Claims

1. A process for the production of at least one carbonylation product selected from acetic acid and methyl acetate which process comprises carbonylating at least one carbonylatable reactant selected from methanol and reactive derivatives thereof with carbon monoxide in the presence of a catalyst, wherein said catalyst is a mordenite which has been treated with an aqueous ammonium hydroxide solution and has a silica : alumina molar ratio of at least 10 : 1.

2. A process according to claim 1 wherein the catalyst has a silica : alumina molar ratio in the range 25 to 60 : 1.

3. A process according to claim 1 or claim 2 wherein the catalyst is a mordenite which has been dealuminated prior to treatment with the aqueous ammonium hydroxide solution.

4. A process according to any one of the preceding claims wherein the catalyst is a mordenite which has been treated with an aqueous ammonium hydroxide solution in which the concentration of ammonia is in the range 15 to 25% by weight.

5. A process according to any one of the preceding claims wherein the catalyst is a mordenite which has been treated with an aqueous ammonium hydroxide solution at a temperature in the range 70 to 100 °C.

6. A process according to any one of the preceding claims wherein the catalyst is H-mordenite.

7. A process according to any one of the preceding claims wherein the catalyst is combined with a binder.

8. A process according to claim 6 wherein the binder is a refractory inorganic

oxide.

9. A process according to claim 8 wherein the refractory inorganic oxide is selected from the group consisting of at least one of silica, alumina, silica-alumina, magnesium silicate and magnesium aluminium silicate.

10. A process according to any one of claims 7 to 9 wherein the binder has a mesoporosity in the range 1 to 500 m^2/g.

11. A process according to any one of the preceding claims wherein the carbonylatable reactant is a reactive derivative which is dimethyl ether.

12. A process according to claim 11~~12~~ wherein water is present in the carbonylatable reactant feed in an amount of less than 2.5 wt% relative to the amount of dimethyl ether in the feed.

13. A process according to any one of the preceding claims wherein the process is carried out in the presence of hydrogen.

14. A process according to any one of the preceding claims wherein the carbonylation product is methyl acetate and at least a portion of the methyl acetate is hydrolysed to acetic acid.

15. Use of a catalyst which is a mordenite of silica : alumina ratio of at least 10 : 1 which has treated with an aqueous ammonium hydroxide solution to provide improved catalytic activity in a process for the production of at least one carbonylation product selected from acetic acid and methyl acetate which process comprises carbonylating at least one carbonylatable reactant selected from methanol and reactive derivatives thereof with carbon monoxide.