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When non-significant measurement values have been censored...

Laboratories and industrial are often confronted with problems of detection of very low concentrations or activities, when looking for traces that are sometimes at the limit of the performances of equipment and available methods of analysis. It is notably true when looking for pollutants and micropollutants in the environment, whether it is chemical, biological, radiochemical analyses or nuclear measurement.

The current practices tend to impose the censorship or the substitution of these non-significant measurement values. This leads to biases of the totals displayed, and particularly when accumulation of these low level measurement values must be determined, and when the non-significant measurement values are the majority ...as for example in :

- annual statements of chemical or radiological release of an industrial site,
- measurements of radioactivity carried out for environmental monitoring,
- characterization and accounting of waste of a storage site,
- the balance sheet of individual dosimetry,
- imbalances in material in production plants,
- ...

In this case, the analysts and the inspectors don't know that measurement values have been censored or substituted ...So, it is particularly difficult or impossible to analyze these dataset in a meaningful way. However, it is possible to detect this kind of practices, using statistical and mathematical tools or data analyze algorithms. Then, inspector could ask for more information.

Through an educational presentation and some examples, this presentation shows clearly the value of information contained in non-significant measurement values, and the importance to detect substitution or censure practices, in particular when there is an accumulation.

Which "Key Question" does your Abstract address?

TEC3.3

Which alternative "Key Question" does your Abstract address? (if any)

TEC3.5

Topics

TEC3

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