versus the previous fluid used.

	Baseline Fluid Analysis	QUAKERCLEAN® 624 MPC Fluid Analysis
Concentration Spec	1-3%	1-3%
Usage/Year for Central Wash	22,548 gal or \$119,279	12,816 gal or \$80,487

Characteristics	Current Fluid Used	QUAKERCLEAN® 624 MPC
Neat Appearance	Clear Amber Tint	Clear to Light Yellow
pH Neat	9.96	10.5
pH @ 5%	9.98	9.8
Wetting Properties	Complete Wetability	Complete Wetability
Foam Test @ 3%	Initial: 0 mls +5 Min: 0 mls	Initial: 1 mls +5 Min: 0 mls
Chip Corrosion Test	2.5% Threshold	1.50% Threshold

Customer Reference

- Chrysler
- GM
- JTEKT
- NTN Bower
- Robert Bosch
- SRS
- Volvo

OEM Reference

- Graper
- Ransohoff
- Valiant

Product Description

QUAKERCLEAN® 624 MPC was developed as a multi-purpose liquid alkaline product designed to provide excellent cleaning in spray and immersion wash applications. The product is approved and in use by automotive manufacturers around the U.S.

This versatile product is used to clean and protect metal surfaces in one step. This simplifies operations and keeps inventory costs low, and will impart short-term corrosion protection to the metal surface when not rinsed. The mild alkalinity is safe for use on both ferrous and non-ferrous metals.

Product Description Cont.

This single product can be used for two applications, which reduces inventory and costs. The moderate pH of the product is very compatible and the low foaming technology means no excess foam generation at temperatures up to 150°F. This means less product consumption and lower costs. Its hard-water compatibility and imperceptible film on parts facilitates gauging and the handling of parts which leads to fewer rejects and lower costs.

Process & Equipment

Part:	Automotive Transmission Components
Part Alloy:	Cast Iron and Steel
System Size:	35,000 gallon Central Washer
Fluid Temperature:	120°F - 160°F
Wash Pressure Pump:	30 psi
Rinse Pressure Pump:	25 psi

System feeds 18+ individual washers.

Washes off both water and oil-based metalworking fluids.

Paper filtration with side stream skinner.

Product & Process Expertise

Metalworking lubricants represent a very minor part of the costs in a metalworking process, typically less than 1%. This case illustrates the importance of correct fluid selection. The impact of the fluid can be a multiple of its costs, making the price of a metalworking fluid insignificant. That is why Quaker focuses on developing fluids with the highest performance without compromise, fluids that sharpen your competitive edge.