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**Effects of the Formation of  $U_3MoSi_2$  as a Diffusion Barrier  
Between U-7Mo-1Ti and Al**

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**ABSTRACT**

Atomized U-7Mo-1Ti powders were blended with Si powders and given a subsequent heat-treatment at varying temperatures to form uranium silicide layers on the surface of the powder. Heat-treated U-7Mo-1Ti powders were compacted with Al powders and subsequently annealed at 823 K and 873 K for 2 hr respectively. The effects of the  $U_3MoSi_2$  as a diffusion barrier and the characteristics of the interaction layer formation between U-7Mo-1Ti and Al were investigated. The results showed that the suppression of Al diffusion into the U-7Mo-1Ti by the formation of  $U_3MoSi_2$  layer was obvious up to 873 K for 2 hr.