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Feasibility study on the acetone-based liquid scintillator loaded with lithium-6Li

The goal of this study is to develop a liquid scintillator with an increased water ratio to enhance cost-effectiveness, unlike conventional liquid scintillators that use costly solvents or surfactants. To achieve this, various solvents, solutes, and mixing methods were tested, and acetone was selected as the optimal solvent. As a result, a liquid scintillator with a water content of 70% was successfully synthesized without the use of any surfactants.

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