

CLAIMS:

1. A feedstock material comprising particles of a comminuted paper product having fibrous portions on an outer surface thereof distributed throughout a diagenetically formed mineral aggregate comprising gypsum, syngenite and magnesium hydroxide and/or magnesium sulphate, wherein the feedstock material is adapted to degrade when buried.
2. A granulated feedstock material comprising particles of a comminuted paper product having fibrous portions on an outer surface thereof distributed throughout a diagenetically formed mineral aggregate comprising gypsum, syngenite and magnesium hydroxide and/or magnesium sulphate, wherein the feedstock material is adapted to degrade when buried.
3. The feedstock material of claim 1 or claim 2, wherein the paper product is waste cardboard and/or waste paper.
4. The feedstock material of any one of claims 1 to 3, wherein the comminuted paper product has a size of about 0.2 – 1 cm across.
5. The feedstock material of any one of claims 1 to 4, comprising between about 10% and 60% (w/w) of the paper product.
6. The feedstock material of any one of claims 1 to 5, comprising between about 30% and 80% (w/w) gypsum.
7. The feedstock material of any one of claims 1 to 6, comprising between about 0.5% and 30% (w/w) syngenite.
8. The feedstock material of any one of claims 1 to 7, comprising between about 2% and 10% (w/w) of magnesium hydroxide and/or magnesium sulphate.
9. The feedstock material of any one of claims 1 to 8, wherein the magnesium hydroxide and/or magnesium sulphate are selected from one or more of the group consisting of: brucite, kieserite, starkeyite and epsomite.
10. The feedstock material of any one of claims 1 to 9, further comprising one or more additives selected from the group consisting of: inorganic fillers, organic fibers, pesticides, colourants, coating agents and fertilisers.
11. The feedstock material of claim 2, wherein the granules have a particle size of about 0.5-10cm.

12. The feedstock material of claim 2 or claim 11, wherein the granulated feedstock material is provided in the form of a granule-containing sheet.
13. A product produced from the feedstock material of any one of claims 1 to 12.
14. The product of claim 13, wherein the product is selected from the group consisting of: a
5 plantable container, a mulch for weed control, a soil conditioner, a fertiliser, a growth media, a media for control of malodour, a filler for goods packaging and padded envelopes, food waste containing compost amendment and decorative garden pebbles.
15. The product of claim 13 or claim 14, wherein the product is produced by shaping the feedstock material into a shape that defines the product.
- 10 16. The product of any one of claims 13 to 15, wherein the product is porous.
17. The product of any one of claims 13 to 16, wherein the product consists essentially of the feedstock material.
18. A method for producing a feedstock material that is adapted to degrade when buried, the method comprising:
- 15 comminuting a paper product whereby particles having a fibrous portions on an outer surface thereof are produced;
- mixing the particles of comminuted paper product with a precursor mineral mixture that comprises finely ground bassanite, magnesite and arcanite; and
- hydrating and stirring the mixture, whereby a self-binding mineral aggregate
20 diagenetically forms, with the comminuted paper particles distributed throughout.
19. The method of claim 18, wherein the paper product is waste paper and/or cardboard.
20. The method of claim 18 or claim 19, wherein the paper product is comminuted by dry defibrating or chipping.
21. The method of any one of claims 18 to 20, wherein the paper product is comminuted such
25 that particles having a size of about 0.2 – 1 cm across are produced.
22. The method of any one of claims 18 to 21, wherein the proportion of comminuted paper product to the precursor mineral mixture is from about 10% (w/w) and 60% (w/w).
23. The method of any one of claims 18 to 22, further comprising screening the particles of comminuted paper product to remove any foreign material.

24. The method of any one of claims 18 to 23, further comprising adding a seeding agent during stirring of the mixture, whereby the setting time of the mineral aggregate is reduced.
25. The method of any one of claims 18 to 24, further comprising adding a retarding agent effective to slow the setting of the mineral aggregate during stirring of the mixture.
- 5 26. The method of any one of claims 18 to 25, further comprising blowing a gas into the mixture during stirring, whereby a porosity of the mineral aggregate is increased.
27. The method of any one of claims 18 to 26, wherein the amount of water used to hydrate the mixture is between about 10% (w/w) and 200% (w/w) relative to the weight of the total solids.
- 10 28. The method of any one of claims 18 to 27, wherein the precursor mineral mixture comprises between about 30% (w/w) and 97.5% (w/w) of bassanite (by weight of dry mixture).
29. The method of any one of claims 18 to 28, wherein the precursor mineral mixture comprises between about 2% (w/w) and 50% (w/w) of magnesia (by weight of dry mixture).
30. The method of any one of claims 18 to 29, wherein the precursor mineral mixture comprises
15 between about 0.5% (w/w) and 20% (w/w) of arcanite (by weight of dry mixture).
31. The method of any one of claims 18 to 30, wherein the finely ground bassanite, magnesia and arcanite have a particle size of between about 0.05mm and 2mm.
32. The method of any one of claims 18 to 31, wherein one or more additives are mixed with the particles of comminuted paper product and the precursor mineral mixture.
- 20 33. The method of claim 32, wherein the one or more additives are selected from the group consisting of: inorganic fillers, organic fibers, pesticides, colourants, coating agents and fertilisers.
34. The method of any one of claims 18 to 33, further comprising granulating the self-binding mineral aggregate with the comminuted paper particles distributed throughout, whereby a
25 feedstock material in the form of a wet granule is produced.
35. The method of claim 34, wherein the wet granule is further processed to produce a sheet material comprising granules.
36. The method of any one of claims 18 to 35, further comprising shaping the feedstock material into a shape that defines a product.

37. The method of claim 36, wherein the feedstock material is shaped into the shape of the product by pouring into a shaping apparatus.
38. The method of any one of claims 18 to 37, further comprising drying the feedstock material whereby a product is formed.
- 5 39. A method for producing a product from a feedstock material, the method comprising:
- producing a feedstock material by:
- comminuting a paper product whereby particles having fibrous portions on an outer surface thereof are produced;
- 10 mixing the particles of comminuted paper product with a precursor mineral mixture that comprises finely ground bassanite, magnesia and arcanite; and
- hydrating and stirring the mixture, whereby a self-binding mineral aggregate diagenetically forms, with the comminuted paper particles distributed throughout, and
- producing the product by:
- 15 shaping the feedstock material into a shape that defines a product; and
- drying the feedstock material whereby the product is formed.
40. The method of claim 39, wherein the feedstock material is shaped into the shape of the product by pouring into a shaping apparatus.
41. The method of claim 39 or claim 40, wherein the feedstock material is set by allowing it to
- 20 dry at room temperature.
42. A self-binding feedstock material in the form of a wet aggregate that is produced by hydrating and stirring a mixture comprised of dry pulp and/or chippings and a precursor mineral mixture comprising finely ground bassanite, magnesia and arcanite and, optionally, one or more additives.
- 25 43. A self-binding feedstock material in the form of a wet granule that is produced by hydrating and stirring a mixture comprised of dry pulp and/or chippings and a precursor mineral mixture comprising finely ground bassanite, magnesia and arcanite and, optionally, one or more additives to form a wet aggregate, and then granulating the wet aggregate.