

CLAIMS

What Is Claimed Is:

1. A method for preparing agglomeration resistant particles comprising the steps of:

a. providing particles of a tacky composition having an unconfined yield strength of at least 15 lbs/ft² (73.2 kg/m²) at or above 25°C as measured by ASTM D6773 wherein the tacky composition comprises a polyolefin composition comprising at least 75 weight percent propylene, based on the weight of the polyolefin composition,

b. contacting the tacky composition particles with a first fluid at a temperature of at least 25°C, and

c. contacting the tacky composition particles with an antiblock composition while the tacky composition particles are in contact with the first fluid wherein the first fluid is at a temperature of at least 25°C, and wherein the temperature of the first fluid is the glass transition temperature or above of the tacky composition, wherein the tacky composition particles are at least partially coated with the antiblock composition.

2. The method for preparing agglomeration resistant particles of claim 1, wherein the polyolefin composition has a branching index (g') of 0.95 or less measured at the Mz of the polyolefin composition.

3. The method for preparing agglomeration resistant particles of any one of claims 1 to 2, wherein the polyolefin composition comprises propylene and a comonomer selected from the group consisting of butene, hexene, octene, or combinations thereof.

4. The method for preparing agglomeration resistant particles of any one of claims 1 to 3, wherein the polyolefin composition has:

- a) an isotactic run length of 1 to 30,
- b) a percent of r dyad of greater than 20%, and
- c) a heat of fusion of between 1 and 70 J/g.

5. The method for preparing agglomeration resistant particles of any of the preceding claims, wherein the first fluid is an aqueous based fluid.
6. The method for preparing agglomeration resistant particles of any of the preceding claims, wherein the first fluid is an aqueous based fluid at a temperature from 25°C to 75°C.
7. The method for preparing agglomeration resistant particles of any of the preceding claims, wherein the tacky composition particles are pellets.
8. The method for preparing agglomeration resistant particles of any of the preceding claims, wherein the first fluid is free of surfactant.
9. The method for preparing agglomeration resistant particles of any of the preceding claims, wherein the tacky composition particles contact the first fluid in an underwater pelletizer.
10. The method for preparing agglomeration resistant particles of any of the preceding claims, wherein the tacky composition particles contact the first fluid in a fluidized bed.
11. The method for preparing agglomeration resistant particles of any of the preceding claims, wherein the antiblock composition is a polymer, salt of an organic acid, or combinations thereof.
12. The method for preparing agglomeration resistant particles of any of the preceding claims, wherein the antiblock composition is a polymer.
13. The method for preparing agglomeration resistant particles of any of the preceding claims, wherein the antiblock composition is a polymeric powder.
14. The method for preparing agglomeration resistant particles of any of the preceding claims, wherein the antiblock composition is a low density polyethylene.

15. The method for preparing agglomeration resistant particles of any of the preceding claims, wherein the agglomeration resistant particles are free flowing in less than 90 seconds without an applied force after being stored at 45°C for three days in a three inch vessel with 3500 grams of applied pressure as described in ASTM D1895 Method B.

16. The method for preparing agglomeration resistant particles of any of the preceding claims, wherein the agglomeration resistant particles have a crystallization half life of less than six minutes at 15°C.

17. The method for preparing agglomeration resistant particles of any of the preceding claims, wherein the agglomeration resistant particles have a crystallization half life of less than two minutes at 30°C.

18. The method for preparing agglomeration resistant particles of any of the preceding claims, wherein, after contacting the first fluid, the agglomeration resistant particles are coated with from 0.01 to 3.0 weight percent of the antiblock composition based on the weight of the agglomeration resistant particles.

~~18.~~19. The method for preparing agglomeration resistant particles of any of the preceding claims, wherein the agglomeration resistant particles are prepared in a continuous process such that, before being contacted with the first fluid, the tacky composition is polymerized and maintained at a temperature above 25°C without cooling below 25°C.

~~19.~~20. A method of transporting agglomeration resistant particles comprising:

a tacky composition comprising a polyolefin composition and having an unconfined yield strength of at least about 15 lbs/ft² (73.2 kg/m²) at or above 25°C as measured by ASTM D6773, the method comprising the steps of:

a. providing particles of the tacky composition at or above the glass transition temperature of the polyolefin composition,

b. contacting the tacky composition particles with a first fluid at a temperature of at least 25°C, and

c. contacting the tacky composition particles with an antiblock composition while the tacky composition particles are in contact with the first fluid wherein the first fluid is at a temperature at least 25°C and wherein the temperature of the first fluid is the glass temperature or above of the tacky composition, wherein the tacky composition particles are at least partially coated with the antiblock composition.