

CLAIMS

1. Method for the preparation of keto-functionalized aromatic (meth)acrylates by reacting keto-functionalized aromatic alcohols or keto-functionalized aromatic amines with (meth)acrylic anhydride, in which reactants, products and catalyst are present together in the reaction matrix at a reaction temperature between 50°C and 120°C, the method being **characterized in that** the residence time of the reactants, products and catalysts is restricted from 0.1 to at most 4 hours and (meth)acrylic anhydride is used at a content of (meth)acrylic acetic anhydride of <4.5%.
2. The method according to Claim 1, **characterized in that** the keto-functionalized aromatic alcohol or the keto-functionalized aromatic amine has its keto function adjacent to the aromatic system.
3. The method according to any one of the preceding claims, **characterized in that** the keto-functionalized aromatic alcohol or the keto-functionalized aromatic amine has either a free NH₂ or a free OH group on its aromatic system.
4. The method according to any one of claims 1 and 2, **characterized in that** the keto-functionalized aromatic alcohol or the keto-functionalized aromatic amine has either a free NH₂ or a free OH group linked via a spacer unit to its aromatic systems.
5. The method according to claim 4, **characterized in that** the spacer unit is or comprises oligoethers, alkyl-, aryl-, -ethers, -thioethers, -amines, -esters, -thioesters, or -amides.
6. The method according to any one of the preceding claims, **characterized in that** the amount of stabilizer at the start of the reaction is adjusted to be between 0 and 5000 ppm based on the keto-functionalized aromatic alcohols or amines used.
7. The method according to any one of the preceding claims, **characterized in that** the (meth)acrylic anhydride is used with a purity of >93%.
8. The method according to any one of the preceding claims, **characterized in that** the preceding method steps are carried out such that, after neutralization of the catalyst with a base, the Pt-Co colour index is adjusted to <500 APHA (measured as 30 wt% solution of the keto-functionalized aromatic (meth)acrylate in 60 wt% methyl methacrylate and 10 wt% methacrylic acid).

- 5 9. The method according to any one of claims 1 to 8, **characterized in that** the crude product is treated with an adsorbent and after the treatment the adsorbent is removed again, giving a Pt-Co colour index of <500 APHA (measured as 30 wt% solution of the keto-functionalized aromatic (meth)acrylate in 60 wt% methyl methacrylate and 10 wt% methacrylic acid).
- 10 10. The method according to any one of the preceding claims, **characterized in that** the reaction is interrupted at a conversion of >90% of the reactant used.
- 11 11. The method according to any one of the preceding claims, **characterized in that** the reaction is carried out in the presence of catalytic amounts of acid, preferably in the presence of sulfuric acid, alkyl- or arylsulfonic acid
- 15 12. The method according to claim 11, **characterized in that** the after the reaction, catalytic amounts of acid are neutralized with aqueous bases, preferably with aqueous alkali metal hydroxide solution or ammonia solution.
- 20 13. The method according to any one of the preceding claims, **characterized in that**, characterized in that the reaction is carried out over 0.1-4 hours at 60 to 95°C.
- 25 14. The method according to any one of the preceding claims, **characterized in that** the keto-functionalized aromatic (meth)acrylate precipitates by addition of water or of an organic solvent into the reaction mixture and is isolated in solid form by filtration.
- 30 15. The method according to any one of the preceding claims, **characterized in that** the keto-functionalized aromatic (meth)acrylate is prepared by addition of a liquid (meth)acrylic ester or styrene into the reaction mixture as solution in said ester or in styrene.