Claims

1. A catalytic system comprising a catalyst comprising a titanium zeolite of structure type MWW comprising zinc and at least one potassium salt of a phosphorus oxyacid, wherein the molar ratio of potassium relative to phosphorus in the potassium salt of the at least one phosphorus oxyacid is in the range of from 0.6 to 1.4.

2. The catalytic system of claim 1, wherein the at least one potassium salt of a phosphorus oxyacid has the following formula (I)

$$K_{nx}H_{2+n(1-x)}P_nO_{3n+1} \quad (I)$$

wherein n is an integer in the range of from 1 to 10, preferably from 1 to 5, more preferably from 1 to 3, and wherein x is in the range of from 0.6 to 1.4, preferably from 0.7 to 1.3, more preferably from 0.8 to 1.2, wherein n is preferably in the range of from 0.95 to 1.05 and wherein x is preferably in the range of from 0.95 to 1.05.

3. The catalytic system of claim 1 or 2, wherein the titanium zeolite of structure type MWW comprising zinc which is comprised in the catalyst in (ii) contains titanium, calculated as elemental titanium, in an amount in the range of from 0.1 to 5 weight-%, preferably from 1 to 2 weight-%, based on the total weight of the titanium zeolite of framework structure type MWW comprising zinc, and contains zinc, calculated as elemental zinc, in an amount in the range of from 0.1 to 5 weight-%, preferably from 1 to 2 weight-%, based on the total weight of the titanium zeolite of framework structure type MWW comprising zinc.

4. The catalytic system of any of claims 1 to 3 for the epoxidation of propene.

5. The catalytic system of any of claims 1 to 4, being obtainable or obtained by

(i') providing a liquid feed stream comprising propene, hydrogen peroxide, acetonitrile, water, optionally propane, and the at least one preferably dissolved potassium salt of a phosphorus oxyacid, wherein the molar ratio of potassium comprised in the at least one potassium salt of a phosphorus oxyacid relative to hydrogen peroxide in the liquid feed stream is preferably in the range of from $25x10^{-6}$:1 to $250x10^{-6}$:1, more preferably from $50x10^{-6}$:1 to $200x10^{-6}$:1, more preferably from $100x10^{-6}$:1 to $150x10^{-6}$:1, and wherein the weight ratio of water relative to acetonitrile in the liquid feed is preferably at most 1:4, more preferably in the range of from 1:50 to 1:4, more preferably from 1:15 to 1:4.1, more preferably from 1:10 to 1:4.2;

(ii') passing the liquid feed stream provided in (i') into an epoxidation reactor comprising the catalyst comprising a titanium zeolite of structure type MWW comprising zinc, wherein in (ii'), the liquid feed stream is preferably subjected to epoxidation reaction conditions in the epoxidation reactor, obtaining a reaction mixture comprising propylene oxide, acetonitrile, water, the at least one dissolved

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potassium salt of a phosphorus oxyacid, optionally propene, and optionally propane.

6. The catalytic system of claim 5, having a deactivation rate of at most 0.010 K/d at an operating time of 500 h, preferably of at most 0.007 K/d at an operating time of 1000 h, more preferably of at most 0.005 K/d at an operating time of 2000 h.

7. Use of at least one potassium salt of a phosphorus oxyacid wherein the molar ratio of potassium relative to phosphorus in the potassium salt of the at least one phosphorus oxyacid is in the range of from 0.6 to 1.4 as an additive for a titanium zeolite of framework structure type MWW comprising zinc in a preferably continuous process for the preparation of propylene oxide, preferably in acetonitrile as solvent, and preferably with hydrogen peroxide as epoxidation agent.