Claims:

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

   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℃, preferably 5 to 100℃, m ore preferably 15 to 80℃ and even more preferably 20 to 70℃ and

   B) removing at least partially the organic diluent to obtain the 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 groups consisting of ethylene-propylene diene M-class rubbers (EPDM) and ethylene-propylene copolymer.

3. The process according to claim 1 or 2, wherein the organic medium comprising at least one elastomeric ethylene/α-olefin copolymer and an organic diluent is obtained from a polymerization reaction or a post-polymerization reaction.

4. The process according to one of claims 1 to 3, wherein the organic medium is obtained from a polymerization reaction and further contains residual monomers of the polymerization reaction.

5. The process according to one of claims 1 to 4, wherein the aqueous medium contains of from 0 to 5,000 ppm, preferably of from 0 to 2,000 ppm, more preferably of from 10 to 1,000 ppm, even more preferably of from 50 to 800 ppm and yet even more preferably of from 100 to 600 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).

6. The process according to one of claim 1 to 5, wherein the salts of multivalent metal ions are calcium stearate and/or zinc stearate and/or calcium palmitate and/or zinc palmitate.

7. The process according to one of claim 1 to 6, wherein the aqueous medium comprises 250 ppm or less, preferably 200 ppm or less, more preferably 100 ppm or less, even more preferably 50 ppm or less and yet even more preferably 25 ppm or less and in another yet even more preferred embodiment 100 ppm or less of talcum calculated on with respect to the amount of elastomer present in the medium obtained according to step B).

8. The process according to one of claim 1 to 7, wherein the aqueous medium comprises 250 ppm or less, preferably 200 ppm or less, more preferably 100 ppm or less, even more preferably 50 ppm or less and yet even more preferably 25 ppm or less and in another yet even more preferred embodiment 100 ppm or less of layered silicate calculated with respect to the amount of elastomer present in the medium obtained according to step B).

9. The process according to one of claim 1 to 8, wherein the aqueous medium comprises 25 ppm or less, preferably 10 ppm or less, more preferably 8 ppm or less and even more preferably 7 ppm or less and yet even more preferably 5 ppm or less of salts of talcum calculated with respect to the amount of elastomer present in the medium obtained according to step B).

10. The process according to claim 1 or 9, wherein the organic medium comprising at least one elastomeric ethylene/α-olefin copolymer and an organic diluent is obtained from a polymerization reaction comprising at least the steps of:

    a) providing a reaction medium comprising an organic diluent, and at least one polymerizable monomer

    b) polymerizing the monomers within the reaction medium in the presence of an catalyst to form an organic medium comprising the elastomeric ethylene/α-olefin copolymer, the organic diluent and optionally residual monomers.

11. The process according to claim 1 or 10, wherein the organic medium comprising at least one elastomeric ethylene/α-olefin copolymer and an organic diluent is obtained from a polymerization reaction comprising at least the steps of:

    a) providing a reaction medium comprising an organic diluent, and at least two monomers being ethylene and an α-olefin;

b) polymerizing the monomers within the reaction medium in the presence of an initiator system to form an organic medium comprising the elastomeric ethylene/α-olefin copolymer, the organic diluent and optionally residual monomers.

12. The process according to one of claims 1 to 11, wherein step A) is carried out batchwise or continuously, preferably continuously.

13. The process according to one of claims 1 to 12, wherein the temperature in step A) is typically between 75 ℃ and 140 ℃.

14. The process according to one of claims 1 to 13, wherein the at least one LCST compound is selected from the group consisting of:
poly(N-isopropylacrylamide), poly(N-isopropylacrylamide-co-N,N-dimethylacrylamide, poly(N-isopropylacrylamide)-alt-2-hydroxyethylmethacrylate, poly(N-vinylcaprolactam), poly(N,N-diethylacrylamide), poly[2-(dimethylamino)ethyl methacrylate], poly(2-oxazoline) glyelastomers, 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, preferably those with 2 to 6 ethylene glycol units and 2 to 6 polypropylene units, compounds of formula (I):

$$HO\text{-}[\text{-}CH_2\text{-}CH_2\text{-}O]_x\text{-}[\text{-}CH(CH_3)\text{-}CH_2\text{-}O]_y\text{-}[\text{-}CH_2\text{-}CH_2\text{-}O]_z\text{-}H$$

with y = 3 to 10 and x and z = 1 to 8, whereby y+x+z is from 5 to 18,
polyethyleneglycol-co-polypropylene glycol, preferably those with 2 to 8 ethylene glycol units and 2 to 8 polypropylene units, ethoxylated iso-$C_{13}H_{27}$-alcohols, preferably with an ethoxylation degree of 4 to 8, polyethylene glycol with 4 to 50, preferably 4 to 20 ethyleneglycol units, polypropylene glycol with 4 to 30, preferably 4 to 15 propyleneglycol units, polyethylene glycol monomethyl, dimethyl, monoethyl and diethyl ether with 4 to 50, preferably 4 to 20 ethyleneglycol units, polypropylene glycol monomethyl, dimethyl, monoethyl and diethyl ether with 4 to 50, preferably 4 to 20 propyleneglycol units, whereby methyl cellulose, hydroxypropyl cellulose, hydroxyethyl methylcellulose and hydroxypropyl methylcellulose are preferred.

