CLAIMS

1. A binderless zeolitic adsorbent comprising:

a first FAU type zeolite having a silica to alumina molar ratio of from 3.0 to 6.0;

wherein the first FAU type zeolite binder is a zeolite Y, and wherein the first FAU type zeolite is 80-90 wt% of the binderless zeolitic adsorbent;

a binder-converted FAU type zeolite having a silica to alumina molar ratio of from 2.0 to 6.0, wherein the binder-converted FAU type zeolite may be 10-20 wt% of the binderless zeolitic adsorbent; and

cationic exchangeable sites within the binderless zeolitic adsorbent.

2. The binderless zeolitic adsorbent of claim 1, wherein at least 95 wt% of the binderless zeolitic adsorbent is FAU type zeolite.

3. The binderless zeolitic adsorbent of claim 1, wherein at least 98 wt% of the binderless zeolitic adsorbent is FAU type zeolite.

4. The binderless zeolitic adsorbent of claim 1, wherein the cationic exchangeable sites may be alkali/alkaline earth cations.

5. A method for producing a binderless zeolitic adsorbent comprising:

forming agglomerates having ion-exchangeable sites, the agglomerates formed from a FAU type zeolite having a silica to alumina molar ratio of from 3.0 to 6.0, a non-zeolitic binder comprising silica, alumina, or a combination of silica and alumina, and a forming aid, wherein agglomerates are formed from 80 -90 wt% of the FAU type zeolite and 10 to 20 wt% of the non-zeolitic binder;

applying a thermal treatment to precondition the binder and dissipate the forming aid;

applying a hydrothermal treatment with a solution containing at least one source of hydroxide to convert non-zeolitic material into FAU type zeolite material; and

drying the binderless zeolitic adsorbent.

6. The method of claim 5, wherein at least 95 wt% of the binderless zeolitic adsorbent is FAU type zeolite.

7. The method of claim 5, wherein at least 98 wt% of the binderless zeolitic adsorbent is FAU type zeolite.

8. The method of claim 5, wherein the solution containing hydroxide further comprises silicon, aluminum, or a mixture of both silicon and aluminum.

9. The method of claim 5, further comprising exchanging the ion-exchangeable sites.