Claims

1. A composition comprising:
a cellulosic or lignocellulosic material having a peak average molecular weight, as determined by Gel Permeation Chromatography, of less than about 25,000, and a crystallinity of less than about 55 percent as determined by X-ray diffraction, wherein the material has a bulk density of less than about 0.5g/cm3, as determined according to ASTM D1895B.

2. The composition of claim 1 wherein the material has a BET surface area greater than about 0.25 m^2/g.

3. The composition of claim 1 wherein the material has a BET surface area greater than about 01 m^2/g.

4. The composition of any of the above claims wherein the material has a length to diameter ratio of at least 5, e.g., greater than 10 or greater than 15.

5. The composition of any of the above claims wherein the material has a porosity greater than 70%, wherein the porosity is determined by mercury porosimetry.

6. The composition of any of the above claims further comprising an enzyme or microorganism.

7. The composition of claim 1 wherein the material is sterile.

8. The composition of claim 1 wherein the material has a crystallinity index of about 10 to 50 percent.

9. The composition of claim 1 wherein the material has a BET surface area greater than about 0.75 m^2/g.

10. The composition of any of the above claims wherein the material has a porosity greater than 72%, wherein the porosity is determined by mercury porosimetry.

11. The composition of claim 1 wherein the material comprises fibers having a length-to-diameter ratio of greater than about 5.

Claims

1. A composition comprising:

a cellulosic or lignocellulosic material having a peak average molecular weight, as determined by Gel Permeation Chromatography, of less than about 25,000, and a crystallinity of less than about 55 percent as determined by X-ray diffraction, wherein the material has a bulk density of less than about 0.5g/cm3, as determined according to ASTM D1895B.

2. The composition of claim 1 wherein the material has a BET surface area greater than about 0.25 m^2/g.

3. The composition of claim 1 wherein the material has a BET surface area greater than about 0.1 m^2/g.

4. The composition of any one of the preceding claims wherein the material has a length to diameter ratio of at least 5, e.g., greater than 10 or greater than 15.

5. The composition of any one of the preceding claims wherein the material has a porosity greater than 70%, wherein the porosity is determined by mercury porosimetry.

6. The composition of any one of the preceding claims further comprising an enzyme or microorganism.

7. The composition of claim 1 wherein the material is sterile.

8. The composition of claim 1 wherein the material has a crystallinity index of about 10 to 50 percent.

9. The composition of claim 1 wherein the material has a BET surface area greater than about 0.75 m^2/g.

10. The composition of any one of the preceding claims wherein the material has a porosity greater than 72%, wherein the porosity is determined by mercury porosimetry.

11. The composition of claim 1 wherein the material comprises fibers having a length-to-diameter ratio of greater than about 5.

12. A composition according to claim 1, substantially as hereinbefore described with reference to any one of the Examples.