

Gross Alpha

What is Gross Alpha?

Gross Alpha is a measure of the total amount of radioactivity in a water sample attributable to the radioactive decay of alpha-emitting elements.

Does Gross Alpha have any additional names?

No.

What are the known health effects?

The health effect of alpha particles depends upon how exposure takes place. External exposure is far less of a concern than internal exposure because alpha particles lack the energy to penetrate the outer dead layer of skin. If alpha emitters have been inhaled, ingested, or absorbed into the blood stream, living tissue may be exposed. Exposure of living tissue to alpha radiation is associated with an increased risk of cancer, in particular lung cancer (inhalation). The greatest exposure to alpha radiation comes from the inhalation of radon and its decay products, several of which also emit potent alpha radiation.

How does exposure occur?

Some drinking water sources have very low levels of alpha radiation and are not considered to be a health concern. Levels at or less than 5 pCi/L do not even require further testing. This level is comparable to having one x-ray.

Gross Alpha is not absorbed through the skin, so physical contact with water containing gross alpha particles does not pose a health threat.

Is this contaminant regulated?

Yes, and water supplied to customers of Mount Laurel MUA is in compliance with USEPA and NJDEP requirements. The maximum concentration of Gross Alpha permitted in drinking water is 15 pCi/L; water supplied by the MLTMUA system has a maximum detection of 7.37 pCi/L.

How can I reduce exposure?

A water softener or ion exchange water treatment system can reduce radioactivity in water.

Additional information regarding Gross Alpha, including the information referenced, can be found at:

<https://www.nj.gov/dep/rpp/rms/agreedown/radwater.pdf>

http://deq.wyoming.gov/media/attachments/Water%20Quality/Know%20Your%20Well/Common%20Contaminants/2018September_Factsheet_Gross%20Alpha_FINAL.pdf

<https://www.atsenvironmental.com/residential/water/contaminants/list/gross-alpha/>