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Has received an application for a patent for a new and useful invention. The title and description of the invention are enclosed. The requirements of law have been complied with, and it has been determined that a patent on the invention shall be granted under the law.

Therefore, this

United States Patent

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Michelle K. Lee

Director of the United States Patent and Trademark Office



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(54) **HONEY COMB MATRIX COMPRISING MACRO POROUS DESICCANT, PROCESS AND USE THEREOF**

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(*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 661 days.

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(57) **ABSTRACT**

Macroporous desiccant based honeycomb matrix comprising the macroporous desiccant synthesized "in-situ", said desiccant having a differential water adsorption. Process for the "in-situ" preparation of the macroporous desiccant based honeycomb matrix comprising the steps of soaking honeycomb substrate impregnated with water glass, in aqueous metal salt(s) solution or acid solution, or combination thereof, till such time the hydrogel honeycomb matrix is obtained and thermally activating said hydrogel honeycomb matrix to produce macroporous desiccant based honeycomb matrix.

6 Claims, 7 Drawing Sheets

