

ABSTRACT

The present invention relates to a process for the preparation of zeolites X and LSX agglomerated with a binder and for which approximately 50 to approximately 99% of the exchangeable sites are occupied by lithium ions, which consists in carrying out the exchange with lithium of a portion of the exchangeable cations of the starting zeolite by bringing the said zeolite, distributed in a carrousel of at least 2 receptacles in the stationary bed form which are arranged in series in an interchangeable manner, into contact with a solution of lithium compounds (1) conveyed through the-said carrousel whose sequence of receptacles is modified cyclically at given time intervals; when the desired degree of exchange with regard to lithium is achieved for the zeolite of the 1st receptacle, the latter is taken out of the carrousel and the zeolite which is present therein is freed from the solution of lithium compounds by washing, then discharged (4) and optionally replaced by a fresh charge of zeolite to be exchanged, and is characterized in that a bleed (5) is drawn off from the stream corresponding to the excess of lithium employed, it being set apart from the effluent generated by the carrousel, and by extracting from the carrousel:

- first the stream (5) corresponding to the percolation "e" at the outlet of the head column of the carrousel,
- subsequently the stream (3) corresponding to the percolation "E₀" at the outlet of the carrousel.

This process makes it possible to achieve a high level of exchange with regard to lithium with a lithium output which is greatly improved with respect to the processes of the prior art.