

## Assessment of removable F fraction in the soil through existing sequential extraction schemes

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The unwanted health effects from too much fluoride (F) including dental fluorosis and hypocalcaemia have been raised. Thus, we assessed the removable fraction (not-combined in lattice structures) of fluorine (F) in soil through existing sequential extraction schemes suggested by [1] and [2] (see supplement 1).

Three soil samples and two CRMs (Certified Reference Materials), AGV-2 and P-rock, were prepared as triplicates. Adding a blank, a total of 16 samples was used for each experiment. The soil samples were collected from the rural area closed to an industrial complex in Gumi-city, Korea, where HF release accident occurred in 2012. The F concentration was analyzed by an ion selective electrode (ISE), while total F contents of soils were determined by the standard method of Korean Ministry of Environment (KMOE).

The primary result (see supplement 2) of extraction experiments indicates that the most of F is fixed in lattice of soil particles and recovered amounts of each method are different from each other due to the aspects of applied reagents. The additional analysis on washing solutions and residual is ongoing.

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### Address for supplements

<https://drive.google.com/folderview?id=0B6OgLueUD1nEem9HY3NKUjE4QW8>

[1] Wenzel *et al* (2001) *Anal. Chim. Acta* **436**, 309-323. [2] Xu *et al* (2006) *Fluoride* **39**, 145-151.