15. The process according to one of claims 1 to 14 comprising a further step C) wherein the elastomeric ethylene/α-olefin copolymer particles contained in the aqueous slurry obtained according to step A) are separated to obtain isolated elastomeric ethylene/α-olefin copolymer particles.

16. The process according to one of claims 1 to 15 comprising a further step C) wherein the elastomeric ethylene/α-olefin copolymer particles contained in the aqueous slurry obtained according to step B) are separated to obtain isolated elastomer particles and a further step D) wherein the (isolated) elastomer particles are dried, preferably to a residual content of volatiles of 7,000 or less, preferably 5,000 or less, even more preferably 4,000 or less and in onother embodiment 2,000 ppm or less, preferably 1,000 ppm or less.

17. The process according to one of claims 1 to 17 comprising as a further step shaping of the elastomeric ethylene/α-olefin copolymer particles to obtain reshaped elastomer particles such as pellets or shaped articles such as bales.

18. Aqueous slurry obtainable according to a process according to claims 1 to 17.

19. Use of LCST compounds having a cloud point of 0 to 100℃, preferably 5 to 100℃, more preferably 15 to 80℃ and even more pre ferably 20 to 70℃ as anti-agglomerant, in particular for elastomeric ethylene/α-olefin copolymer particles.

20. A method to prevent or reduce or to slow-down agglomeration of slurries comprising elastomeric ethylene/α-olefin copolymer particles suspended in aqueous media by addition or use of LCST compounds having a cloud point of 0 to 100℃, preferably 5 to 100℃, more preferably 15 to 80℃ and even more preferably 20 to 70℃.

21. Elastomeric ethylene/α-olefin copolymer particles having a elastomeric ethylene/α-olefin copolymer content of 98.5 wt.-% or more, preferably 98.8 wt.-% or more, more preferably 99.0 wt.-% or more even more preferably 99.2 wt.-% or more, yet even more preferably 99.4 wt.-% or more and in another embodiment 99.5 wt.-% or more further comprising 1 ppm to 18,000 ppm of at least one LCST compound.

22. Elastomeric ethylene/α-olefin copolymer particles according to claim 21, wherein the elastomeric ethylene/α-olefin copolymer has a weight average molecular weight in the range of from 10 to 2,000 kg/mol, preferably in the

range of from 20 to 1,000 kg/mol, more preferably in the range of from 50 to 1,000 kg/mol, even more preferably in the range of from 100 to 800 kg/mol, yet more preferably in the range of from 100 to 550 kg/mol, and most preferably in the range of from 100 to 500 kg/mol, whereby molecular weights are obtained using gel permeation chromatography in tetrahydrofuran (THF) solution using polystyrene molecular weight.

23. Elastomeric ethylene/α-olefin copolymer particles according to claim 21 or 22, wherein the elastomeric ethylene/α-olefin copolymer has a Mooney viscosity of at least 10 (ML 1 + 4 at 125℃, ASTM D 1646), prefe rably of from 20 to 120 and even more preferably of from 25 to 90 (ML 1 + 4 at 125℃, ASTM D 1646).

24. Elastomeric ethylene/α-olefin copolymer particles according to one of claims 21 to 23, wherein the elastomer particles further comprise 0 to 0.4 wt.-%, preferably 0 to 0.2 wt.-%, more preferably 0 to 0.1 wt.-% and more preferably 0 to 0,05 wt.-% of salts of multivalent metal ions, prefably stearates and palmitates of multivalent metal ions.

25. Elastomeric ethylene/α-olefin copolymer particles according to one of claims 21 to 24, wherein the elastomeric ethylene/α-olefin copolymer particles further comprise 1 ppm to 5,000 ppm of at least one LCST compound.

