

Claims – SINGAPORE – Track changes

1. Ink composition including

a. a compound "a" consisting of nanoparticles which are conductive and/or semiconductive and consist of metal oxides,

b. a compound "b" consisting of an alcohol solvent selected from primary paraffinic aliphatic monohydric alcohols having fewer than 10 carbon atoms~~the aliphatic monohydric alcohols~~ or their mixtures,

c. a compound "c" consisting of an alcohol cosolvent different from compound "b" and selected from ~~the~~ unsaturated monohydric alcohols or their mixtures,

d. a compound "d" consisting of a dispersant selected from alcohol-amines and polyalcohols, and

e. an optional compound "e" consisting of a thickener or stabilizer.

2. Ink composition according to the preceding claim, characterized by a viscosity between 1 and 500 mPa.s.

3. Ink composition according to the preceding claim, characterized by a viscosity between 1 and 50 mPa.s, for example, between 8 and 40 mPa.s.

4. Ink composition according to any one of the previous claims, characterized in that the nanoparticles are ~~conductive and/or semiconductive and consist of metal oxides, preferably of~~ zinc oxide nanoparticles.

5. Ink composition according to the preceding claim, characterized in that the nanoparticles are zinc oxide nanoparticles synthesized by chemical synthesis.

6. Ink composition according to any one of the previous claims, characterized in that compound "a" contains 5% to 15% by weight of acetate ligands, preferably between 7 and 14%, for example, between 8 and 12% by weight of acetate ligands.

7. Ink composition according to any one of the previous claims, characterized in that compound "b" is selected from ~~the primary paraffinic aliphatic monohydric alcohols having fewer than 10 carbon atoms; preferably from~~ ethanol, isopropanol and/or butanol; preferably n-butanol.

8. Ink composition according to any one of the previous claims, characterized in that compound "c" is selected from the terpenic alcohols, preferably terpineol, preferably alpha-terpineol.

9. Ink composition according to any one of the previous claims, characterized in that compound "d" is selected from ~~the families of the alcohol-amines and of the polyalcohols,~~ preferably from dimethanolamine, diethanolamine and/or ethanolamine and/or their mixture; ethylene glycol, diethylene glycol, propylene glycol and/or their mixture.

10. Ink composition according to any one of the previous claims, characterized in that compound "e" is present and it is selected from the alkyl celluloses, preferably ethylcellulose, the modified ureas, preferably the polyureas, and/or their mixtures.

11. Ink composition according to any one of the previous claims, including

- a compound "a" in a content of between 0.1 and 15% by weight, preferably between 0.5 and 8% by weight, for example, between 0.5 and 2% by weight,
- a compound "b" in a content of between 9 and 99% by weight, preferably between 9 and 50% by weight,
- a compound "c" in a content of between 0.5 and 90% by weight, preferably between 50 and 90% by weight,
- a compound "d" in a content of less than 5% by weight, preferably between 0.05 and 2% by weight, and
- an optional compound "e" in a content of less than 4% by weight, preferably between 0.5 and 2% by weight.

12. Ink composition according to Claim 10, including

- a compound "a" in a content of between 0.1 and 15% by weight and in a content of less than 15% by weight, preferably between 0.5 and 8% by weight, for example, between 0.5 and 2% by weight,
- a compound "b" in a content of between 9 and 50% by weight,

• a compound "c" in a content of between 0.5 and 90% by weight and in a content of more than 5% by weight, preferably more than 15% by weight, preferably between 50 and 90% by weight,

• a compound "d" in a content of less than 5% by weight, preferably between 0.05 and 2% by weight, and

• an optional compound "e" in a content of less than 4% by weight, preferably between 0.5 and 2% by weight.