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MOLYBDENUM-99 TECHNOLOGICAL DEVELOPMENT**

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**Development of Atomized UAl_x Powder for
Mo-99 Target Fabrication**

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ABSTRACT

Uranium metal dispersion particle has been proposed as targets for Mo-99 production to improve the radioisotope production efficiency of conventional low enriched uranium targets. In this study, the manufacturing process for atomized UAl_x powder was improved using a UAl_x mother alloy. Atomization without the UAl_x mother alloy resulted in leakage of the molten metal due to severe thermal shock during mixing of U and Al. It is considered that a step to cast a UAl_x mother alloy is needed to achieve stable fabrication for atomized UAl_x powder. The shape and morphology of the atomized UAl_x powder were examined with a scanning electron microscope (SEM) equipped with an energy dispersive spectrometer (EDS) and the phase constitution of the powder was determined by means of X-ray diffractometry.