

## **230e Cyanide Removal from Industrial Praziquantel Wastewater Using Integrated Coagulation – Gas-Filled Membrane Absorption**

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Gas-filled membrane absorption has been used to remove cyanide from different cyanide containing wastewaters. In this study, cyanide removal from an industrial praziquantel wastewater has been investigated. The wastewater contained a high cyanide concentration and a high turbidity due to the presence of lipophilic colloids. During cyanide removal, the membrane was severely fouled by these lipophilic colloids. In order to overcome membrane fouling, an integrated coagulation – gas-filled membrane absorption process is proposed. Coagulation is used to remove the lipophilic colloids before cyanide removal in the subsequent gas-filled membrane absorption step. The optimized coagulation condition has been proposed. By using this integrated process, the turbidity of the wastewater was decreased from 100-800 NTU to 10-40 NTU. Further the cyanide concentration was reduced from 1000-3500 mg/L to below 0.5 mg/L. More than 98% of the cyanide could be recovered and reused. This integrated process is a promising technology for cyanide removal from highly turbid wastewater streams.