

## Minimization of spent acid waste from galvanizing plant in Malaysia

### ABSTRACT

Hydrochloric acid is used as pickling acid in galvanizing industry to remove rust from steel. Usage of this acid incurs high expenditure cost when it is disposed as scheduled waste. The importance of this study is to come up with a better way to minimize the cost being spent for hydrochloric acid disposal by optimizing and extending the life span of the hydrochloric acid. The methodology used in this project is by conducting experiment of regeneration of Hydrochloric acid using Kleingarn acid management system, collecting experiment data and calculating the short and long term cost reduction that can be achieved. The results obtained through experimentation shows that acid purchase time has been successfully extended; which in return helps to reduce the fresh hydrochloric acid purchase frequency. Implementation of Kleingarn acid management system helped the acid dumping frequency to be extended. This is a positive result because extension of the acid disposal time also means that lesser spent acid waste are being produced and lesser hazardous waste will be disposed in the future.

**Keyword:** Galvanizing; Hydrochloric acid; Kleingarn acid management system