Claims

1. A process for preparing isosorbide di(meth)acrylate by transesterifying alkyl (meth)acrylate with isosorbide, comprising the steps of:

   (i) reacting alkyl (meth)acrylate with isosorbide in the presence of a catalyst comprising titanium(IV) or zirconium(IV) and a stabilizer in the presence of an azeotroping agent which forms an azeotrope with the alcohol bound in the alkyl (meth)acrylate,
   (ii) continuously distilling off the azeotrope of azeotroping agent and alcohol, wherein steps (i) and (ii) are conducted simultaneously until isosorbide has been essentially fully converted,
   (iii) adding water to the product mixture which comprises isosorbide (meth)acrylate and is obtained in steps (i) and (ii) and removing the hydrolyzate of the catalyst comprising titanium(IV) or zirconium(IV),
   (iv) distilling unconverted alkyl (meth)acrylate and azeotroping agent out of the product mixture,
   (v) distilling water out of the product mixture,

   wherein step (iv) can also be conducted before step (iii) and steps (iv) and (v) can also be conducted in one distillation step.

2. The process according to claim 1, wherein the azeotroping agent is the alkyl (meth)acrylate.

3. The process according to claim 1, wherein the azeotroping agent is a separate solvent other than alkyl (meth)acrylate.

4. The process according to claim 3, wherein the azeotroping agent is selected from the group consisting of n-heptane and cyclohexane.

5. The process according to any of claims 1 to 4, wherein steps (iv) and (v) are conducted in a combined distillation step.

6. The process according to any of claims 1 to 5, wherein the alkyl (meth)acrylate is methyl or ethyl (meth)acrylate.

7. The process according to any of claims 1 to 6, wherein the catalyst comprises titanium(IV) tetraisopropoxide.

8. The process according to any of claims 1 to 7, wherein the stabilizer is selected from hydroquinone monomethyl ether and PTZ.

9. The process according to any of claims 1 to 8, wherein the alcohol is removed from the azeotrope of azeotroping agent and alcohol distilled off in step (ii) by washing with water and the azeotroping agent is recycled into the reaction vessel.

10. The process according to any of claims 1 to 9, wherein, after step (v), an isosorbide di(meth)acrylate having a content of secondary components of < 4% by weight is obtained.

11. The use of isosorbide di(meth)acrylate as resin component for two-pack adhesive compositions.

12. The use according to claim 11, wherein the two-pack adhesive compositions are plugging compounds for securing anchoring means in drillholes.

13. The use according to claim 11 or 12, wherein the isosorbide di(meth)acrylate has been prepared by the process according to any of claims 1 to 10.

14. A two-pack adhesive composition comprising

(i) a synthetic resin having a viscosity at 23°C between 100 and 10 000 mPa•s, comprising isosorbide dimethacrylate, and
(ii) a hardener for the synthetic resin.