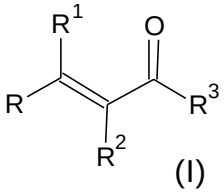
Claims

1. A zeolitic material of MFI- or MWW-framework type having a framework structure comprising Si, O, and Ti, obtained from a Ti containing compound, wherein the Ti containing compound has an APHA color number of ≤ 300, wherein the Ti containing compound comprises a Ti containing alcoholate selected from the group of $Ti(O\text{-}alkyl)_4$, wherein each alkyl group is independently selected from branched or unbranched C1 to C6 alkyl.

2. The zeolitic material of MFI- or MWW-framework type having a framework structure comprising Si, O, and Ti, obtained from a Ti containing compound of claim 1, wherein the Ti containing alcoholate is selected from the group consisting of tetraethyl orthotitanate ($Ti(OEt)_4$), tetraisopropyl orthotitanate ($Ti(OPr)_4$), tetra-n-butyl orthotitanate $Ti(OBu)_4$ and mixtures of two or more of these compounds; preferably from the group of tetraethyl orthotitanate ($Ti(OEt)_4$), tetraisopropyl orthotitanate ($Ti(OPr)_4$) and mixtures of $Ti(OEt)_4$ and $Ti(OPr)_4$.

3. The zeolitic material of MFI- or MWW-framework type having a framework structure comprising Si, O, and Ti, obtained from a Ti containing compound of claim 1 or 2, wherein the Ti containing compound comprises at least 90 weight-%, preferably at least 95 weight-%, more preferably at least 96 weight-%, more preferably at least 97 weight-%, more preferably at least 98 weight-%, more preferably at least 99 weight-% of the Ti containing alcoholate based on the overall weight of the Ti containing compound.

4. The zeolitic material of MFI- or MWW-framework type having a framework structure comprising Si, O, and Ti, obtained from a Ti containing compound of any one of claims 1 to 3, wherein the Ti containing compound comprises ≤ 10 weight-%, preferably ≤ 5 weight-%, more preferably ≤ 4 weight-%, more preferably ≤ 3 weight-%, more preferably ≤ 2 weight-%, more preferably ≤ 1 weight-%, based on the overall weight of the Ti containing compound, of a substance of formula (I)



(I)

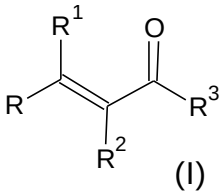
wherein R, $R^1$and R^2 are independently selected from the group consisting of hydrogen atom and branched or unbranched C1 to C6 alkyl, and R^3 is selected from the group consisting of hydrogen atom, branched or unbranched C1 to C6 alkyl, and branched or unbranched C1 to C6 alkenyl; wherein the substance of formula (I) is preferably selected from the group of CH_3-CH=CH-C(=O)-CH=CH-CH_3 (hepta-2,5-dien-4-on), $(CH_3)_2$C=CH-C(=O)-CH=C$(CH_3)_2$ (phorone, 2,6-dimethyl-hepta-2,5-dien-4-on) and mixtures of hepta-2,5-dien-4-on and 2,6-dimethyl-hepta-2,5-dien-4-on.

5. The zeolitic material of MFI- or MWW-framework type having a framework structure comprising Si, O, and Ti, obtained from a Ti containing compound of any one of claims 1 to 4, wherein the zeolitic material has a titanium dioxide content of ≤ 1.5 weight-%, preferably ≤ 1.2 weight-%, more preferably ≤ 1 weight-%, more preferably ≤ 0.5 weight-%, based on the overall weight of the zeolitic material, wherein preferably at least 98 weight-% of the titanium dioxide are of anatas form.

6. A Ti containing compound having an APHA color number of ≤ 300 wherein the Ti containing compound comprises a Ti containing alcoholate selected from the group of $Ti(O\text{-}alkyl)_4$, wherein each alkyl group is independently selected from branched or unbranched C1 to C6 alkyl, preferably from the group consisting of tetraethyl orthotitanate ($Ti(OEt)_4$), tetraisopropyl orthotitanate ($Ti(OPr)_4$), tetra-n-butyl orthotitanate $Ti(OBu)_4$ and mixtures of two or more of these compounds, more preferably from the group of tetraethyl orthotitanate ($Ti(OEt)_4$), tetraisopropyl orthotitanate ($Ti(OPr)_4$) and mixtures of $Ti(OEt)_4$ and $Ti(OPr)_4$.

7. The Ti containing compound having an APHA color number of ≤ 300 of claim 6, wherein the Ti containing compound comprises at least 90 weight-%, preferably at least 95 weight-%, more preferably at least 96 weight-%, more preferably at least 97 weight-%, more preferably at least 98 weight-%, more preferably at least 99 weight-% of the Ti containing alcoholate based on the overall weight of the Ti containing compound.

8. The Ti containing compound having an APHA color number of ≤ 300 of claim 6 or 7, wherein the Ti containing compound comprises ≤ 10 weight-%, preferably ≤ 5 weight-%, more preferably ≤ 4 weight-%, more preferably ≤ 3 weight-%, more preferably ≤ 2 weight-%, more preferably ≤ 1 weight-%, based on the overall weight of the Ti containing compound, of a substance of formula (I),



(I)

wherein R, $R^1$and R^2 are independently selected from the group consisting of hydrogen atom and branched or unbranched C1 to C6 alkyl, and R^3 is selected from the group consisting of hydrogen atom, branched or unbranched C1 to C6 alkyl, and branched or unbranched C1 to C6 alkenyl; wherein the substance of formula (I) is preferably selected from the group of CH_3-CH=CH-C(=O)-CH=CH-CH_3 (hepta-2,5-dien-4-on), $(CH_3)_2$C=CH-C(=O)-CH=C$(CH_3)_2$ (phorone= 2,6-dimethyl-hepta-2,5-dien-4-on) and mixtures of hepta-2,5-dien-4-on and 2,6-dimethyl-hepta-2,5-dien-4-on.

9. Use of a Ti containing compound having an APHA color number of ≤ 300 according to any one of claims 5 to 8 for the preparation of a zeolitic material having framework structure comprising Si, O, and Ti according to any one of claims 1 to 4.

10. A process for preparation of a zeolitic material having a framework structure comprising Si, O, and Ti, wherein the zeolitic material having a framework structure comprising Si, O, and Ti, is prepared from a Ti containing compound having an APHA color number of ≤ 300, wherein said Ti containing compound is as defined in any one of claims 5 to 8.

11. A molding comprising a zeolitic material having a framework structure comprising Si, O, and Ti according to any one of claims 1 to 4.

12. Use of a molding according to claim 11 as an adsorbent, an absorbent, a catalyst or a catalyst component, preferably as a catalyst or as a catalyst component, more preferably as a Lewis acid catalyst or a Lewis acid catalyst component, as an isomerization catalyst or as an isomerization catalyst component, as an oxidation catalyst or as an oxidation catalyst component, as an aldol condensation catalyst or as an aldol condensation catalyst component, or as a Prins reaction catalyst or as a Prins reaction catalyst component.

13. A process for oxidizing an organic compound comprising bringing an organic compound in contact, preferably in continuous mode, with a catalyst comprising a molding according to claim 11, preferably for epoxidizing an organic compound, more preferably for epoxidizing an organic compound having at least one C-C double bond, preferably a C2-C10 alkene, more preferably a C2-C5 alkene, more preferably a C2-C4 alkene, more preferably a C2 or C3 alkene, more preferably propene.

14. Propylene oxide obtained from the process according to claim 13.