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RETRACTION

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Retraction: Design, synthesis, and evaluation of a highly effective and safe perfluoro-alternative with a "weak site": potassium 1,1,2,2,3,3,4,4-octafluoro-4-(perfluorobutoxy)butane-1-sulfonate

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Retraction of 'Design, synthesis, and evaluation of a highly effective and safe perfluoro-alternative with a "weak site": potassium 1,1,2,2,3,3,4,4-octafluoro-4-(perfluorobutoxy)butane-1-sulfonate' by Rui Guo *et al.*, *Green Chem.*, 2022, **24**, 1114–1119, https://doi.org/10.1039/D1GC04536A.

We, the named authors, hereby wholly retract this *Green Chemistry* article due to concerns with the validity of the data presented.

In this article, the stability of F404K in the environment was investigated by measuring its degradation effected by H_2O_2. The degradation was measured by high resolution mass spectrometry data of the theoretical calculated value of $C_4F_7O_4S^{2-\bullet}$ (m/z = 276.93915). However, the ionic fragment ($C_4F_7O_4S^{2-\bullet}$) is also one of the mass fragments of the F404K standard; its relative abundance could be affected by values of collision voltage. We now doubt whether the ion peak detected following the degradation process of H_2O_2 is the degraded ion peak. Therefore, the degradation pathways in Fig. 5 should be further investigated and verified.

The conclusion "the ether bond in F404K can be destroyed by acid to give shorter-chain perfluoro compounds that are less toxic than PFOS and negatively affect the environment and human health to a lesser extent than PFOS" should be re-considered.

Signed: Rui Guo, Yangguang Gao and Guoxing Liu, 20th September 2022.

Retraction endorsed by Michael Rowan, Executive Editor, *Green Chemistry*.

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