

## The Leaching Kinetics of Zinc from Industrial Zinc Slag Waste

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**Abstract :** The investigation was aimed at determining the extent at which the zinc will be extracted from secondary sources generated from galvanising process using dilute sulphuric acid under controlled laboratory conditions of temperature, solid-liquid ratio, and agitation rate. The leaching experiment was conducted for a period of 2 hours and to total zinc extracted calculated in relation to the amount of zinc dissolved at a unit time in comparison to the initial zinc content of the zinc ash. Sulphuric acid was found to be an effective leaching agent with an overall extraction of 91.1% when concentration is at 2M, and solid/liquid ratio kept at 1g/200mL leaching solution and temperature set at 65°C while slurry agitation is at 450rpm. The leaching mechanism of zinc ash with sulphuric acid was conformed well to the shrinking core model.

**Keywords :** leaching, kinetics, shrinking core model, zinc slag

**Conference Title :** ICCEAC 2020 : International Conference on Chemical Engineering and Applied Chemistry

**Conference Location :** Dubai, United Arab Emirates

**Conference Dates :** January 30-31, 2020