

DURRIDGE []

Radon Capture & Analytics

Quarterly Newsletter - Q1

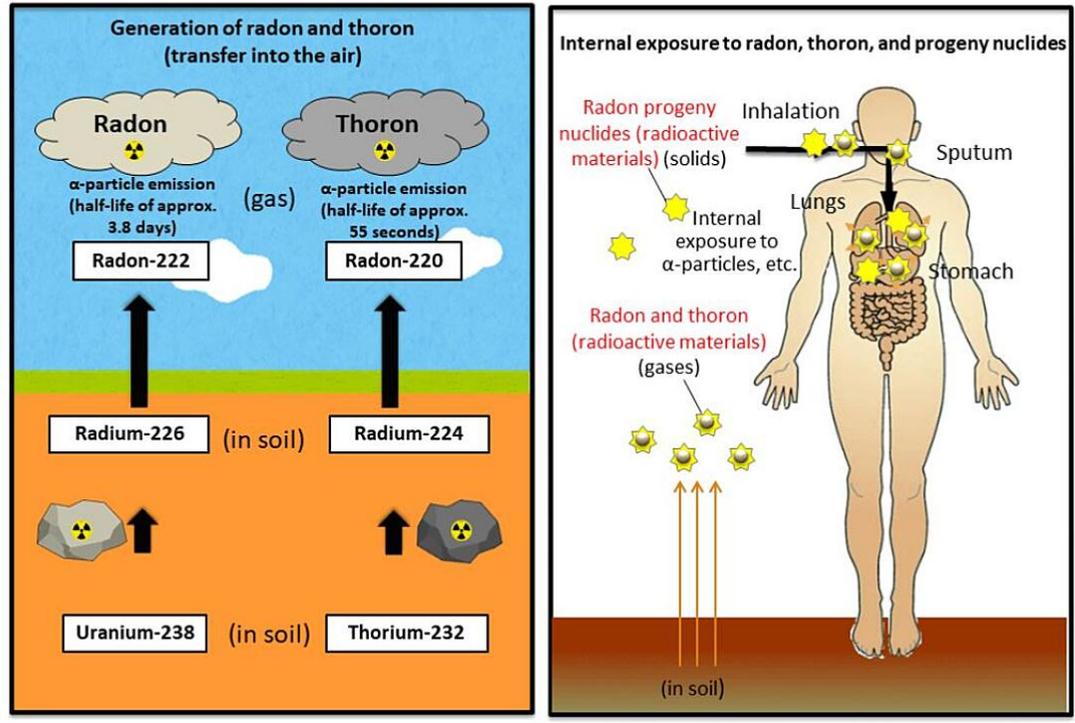
January 2021

Tips, News & Updates from DURRIDGE

In This Issue: Thoron (Radon's close cousin)

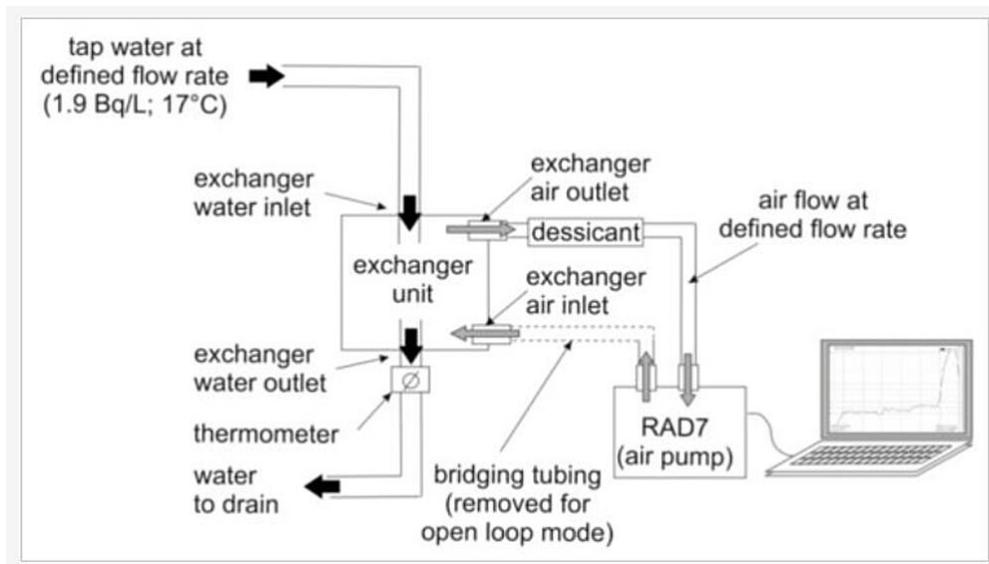
Radon-222 is the familiar "radon" gas that derives from the uranium-238 decay chain. A close relative, Radon-220 - better known as "thoron" - derives from the thorium-232 decay chain. Thoron gas diffuses in the air, which means it can be inhaled into the lungs and, like radon, cause a cancer hazard. However, also like radon, thoron is useful as an environmental tracer. With a half-life of 55.6 seconds, thoron is particularly useful for identifying entry points of radon into indoor air or of groundwater discharge into surface waters. While thoron is as ubiquitous as radon, it has received less attention in the research and metrology communities. However, that is changing. We invite you to review a recent paper, co-authored by Dr. Stephen Sadler, Chief Scientist and Head of R&D at DurrIDGE: [Intercomparison on the measurement of the thoron exhalation rate from building materials](#)

Internal Exposure to Radon and Thoron through Inhalation



Good Reads

Thoron is a useful aqueous tracer suitable for applications such as locating and measuring groundwater discharge in surface waters (including the coastal ocean) and detecting radium-224 (^{224}Ra) bearing scale inside water pipes. Generally, such applications require only relative thoron measurements in the water. However, absolute readings would give a measure of the ^{224}Ra activity in the sediment, supporting the thoron, or of the quantity of ^{224}Ra in the pipe scale. A new research paper published in November 2020 describes a method for obtaining such readings: "[Absolute Measurement of Thoron in Surface Waters](#)"



Did You Know?

Keeping RAD7 data files in a safe location where they won't be lost and can be easily organized, retrieved, and shared with colleagues is a sometimes difficult or practically impossible task. CAPTURE CLOUD, a new subscription service specifically tailored for storing, organizing, & sharing RAD7 data files, takes the burden and complexity out of that process. CAPTURE CLOUD is offered with a free 60-day trial and unlimited users. Click [here](#) to learn more.



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DURRIDGE Tip

The RAD7 is capable of making a direct and specific measurement of thoron. Sniffing for thoron has two big advantages over other techniques to locate radon entry points. One is that the thoron is localized to the radon entry points. The second is that the instrument response is instantaneous – you see it immediately when you sample close to the entry point.



Radon in the News

January is National Radon Action Month. Find information from the US EPA [here](#).

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