

Synthesis of Aluminum sec-butoxide from Used Aluminum Cans

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Aluminum sec-butoxide (ASB) was synthesized to a high purity grade through dissolution reaction and vacuum distillation by applying used Al cans (UACs) as a reactant under the condition of 3mol C₄H₉OH/mol Al of stoichiometric ratio. 10-3mol HgI₂/mol Al as a catalyst were added. The UACs were cut into small pieces and heat-treated at the condition of 600°C to remove impurities from UACs. Using the pretreated UACs, the high purity ASB was synthesized and analyzed quantitatively by a complexometric method. The results of our experiment revealed that the reaction gives a 99.2% purity and 75% yield corresponding to the total amount of Al existing in the pretreated UACs.