MEP National Network™

NEW YORK SUCCESS STORY

HAZARDOUS WASTE REDUCTION

ABOUT DUREZ CORPORATION. Durez Corporation Durez Corporation (Durez), a division of Sumitomo Bakelite North America, Inc., is a resin manufacturer located in Niagara Falls, New York. The production of different resins involves a range of chemical reactions, which take place in heated reaction vessels or kettles under atmospheric pressure or vacuum.

THE CHALLENGE. The hazardous waste managed at Durez is distillate by-product from production kettles, spent solvent used for cleaning, and various other small streams. Approximately 92% of the waste is the distillate material which is sent to a permitted incinerator for treatment. Some of the resins that Durez produces utilize reactants which result in significant amounts of non-hazardous distillate waste. However, due to the current waste treatment set-up, most of the waste (hazardous and non-hazardous) is mixed together to create the current reported amounts of hazardous waste. If the non-hazardous component could be segregated and removed from the incinerator pathway, the annual amount of hazardous waste would decrease below a threshold that would save the company a significant amount in hazardous waste fees. Durez had already implemented segregation of a portion of the non-hazardous waste, incinerating it separately from the mixed hazardous waste stream described above. Segregation of the remaining non-hazardous waste stream was not possible due to the lack of versatility of the current treatment system and resources needed to incinerate an additional waste stream (system flush/cleaning between different batches and required sampling).

MEP CENTER'S ROLE. Insyte Consulting (Insyte), a NIST MEP affiliate, partnered with the New York State Pollution Prevention Institute (NYSP2I) to investigate and identify cost-effective approaches to reduce the amount of hazardous waste generated at Durez's facility. NYSP2I conducted several site visits to review Durez's current operations and performed a baseline analysis to better understand waste types. NYSP2I reviewed with Durez waste stream segregation options to better understand the most cost-effective approaches to manage Durez's waste. Pilot-scale separation tests were conducted to validate potential segregation options. Additionally, NYSP2I evaluated other opportunities to reduce hazardous waste, including the lowering of water content in the distillates that are sent to incineration and alternative management options for the waste cleaning solvent sent off site. Finally, an economic analysis was conducted to provide Durez an understanding of the feasibility of implementing solutions to reduce their hazardous waste.

RESULTS

- Reverse osmosis with activated carbon to reduce hazardous waste and save $100,000 in regulatory fees
- 100,000+ gallons of filtered water will be able to be safely discharged or reused within facility
- Economic analysis indicates less than one-year payback

CONTACT US

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NEW YORK Manufacturing Extension Partnership

"The team was great to work with. They used a cross-functional approach to help identify the areas in which they could provide the biggest impact. The knowledge and experience of the team was instrumental in developing a solution that was both practical and cost efficient."

-Barbara Pilmore, Plant Manager