

REFERENCE PROJECT | Efficient Nickel Recovery for Cost Savings and Sustainability

Taking bigger steps...
to leave a smaller footprint

The international automotive parts manufacturer was searching for opportunities to recover valuable materials, reduce operational cost and minimise the amount of waste discharged..



THE CHALLENGE

An international automotive parts manufacturer sought to recover valuable materials, cut operational costs, and minimize waste discharge. The manufacturer faced pressure to meet strict local discharge limits for nickel (Ni <100ppm) while recycling materials typically sent for disposal. Achieving compliance while reducing costs was a top priority.

Key figures:

- Annual Nickel Sulfate consumption: 48,000 kg.
- Annual cost: 1,536,000 RMB.

THE MACDERMID ENVIO SOLUTION

The MacDermid Envio identified the manufacturer as an ideal candidate for the NiCycle Nickel Recovery System. The system, equipped with advanced automation and continuous recovery capabilities, was installed to recover nickel as Nickel Sulfate, which was reused directly in electroplating processes.

THE RESULT

The NiCycle system delivered outstanding outcomes:

- Recovered 90% of Nickel from rinse water, yielding up to 43,000 kg of NiSO₄ annually
- Achieved annual savings of 1.3M RMB
- Reduced nickel waste concentration to below 100ppm, meeting discharge limits
- Significantly lowered waste treatment costs through nickel recycling

This solution provided the manufacturer with a sustainable, cost-effective approach to nickel recovery and waste management.



See our web site for more details
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