



COMMERCIALIZATION RESEARCH OPTIMIZES SULFURIC ACID UTILIZATION

A leading sustainability company approached Altiras Labs with a significant challenge. The company's use of sulfuric acid in their production process caused solids to form, resulting in a contaminated byproduct commonly called 'dirty sulfuric acid'. The solids made it necessary for the company to send the dirty sulfuric acid offsite for regeneration, then purchase new sulfuric acid to maintain their operations. This process was costly and environmentally taxing. These problems drove the company to seek a more sustainable and cost-effective solution.



ALTIRAS LABS SOLUTION

The research to optimize sulfuric acid usage through commercialization research was done in two stages:

Stage 1: Product Viability Assessment and Action Plan Development

- Comprehensive Product Analysis
- Safety and Compliance Review
- Strategic Recommendations:

Based on the findings, Altiras Labs recommended making solubility charts to determine how to maintain the solids in solution by adjusting the concentration of prime sulfuric acid. This approach aimed to prevent the solids from precipitating, allowing the client to manage the byproduct more efficiently.

Stage 2: Process Development and Optimization

- Creation of Solubility Charts
- Implementation of a Purification Process

The solubility charts provided precise guidelines on how much prime sulfuric acid to add to the dirty acid to keep the solids dissolved. With the solubility charts in hand, the client could now purify the sulfuric acid on-site.

CONCLUSION

The commercialization research done by Altiras Labs resolved the immediate challenge and laid the foundation for significant future benefits:

- **Reduced Operational Costs:** No longer need to purchase new sulfuric acid with Altiras' solution.
- **Increased Revenue Potential:** The purified sulfuric acid could now be sold, creating an additional revenue stream for the client.
- **Enhanced Environmental Sustainability:** By minimizing the need for external regeneration and reducing waste.

This case highlights the value of commercialization research in solving complex industrial challenges while driving long-term success.

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