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PII: S0260-8774(12)00414-1
DOI: http://dx.doi.org/10.1016/j.jfoodeng.2012.08.031
Reference: JFOE 7072

To appear in: *Journal of Food Engineering*

Received Date: 20 July 2012
Revised Date: 24 August 2012
Accepted Date: 26 August 2012

Please cite this article as: Malik, D.J., Shaw, C.M., Rielly, C.D., Shama, G., The Inactivation of *Bacillus subtilis* Spores at Low Concentrations of Hydrogen Peroxide Vapour, *Journal of Food Engineering* (2012), doi: http://dx.doi.org/10.1016/j.jfoodeng.2012.08.031

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Abstract

Spores of the bacterium *Bacillus subtilis* were deposited onto the surface of membranes by a process of filtration and exposed to concentrations of hydrogen peroxide vapour between 10 and 90 mg/m^3 (ppm) for times ranging from 1.5 to 48 h. The inactivation data obtained in this way was modelled using the Weibull, Series-Event and Baranyi inactivation models. The Weibull model provided the best fit, and its use was extended to previously published literature obtained at higher hydrogen peroxide concentrations to produce a correlation yielding *D* (decimal reduction value) values over a range from 10 to almost 4000 ppm.

Keywords: Hydrogen peroxide vapour, disinfection, *Bacillus subtilis* spores, inactivation kinetics, *D* values

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