Claims

1. A process for preparing a catalyst consisting of a support body and a catalytically active composition applied on the surface of the support body, in which the active composition is attached to the surface of the support body with the aid of a binder, wherein the active composition is a finely divided mixture of

   - at least one finely divided multielement oxide comprising the elements Mo and V

   and

   - at least one finely divided substance S selected from the group consisting of oxides of molybdenum and of compounds of molybdenum from which an oxide of molybdenum is formed under the action of elevated temperature and molecular oxygen, wherein the oxide of molybdenum is a substance having a content of Mo and oxygen of at least 98% by weight.

2. The process according to claim 1, wherein the finely divided substance S is MoO_3.

3. The process according to claim 1 or 2, wherein the specific surface area O_M of the finely divided substance S is ≥ 0.1 m^2/g and ≤ 5 m^2/g.

4. The process according to any of claims 1 to 3, wherein the particle diameter d_{50} of the finely divided substance S is ≥ 1 µm and ≤ 200 µm.

5. The process according to any of claims 1 to 4, wherein the active composition is applied to the surface of the support body in a layer thickness of from 100 to 300 µm.

6. The process according to any of claims 1 to 5, wherein the active composition, based on the total amount of finely divided multielement oxide comprising Mo and V, comprises ≥ 1 and ≤ 30% by weight of finely divided substance S.

7. The process according to any of claims 1 to 6, wherein the binder is a solution composed of from 20 to 90% by weight of water and from 10 to 80% by weight of an organic compound.

~~8. A catalyst obtainable by a process according to any of claims 1 to 7.~~

8. A process according to claim 1, wherein the finely divided multielement oxide comprising the elements Mo and V is a multielement oxide comprising the elements Mo and V in a molar ratio of Mo to V from 15 : 1 to 1 : 1, or comprising the elements Mo and V and in addition at least one of the two elements Te ans Sb, and at least one element selected from the group consisting of Nb, Pb, Ta, W, Ti, Al, Zr, Cr, Mn, Ga, Fe, Ru, Co, Rh, Ni, Pd, Pt, La, Bi, B, Ce, Sn, Zn, Si, Na, Li, K, Mg, Ag, Au and In, and wherein the group from which finely divided substance S is selected is consisting of oxides of molybdenum and, as compounds of molybdenum from which an oxide of molybdenum is formed under the action of elevated temperature and molecular oxygen, of ammonium molybdate, ammonium polymolybdate, ammonium heptamolybdate tetrahydrate, molybdenum oxide hydrate and molybdenum hydroxides.

9. A catalyst obtainable by a process according to any of claims 1 to 7.

10. A catalyst which consists of a support body and a catalytically active composition applied to the surface of the support body, and also binders if appropriate, the catalytically active composition being a finely divided mixture of

- at least one finely divided multielement oxide comprising the elements Mo and V

and

- at least one finely divided substance S selected from the group consisting of oxides of molybdenum and of compounds of molybdenum from which an oxide of molybdenum is formed under the action of elevated temperature and molecular oxygen, wherein the oxide of molybdenum is a substance having a content of Mo and oxygen of at least 98% by weight.

11. A catalyst according to claim 10, wherein the finely divided multielement oxide comprising the elements Mo and V is a multielement oxide comprising the elements Mo and V in a molar ratio of Mo to V from 15 : 1 to 1 : 1, or comprising the elements Mo and V and in addition at least one of the two elements Te ans Sb, and at least one element selected from the group consisting of Nb, Pb, Ta, W, Ti, Al, Zr, Cr, Mn, Ga, Fe, Ru, Co, Rh, Ni, Pd, Pt, La, Bi, B, Ce, Sn, Zn, Si, Na, Li, K, Mg, Ag, Au and In, and wherein the group from which finely divided substance S is selected is consisting of oxides of molybdenum and, as compounds of molybdenum from which an oxide of molybdenum is formed under the action of elevated temperature and molecular oxygen, of ammonium molybdate, ammonium polymolybdate, ammonium heptamolybdate tetrahydrate, molybdenum oxide hydrate and molybdenum hydroxides.

12. A process for heterogeneously catalyzed partial gas phase oxidation of acrolein to acrylic acid, wherein the catalyst is a catalyst according to claim 10 or 11.