WHAT IS CLAIMED IS:

1. An activated EU-2 zeolite, comprising:

pores having a diameter of 30 to 40Å while maintaining a crystal structure of the EU-2 zeolite; and

pores having a diameter of 40 to 200Å,

wherein a volume of the pores having a diameter of 30 to 40Å is 0.01 to 0.06 cc/g, and a volume of the pores having a diameter of 40 to 200Å is 0.07 to 0.4 cc/g.

2. The activated EU-2 zeolite of claim 1, further comprising: pores having a diameter of more than 200Å,

wherein a volume of the pores having a diameter of more than 200Å is 0.1 cc/g or less.

3. The activated EU-2 zeolite of claim 2, wherein a total specific surface area of the activated EU-2 zeolite is 240 to 330m^2/g.

4. The activated EU-2 zeolite of claim 1, wherein a molar ratio of silica/alumina is 70 to 130.

5. A method of preparing an activated EU-2 zeolite, comprising the steps of:

a) hydrothermally synthesizing an EU-2 zeolite;

b) activating the EU-2 zeolite by bringing the EU-2 zeolite into contact with an aqueous alkali solution before or after calcining the EU-2 zeolite, and

c) substituting alkali cation in the activated EU-2 zeolite with ammonium ion,

wherein the alkali is Na, K or a combination thereof,

wherein the aqueous alkali solution has a concentration of 0.05 to 0.3 M and a pH of 13.1 to 13.45,

wherein the activated EU-2 zeolite comprises:

pores having a diameter of 30 to 40Å while maintaining a crystal structure of the EU-2 zeolite; and

pores having a diameter of 40 to 200Å,

wherein a volume of the pores having a diameter of 30 to 40Å is 0.01 to 0.06 cc/g, and a volume of the pores having a diameter of 40 to 200Å is 0.07 to 0.4 cc/g.

6. The method of claim 5, wherein, in the step b), a molar ratio of alkali cation to alumina (Na^+/Al_2O_3) in the EU-2 zeolite is 0.1 to 0.3.

7. The method of claim 5, wherein, in the step b), a molar ratio of silica/alumina in the activated EU-2 zeolite is reduced by 6 to 59% compared to the EU-2 zeolite before the step b).

8. The method of claim 5, wherein, in the step a), a molar ratio of silica/alumina in the hydrothermally synthesized EU-2 is 80 to 300.

9. The method of claim 5, wherein, in the step a), a volume of the pores having a diameter of 30 to 40Å in the hydrothermally synthesized EU-2 zeolite is 0.01 to 0.05 cc/g, and a volume of the pores having a diameter of 40 to 200Å therein is 0.05 cc/g or less.

10. The method of claim 5, wherein, in the step a), a total specific surface area of the hydrothermally synthesized EU-2 zeolite is 210 to 250 m^2/g.

11. A hydroisomerization catalyst, comprising:

the activated EU-2 zeolite of claim 1; and

at least one metal selected from the group consisting of group VI metals and group VIII metals,

wherein the at least one metal is included in the activated EU-2 zeolite in an amount of 0.05 to 5 wt% based on a total weight of the catalyst.

12. The hydroisomerization catalyst of claim 11, further comprising: a binder composed of clay, inorganic oxide or a combination thereof, wherein the weight ratio of the activated EU-2 zeolite: the binder is 90: 10 to 30: 70.

13. The hydroisomerization catalyst of claim 12, wherein the inorganic oxide binder is selected from the group consisting of silica, alumina, titania, magnesia, germania, thoria, boria, silica-alumina, silica-magnesia, silica-zirconia, silica-thoria, and silica-titania.

14. A hydroisomerization method, comprising the step of: hydroisomerizing a hydrocarbon fraction as a feedstock in the presence of the catalyst of claim 11 under the conditions of a temperature of 200 to 500℃, a hydrogen pressure of 1 to 200 atms, a liquid hourly space velocity (LHSV) of 0.1 to 10 hr^{-1} and a hydrogen/feedstock ratio of 45 to 1780 Nm^3/m^3.

15. The hydroisomerization method of claim 14, wherein the feedstock is a hydrocarbon fraction having a boiling point of 150 to 580℃.

16. The hydroisomerization method of claim 14, wherein the feedstock contains n-paraffin in an amount of 15 wt%.

17. The hydroisomerization method of claim 15, wherein the carbon number of hydrocarbon in the feedstock is 15 or more.