26. Elastomeric ethylene/α-olefin copolymer particles according to one of claims 21 to 25, wherein the elastomeric ethylene/α-olefin copolymer particles comprising

a) 98.5 wt.-% or more, preferably 98.8 wt.-% or more, more preferably 99.0 wt.-% or more even more preferably 99.2 wt.-% or more, yet even more preferably 99.4 wt.-% or more and in another embodiment 99.5 wt.-% or more of a elastomer

b) 1 ppm to 18,000 ppm, preferably of from 1 ppm to 10,000 ppm, more preferably 1 ppm to 5,000 ppm, even more preferably from 1 ppm to 2,000 ppm and in a more preferred embodiment from 5 to 1,000 ppm or from 5 to 500 ppm of a least one LCST compound and

c) 0 to 0.4 wt.-%, preferably 0 to 0.2 wt.-%, more preferably 0 to 0.1 wt.-% and more preferably 0 to 0,05 wt.-% in total of salts of multivalent metal ions, prefably stearates and palmitates of multivalent metal ions, and layered silicate, preferably talcum.

27. Elastomeric ethylene/α-olefin copolymer particles wherein

I) 100 parts by weight of a elastomer

II) 0.0001 to 0.5, preferably 0.0001 to 0.2, more preferably 0.0005 to 0.1, even more preferably 0.0005 to 0.05 parts by weight of a least one LCST compound and

III) no or from 0.0001 to 3.0, preferably no or from 0.0001 to 2.0, more preferably no or from 0.0001 to 1.0, even more preferably no or from 0.0001 to 0.5, yet even more preferably no or from 0.0001 to 0.3, and most preferably no or from 0.0001 to 0.2 parts by weight of total of salts of mono- or multivalent metal ions, prefably stearates and palmitates of mono- or multivalent metal ions, and layered silicate, preferably talcum and

IV) no or from 0.005 to 0.1, preferably from 0.008 to 0.05, more preferably from 0.03 to 0.07 parts by weight of antioxidants and

V) from 0.005 to 0.5, preferably from 0.01 to 0.3, more preferably from 0.05 to 0.2 parts by weight of volatiles having a boiling point at standard pressure of 200℃ or less.

28. Elastomeric ethylene/α-olefin copolymer particles according to claim 27, wherein components I) to V) add up to 100.00501 to 104.100000 parts by weight, preferably from 100.01 to 103.00 parts by weight, more preferably from 100.10 to 101.50 parts by weight, even more preferably from 100.10 to 100.80 parts by weight and together represent 99.80 to 100.00 wt.-%, preferably 99.90 to 100.00 wt.-%, more preferably 99.95 to 100.00 wt.-% and yet even more preferably 99.97 to 100.00 wt.-% of the total weight of the elastomeric ethylene/α-olefin copolymer particles.

29. Shaped article, in particular a pellet or bale obtainable by shaping elastomer particles according to claims 21 to 28.

30. Blends or compounds obtainable by blending or compounding the elastomer particles according to claims 21 to 28 or the shaped articles of claim 29.

31. Use of the elastomer particles according to claims 21 to 28 or the shaped articles of claim 29 or the blends or compounds according to claim 30 for innerliners, bladders, tubes, air cushions, pneumatic springs, air bellows, accumulator bags, hoses, conveyor belts and pharmaceutical closures, automobile suspension bumpers, auto exhaust hangers, body mounts, shoe

soles, tire sidewalls and tread compounds, belts, hoses, shoe soles, gaskets, o-rings, wires/cables, membranes, rollers, bladders (e.g. curing bladders), inner liners of tires, tire treads, shock absorbers, machinery mountings, balloons, balls, golf balls, protective clothing, medical tubing, storage tank linings, electrical insulation, bearings, pharmaceutical stoppers, adhesives, a container, such as a bottle, tote, storage tank, a container closure or lid; a seal or sealant, such as a gasket or caulking; a material handling apparatus, such as an auger or conveyor belt; a cooling tower; a metal working apparatus, or any apparatus in contact with metal working fluids; an engine component, such as fuel lines, fuel filters, fuel storage tanks, gaskets, seals, etc.; a membrane, for fluid filtration or tank sealing; appliances, baby products, bathroom fixtures, bathroom safety, flooring, food storage, garden, kitchen fixtures, kitchen products, office products, pet products, sealants and grouts, spas, water filtration and storage, equipment, food preparation surfaces and equipments, shopping carts, surface applications, storage containers, footwear, protective wear, sporting gear, carts, dental equipment, door knobs, clothing, telephones, toys, catheterized fluids in hospitals, surfaces of vessels and pipes, coatings, food processing, biomedical devices, filters, additives, computers, ship hulls, shower walls, tubing, pacemakers, implants, wound dressing, medical textiles, ice machines, water coolers, fruit juice dispensers, soft drink machines, piping, storage vessels, metering systems, valves, fittings, attachments, filter housings, linings, and barrier coatings, sponge materials for weatherstrips, such as a sponge for door sponge, a sponge for opening trim, a sponge for hood seal and a sponge for trunk seal; and highly foamed sponge materials, such as a heat-insulating sponge and a dam rubber.