

TeA-TeDiol-DDA system for SNO+

SNO+ is a liquid scintillator-based neutrino detector that aims to detect neutrino-less double beta decay (NDBD) which can confirm whether the neutrino is its own antiparticle or not. The detection process demands a very low radiogenic background level, good energy resolution, and at the same time large mass of isotopes in the detector. ^{130}Te is chosen due to its high isotopic abundances for detecting NDBD events. Telluric acid purification is necessary before loading it into the main detector. Tellurium with butane diol forms a complex compound that is soluble in liquid scintillator. In addition to this, DDA will be added as a stabilizer. In this talk, I'll cover the tellurium purification process, and distillation process of butane diol and DDA.

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