

## A Study on the Risk Estimation in the Chemical Industries based on the Chemical Accident Database

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Risk concerns the expected value of one or more results of one or more future events. It is very important to the estimation of risk because the chemical accidents are risky and may cause catastrophic accidents when event occurred. To deduce various countermeasure, risk estimation and analysis is essential indispensable issue to expect possibility and damage of occurrence. Data are collected on the failure rate of a particular hardware component fails a certain period of time based on the chemical accident database. The new approach for estimation of risk is proposed using financial matrix of likelihood vs \$ total loss and poisson distribution. The proposed method can estimate the risk of expected loss from accident frequency and damage and suggest the semi-quantitative risk analysis based on the database.