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Huy Nguyen* (hnguyen@math.brown.edu), 151 Thayer Street, PROVIDENCE, RI 02906, and Benoit Pausader (benoit.pausader@math.brown.edu), 151 Thayer Street, PROVIDENCE, RI 02906. On the one-phase Muskat problem. Preliminary report.

The one-phase Muskat problem models the dynamics of an interface between vacuum and a fluid in porous medium. We will discuss results on well-posedness and maximum principles for this problem in all dimensions and in domains with general geometry. (Received August 29, 2018)