

Abstract

Disclosed is a method for regenerating and maintaining the activity of an ionic liquid catalyst, which comprises supplying hydrogen halide or halogenated hydrocarbon to the acidic ionic liquid catalyst or alkylation materials during alkylation reaction, wherein said ionic liquid catalyst is used to catalyze alkylation of C4 alkene and alkane. Disclosed is also a method for producing alkylate by alkylation reaction, which comprises supplying hydrogen halide or halogenated hydrocarbon to the acidic ionic liquid catalyst or reaction materials during said alkylation reaction. The method can prolong the service life of the acidic ionic liquid catalyst, does not influence the quality of the alkylate, and has simple operation. The processed amount of materials may be 1000 times more than the used amount of the ionic liquid.