**Cover Letter**

January 26, 2024

Dear Co-Editors in Chief of Powder Technology

We wish to submit the manuscript, “Efficient estimation of crystal filterability using the discrete element method and the Kozeny-Carman equation” for consideration of possible publication as an original article.

In this study, the discrete element method (DEM) and the Kozeny-Carman equation are combined to estimate the crystal filterability based on a specified crystal size distribution. The method is validated by the experimental data available in the literature. A case study of ammonium alum production process is used to demonstrate the application of the method proposed.

The method proposed is more rigorous than the random packing assumption and faster than the CFD-DEM simulation. The proposed procedure is useful for the design of an integrated crystallization-filtration process, which is commonly encountered in the chemical and pharmaceutical industry.

We confirm this article has not been published in any other journal.

Sincerely yours,

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