CLAIMS

1. A process for the preparation of an aqueous slurry comprising a plurality of elastomer particles suspended therein, the process comprising:

A) contacting an organic medium comprising

i) at least one elastomeric ethylene/α-olefin copolymer, and

ii) an organic diluent

with an aqueous medium comprising at least one LCST compound having a cloud point of 0 to 100°C, and

B) removing at least partially the organic diluent to obtain an aqueous slurry comprising the elastomeric ethylene/α-olefin copolymer particles.

2. The process according to claim 1, wherein the elastomeric ethylene/α-olefin copolymer is selected from the group consisting of ethylene-propylene diene M-class rubbers (EPDM) and ethylene propylene copolymers.

3. The process according to claim 1, wherein the aqueous medium contains 0 to 5,000 ppm of salts of multivalent metal ions, calculated on their metal content and with respect to the amount of copolymer present in the medium obtained according to step A).

4. The process according to claim 1, wherein step A) is carried out batchwise or continuously.

5. The process according to claim 1, wherein the temperature in step A) is 75°C to 140°C.

6. The process according to claim 1, wherein the at least one LCST compound is selected from the group consisting of: poly(N-isopropylacrylamide), poly(N-isopropylacrylamide-co-N,N-dimethylacryl-amide), poly(N-isopropylacrylamide)-alt-2-hydroxyethylmethacrylate, poly(N-vinylcaprolactam), poly(N,N-diethylacrylamide, poly[2-(dimethylamino)ethyl methacrylate], poly(2-oxazoline) glyelasomers, poly(3-ethyl-N-vinyl-2-pyrrolidone), hydroxylbutyl chitosan, polyoxyethylene (20) sorbitan monostearate, polyoxyethylene (20) sorbitan monolaurate, polyoxyethylene (20) sorbitan monooleate, methyl cellulose, hydroxypropyl cellulose, hydroxyethyl

methylcellulose, hydroxypropyl methylcellulose, poly(ethylene glycol) methacrylates with 2 to 6 ethylene glycol units, polyethyleneglycol-co-polypropylene glycols, compounds of formula (I)

(I) $HO-[-CH_2-CH_2-O]_x-[-CH(CH_3)-CH_2-O]_y-[-CH_2-CH_2-O]z-H$

with y=3 to 10 and x and z=1 to 8, whereby y+x+z is from 5 to 18,

ethoxylated iso-$C_{13}H_{27}$-alcohols, polyethylene glycol with 4 to 50 ethyleneglycol units, polypropylene glycol with 4 to 30 propyleneglycol units, polyethylene glycol monomethyl, dimethyl, monoethyl, and diethyl ether with 4 to 50 ethyleneglycol units, and polypropylene glycol monomethyl, dimethyl, monoethyl and diethyl ether with 4 to 50 propyleneglycol units.

7. The process according to claim 6, wherein when the at least one LCST compound is selected from the group consisting of:

polyethyleneglycol-co-polypropylene glycols having 2 to 8 ethylene glycol units and 2 to 8 polypropylene units;

ethoxylated iso-$C_{13}H_{27}$-alcohol having an ethoxylation degree of 4 to 8;

polyethylene glycol having 4 to 20 ethyleneglycol units;

polypropylene glycol having 4 to 15 propyleneglycol units;

polyethylene glycol monomethyl, dimethyl, monoethyl, and diethyl ether having 4 to 20 ethyleneglycol units; and

polypropylene glycol monomethyl, dimethyl, monoethyl and diethyl ether having 4 to 20 propyleneglycol units.

8. The process according to claim 6, wherein when the at least one LCST compound is selected from methyl cellulose, hydroxypropyl cellulose, hydroxyethyl methyl cellulose and hydroxypropyl methylcellulose.

9. The process according to claim 1, further comprising a step C) wherein the elastomeric ethylene/α-olefin copolymer particles contained in the aqueous slurry obtained according to step B) are separated from the slurry to obtain isolated elastomeric ethylene/α-olefin copolymer particles.

10. The process according to claim 1, further comprising:

step C) separating the elastomeric ethylene/α-olefin copolymer particles contained in the aqueous slurry obtained according to step B) from the slurry to obtain isolated elastomer particles, and

step D) drying the isolated elastomer particles, preferably to a residual content of volatiles of 7,000 ppm or less.

11. The process according to claim 1, further comprising:

separating the elastomeric ethylene/α-olefin copolymer from the aqueous slurry, and

shaping of the elastomeric ethylene/α-olefin copolymer particles to obtain at least one of reshaped elastomer particles that are pellets or shaped articles that are bales.

12. An aqueous slurry obtained by the process according to claim 1.

13. A method to prevent or reduce or to slow-down agglomeration of slurries comprising elastomeric ethylene/α-olefin copolymer particles suspended in aqueous media, the method comprising adding at least one LCST compound having a cloud point of 0 to 100°C to a slurry comprising elastomeric ethylene/α-olefin copolymer particles suspended therein.

14. Elastomeric ethylene/α-olefin copolymer particles comprising: an elastomeric ethylene/α-olefin copolymer content of 98.5 wt.% or more; and

1 ppm to 18,000 ppm of at least one LCST compound.

15. Elastomeric ethylene/α-olefin copolymer particles comprising:

I) 100 parts by weight of an ethylene/α-olefin copolymer;

II) 0.0001 to 0.5 parts by weight of at least one LCST compound;

III) no or 0.0001 to 3.0 parts by weight of total of salts of mono- or multivalent metal ions;

IV) no or 0.005 to 0.1 parts by weight of antioxidants; and

V) 0.005 to 0.5 parts by weight of volatiles having a boiling point at standard pressure of 200°C or less.