



Subscriptions opened for the PT «Measurement of Radon-222 activity in water »

The first proficiency test 163 RN 300 « Measurement of Rn-222 activity in water », organized by IRSN, will take place in November – December 2019. This announcement opens the subscriptions and provides relevant details to potential PT participants.

All French and European laboratories, operating in the field of environmental radioactivity, are invited to participate.

PT schedule : the test items will be shipped to the participants during the second fortnight of November 2019. The delivery to destination will be assured within two days. The deadline for the results reporting by the participants is set to December 31, 2019.

Test items description : Aluminum bottle of 1,2 L with polypropylene screwed stop cork and aluminum sealing gasket, rim-filled with deionized water laboratory-spiked with radon. This is a standard sample container purchasable under reference 10247890 from Fisher Scientific:

<https://www.fishersci.fr/shop/products/aluminum-bottles-tamper-evident-polypropylene-screw-cap-aluminum-inner-seal/10247890>.

The bulk PT matrix (water spiked with radon) will be prepared using the method of cryogenic concentration of gaseous radon, in accordance with the procedure specially developed by IRSN for this purpose.

The bottles, cooled down and stored at 5°C, will be shipped in isothermal package provided with eutectic accumulators. The goal is to assure the temperature not to exceed 20 °C during the whole transportation.

Results reporting by the participants : The activity concentration of radon in water will be reported in Bq.L⁻¹, and expressed at the reference date of the PT 163 RN 300, that will be announced simultaneously with the test items shipment. The uncertainty should be provided with the coverage factor $k=2$.

Activity level of the test items : 150 to 1500 Bq.L⁻¹ when measured by the participants.

Recommended measurement techniques : according to the state of the art and existing norms, gamma spectrometry, liquid scintillation and emanometry (in its various implementations) are the methods of choice for this analysis.

Particular recommendations :

- Laboratories using liquid scintillation will have to proceed with sampling from the test items received, according to their usual practice;
- Laboratories using gamma spectrometry may need to recondition the test items received into a standard measurement geometry. The state of the art and specially conducted tests show that such operation, properly performed, would not conduct to significant radon losses by degassing;
- The organizer recommends the test items to be stored at 4-8 °C on reception. It is preferable that the sampling and reconditioning operations be performed on thus cooled test items. We recommend that all measurements be performed on test items or samples in thermal equilibrium with the laboratory environment.

The EIL 163 RN 300 assigned (reference) value : it will be defined by IRSN on the basis of the homogeneity and stability studies on representative test items, using gamma spectrometry and liquid scintillation techniques.

Participation fees : € 2184 VAT excluded plus € 415 for packaging and shipment expenditures.



How to subscribe :

- Create or use your existing laboratory space at the IRSN proficiency testing site <https://cilei.irsn.fr/> (use the key “connect to my space” situated in the upper part of the screen). For a newly created labspace you will receive an e-mail confirming your labspace validation by the site administrator;
- Fill the registration form for participation in the PT 163 RN 300; acknowledge having read and understood the formal PT 163 RN 300 presentation sheet;
- Send your order for the amount including participation fees and shipment expenditures to irsn.same@irsn.fr

For any particular information request : contact the PT 163 RN 300 coordinator Vadim TSOUKHO-SITNIKOV at irsn.essais-interlaboratoires@irsn.fr