STANNATE CHLORIDE (SnCl$_4$)
EXTRACTION FROM SMELTING SLAGS
USING HIDROCHLORIC ACID

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Abstract

Tin treatment process produces byproducts called slag. Slag is a mixture of minerals containing lead is still about 4 to 20 percent.

Separation is done by dissolving tin slag into HCl to obtain a solution containing extracts in the form of stannate tin chloride (SnCl$_4$). Fixed variable are the tin slag mass and the speed of stirring, while the modification variables are the particle size, solvent concentration and the ratio of liquid / solid. Then analyze the lead content in the extract so that the results of the analysis can be used to determine the percent recovery of lead.

From this study, it was found that the smaller the particle size of the slag (100-150 mesh) and the greater the ratio ratio HCl / slag (6/1 - 25/1) will increase the percent recovery of lead at
temperature of 80 °C with a stirrer speed of 900 rpm. Highest percent (%) recovery 60.85% obtained by slag size of 150 mesh (0.099 mm) with a process time of 20 minutes, and the ratio of HCl 10% wt / slag = 25/1.

Key words: Slag, extraction, tin, recovery.