

## Synthesis of Aluminum Monohydroxide Nanofiber by Electrolysis of Aluminum Plates

S. H. Woo<sup>a</sup>, M. K. Lee<sup>b</sup> and C. K. Rhee<sup>c</sup>

Nuclear Nanomaterials Development Lab., Korea Atomic Energy Research Institute,

P. O. Box 105, Yuseong, Daejeon, 305-600, South Korea

[<sup>a</sup>shwoo@kaeri.re.kr](mailto:shwoo@kaeri.re.kr), [<sup>b</sup>leeminku@kaeri.re.kr](mailto:leeminku@kaeri.re.kr), [<sup>c</sup>ckrhee@kaeri.re.kr](mailto:ckrhee@kaeri.re.kr)

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Aluminum hydroxides were synthesized by a simple electrolytic reaction of aluminum plates. The aluminum monohydroxide, boehmite( $\text{AlO}(\text{OH})$ ), was predominantly formed in the application of electrical potential at above 30V, while the mixture of bayerite( $\text{Al}(\text{OH})_3$ ) and boehmite( $\text{AlO}(\text{OH})$ ) phases were formed below 20V. The boehmite has a clear fibrous structure controlled on nanometer scale. On the contrary, the bayerite consists of the typical hourglass or semi-hourglass shaped coarse crystals as a result of aggregation of various crystals stacked together. The specific surface area of the boehmite nanofiber was markedly high, approaching at about  $302\text{m}^2/\text{g}$ .