

Ultra Low-Level Tritium Measurement by means of Liquid Scintillation Counter

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There are two measurement methods in order to measure very low-level tritium concentration in the water samples such as sea water. The first one is liquid scintillation counting with electrolysis enrichment and the second is mass spectrometry of He-3 which is decay product of tritium. The second method is becoming more popular because of two reasons; the development of the mass-spectrometer and difficult operation of the electrolysis enriching process. I tried to improve in the device and the operation process to make the operation easier and to achieve the lower detection limit in a shorter period. As a result of the investigation, I have achieved 0.02 Bq/L as the lowest detection limit, starting from 1 L sample water.