

Improved Formula for Heavy-Duty Industrial Degreaser

CHALLENGE

A Gulf Coast entrepreneur making a line of commercial cleaning products sought formulation help with a heavy-duty degreaser, hoping to appeal not only as a highly effective commercial “clean-all” product, but also expand into potentially more profitable oil and gas markets. With the right formula, the product would effectively clean engine oils and grease associated with vehicles and heavy machinery, as well as the heavy tar and sludge related to oil and gas production, storage and maintenance. With no in-house development and testing resources, the customer first sought help from a local formulation laboratory, but after several weeks without success they turned to Univar Solutions to help fix and improve the blend.

At issue were the high pH, which triggered hazard warnings especially in oil and gas applications, and the formula’s performance with yellow metals like copper and brass—essential to allow the product to degrease motors where copper windings might be compromised with a harsher cleaner. The customer needed the formula improvements without losing the product’s original stability and cleaning performance, and wanted a single-source U.S.A. supplier of raw materials.

SOLUTION

Our lab services team analyzed two parts of the blend thought to contribute to the high pH and accurately identified the second part as the pH issue. The offending raw materials were replaced with more eco-friendly options to bring the pH level down to a less caustic level, acceptable for the regulation heavy energy producers. Univar Solutions then tested both the original product and the revised product for copper leaching. When both samples were found to be inadequate, a yellow-metal corrosion inhibitor was added to the new formulation to achieve the desired level of performance. Lastly, our team provided compatibility and stability testing for the customer, as well as environmental analysis to document the product’s environmental suitability, further solidifying the product as an effective and improved cleaner of tars and sludge.

RESULTS

Partnering with Univar Solutions gave the customer the R&D services and quick turnaround needed to reformulate a degreasing cleaner, improving pH levels as well as efficacy on brass and copper. The reformulation and testing work was completed in a matter of days, improving product quality and allowing the customer to fulfill a 20-tote order from a tank-cleaning customer, paving the way for success with other oil and gas end users. The improved formula was stronger, less



expensive to manufacture and more environmentally friendly, providing end users a more effective cleaner that saves time and money while minimizing waste. The diluted solution also proved to be reuseable, so end users can reapply the product for several wash cycles without losing effectiveness, further reducing expenses and optimizing efficiency.

Recorded Benefits

- Saved time and money while expanding product’s reach and appeal
- Quick lab turnaround time allowed customer to hit aggressive manufacturing deadline
- Increased product quality, optimized cleaning, reduced waste, and promoted quicker equipment and tank turnarounds

Challenge

A small manufacturer needed lab and reformulation assistance to improve a heavy-duty degreaser.

Solution

Univar Solutions helped troubleshoot a pH problem, and provided further testing to uncover and correct a copper leaching issue

Result

Univar Solutions helped the company improve its formula and ultimately expand the customer’s market — going from project start to manufacturing in a matter of weeks.

Discover how a partnership with Univar Solutions can contribute to your bottom line and help you augment your team’s R&D capabilities.