

Classification of amorphous aluminum silicate (2)

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Allophane is an amorphous aluminum silicate and imogolite is a low crystalline aluminum silicate mineral. Each precursor is amorphous aluminum silicate. Though the X-ray diffraction profile of allophane is almost same as that of allophane precursor, the differential thermal analysis profile of allophane is different from that of allophane precursor. Amorphous materials are regarded as unknown materials and are classified all together. But the X-ray diffraction profile of amorphous hydroxyl aluminum is quite different from that of amorphous aluminum silicate. In this study, several amorphous aluminum silicates were synthesized as changing the rate of Si/Al and those properties were studied. Amorphous aluminum silicates were synthesized from Na_4SiO_4 solution and AlCl_3 solution. After both solutions were mixed, NaOH was added to the stirred solutions in order to adjust the pH of the solution to about 6.0. The suspension was dried for 3 days at 25 degree. The obtained powders were investigated with XRD, FT-IR and TG-DTA analysis.