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Timothy A. Kral, Timothy H. Goodhart, Joshua D. Harpool, Christopher E. Hearnberger, Graham L. McCracken, Stanley W. McSpadden



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## Sensitivity and Adaptability of Methanogens to Perchlorates: Implications for Life on Mars

Timothy A. Kral<sup>ab</sup>, Timothy H. Goodhart<sup>a</sup>, Joshua D. Harpool<sup>a</sup>, Christopher E. Hearnberger<sup>a</sup>,  
Graham L. McCracken<sup>a</sup>, and Stanley W. McSpadden<sup>a</sup>.

<sup>a</sup>Dept. of Biological Sciences and <sup>b</sup>Arkansas Center for Space and Planetary Sciences, SCEN-601, University of Arkansas, Fayetteville, AR 72701, USA

Corresponding Author: Timothy A. Kral, Dept. of Biological Sciences, SCEN-601,

University of Arkansas, Fayetteville, AR 72701, phone 479-575-6338,

FAX 479-575-4010, e-mail tkral@uark.edu

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Abstract: In 2008, the Mars Phoenix Lander discovered perchlorate at its landing site, and in 2012, the Curiosity Rover confirmed the presence of perchlorate on Mars. The research reported here was designed to determine if certain methanogens could grow in the presence of three different perchlorate salt solutions. The methanogens tested were *Methanothermobacter wolfei*, *Methanosarcina barkeri*, *Methanobacterium formicicum* and *Methanococcus maripaludis*. Media were prepared containing 0, 0.5%, 1.0%, 2%, 5% and 10% wt/vol magnesium perchlorate,

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