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(54) **PURIFICATION PROCESS FOR ^{153}GD PRODUCED IN NATURAL EUROPIUM TARGETS**

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(52) **U.S. Cl.**
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(58) **Field of Classification Search** 75/743, 75/393
See application file for complete search history.

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(57) **ABSTRACT**

An alteration of the traditional zinc/zinc-amalgam reduction procedure which eliminates both the hazardous mercury and dangerous hydrogen gas generation. In order to avoid the presence of water and hydrated protons in the working solution, which can oxidize Eu^{2+} and cause hydrogen gas production, a process utilizing methanol as the process solvent is described. While methanol presents some flammability hazard in a radiological hot cell, it can be better managed and is less of a flammability hazard than hydrogen gas generation.

4 Claims, 1 Drawing Sheet