

Leaching recovery of gallium from waste LED chip

*Ching-Hwa Lee¹, Kuan-Neng Huang¹, Shima L Holder¹, Chang-Mao Lee¹, Lakshmi Prasanna Nalluri¹

1. Dept. Of Environmental Engineering, Da-Yeh University

The purpose of this research is to analyze the composition and to study the leaching recovery of gallium (Ga) from waste LED (light-emitting diodes) chip by different leaching reagents. The waste LED chip used in this research is generated during the production of light-emitting diodes chip. The composition analysis result of this research shows that the collected LED chip contains 456 mg/kg of Ga. The water, ash and combustible contents of this collected chip are 0.30%, 82.05% and 17.65%, respectively. In order to recover the valuable Ga contained in the chip, a leaching method is adopted in this research. There are 4 leaching reagents of nitric acid, hydrochloric acid, sulfuric acid and sodium hydroxide are used to study the leaching recovery of Ga from the collected LED chip. The leaching results of aforementioned leaching reagents will be introduced in this research.

Keywords: Leaching, Gallium, Recovery