**Cover letter for submission of a paper to Mediterranean** **Journal of Chemistry**

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Fez, January, 15, 2021

Dear Dr. Editor

We are pleased to submit a new manuscript entitled “**Screening** **and Mixture Design applied to formulate anti-caking compositions for reducing the caking tendency of granular phosphate fertilizers**” for consideration by Mediterranean Journal of Chemistry. We confirm that this work is original and has not been published elsewhere nor is it currently under review at, another journal or other publishing venue, as well as there are no conflicts of interest between authors regarding the publication of this paper.

In this paper, we report on the use of design of experiments (DoE), and precisely Plackett & Burman screening design and mixture design as powerful tools to organize, evaluate and control the variation effect of list of coating chemicals components on the caking tendency of granular phosphate fertilizers.

The paper should be of interest to readers in the fields of chemometrics, and the application of design of experiments to formulate anti-caking compositions for reducing the caking tendency of granular phosphate fertilizers.

From this study, we try to evaluate the effect of seven reagents on the cake strength of granular fertilizers, as well as to formulate anti-caking compositions using a mixture of three components, capable of reducing the caking tendency and improving the physical quality of granular phosphate fertilizers.

Mediterranean Journal of Chemistry is a global journal of chemistry which considers manuscripts related to all specialities of Chemistry and our studies point in the same direction, for this reason we send to you this paper.

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Thank you for your consideration of this manuscript.

Sincerely,

LAKEHAL SENHAJI Mohammed