

COMBUSTIBLE COFFIN, METHOD AND MATERIAL

Field of Invention

This invention relates to combustible coffins adapted for cremation, and also relates to a method of coffin combustion and a coffin-manufacturing material.

Background Prior Art

As an alternative to burial, human cadavers are cremated together with the coffin that contains the cadaver. The combustion of coffins can take a long time, for example, some taking around 2½ hours to fully cremate a coffin. The total time required to fully cremate a coffin often depends on the material from which the coffin is made. Hard woods such as teak wood tend to take a longer time to cremate, as compared to softer timbers.

There are reasons why it would be advantageous to shorten the time needed to cremate a coffin:

Coffin combustion consumes vast amounts of fuel, used for example to fire gas ovens. Hence minimising the time for cremation of each coffin will decrease fuel consumption.

The problem of lengthy cremation time is exacerbated when many cremations must be performed. For instance, in Singapore, there are currently around 11,000 cremations each year, and the number is rising, anticipated to reach around 13,000 cremations by the year 2015.

Since, in the prior art, it takes hours to cremate a coffin, the ashes of the deceased person are often only available for collection by relatives after many hours, even extending to the following day, due to the lengthy time required to fully cremate the coffin and the lengthy time needed for the ashes to cool.

The cremation process also creates much air pollution, and so the longer the cremation time, the greater the air pollution.

In order to decrease the time for cremating each coffin, one option in the prior art is to build more efficient crematoriums, but the financial cost of constructing these new modern crematoriums is considerable. Such building costs would increase the cost of the cremation. Moreover, such fast-burning crematoriums tend to use much more fuel, leading to higher running costs.

According to a different aspect, another problem is that the use of hard wood for making coffins can contribute to the depletion of forests. Rather than using virgin timber for coffin construction, synthetic raw materials such as resins can be used. However, coffins made from such

synthetic materials tend to be more expensive than timber coffins. Furthermore, the combustion of synthetic materials can often lead to higher and more toxic air pollution.

According to yet another different aspect, a different problem is that when coffins are buried in the ground, they can take a considerable period to disintegrate.

Objects

According to an aspect of the present invention, an object is to overcome or at least ameliorate one or more of the problems in the prior art by addressing the need for shortening the time needed for cremation of a coffin, or to provide an improved alternative.

According to another aspect of the invention, an object is to provide a material for constructing coffins that avoids one or more of the problems in the prior art, or provides an improved alternative.

According to a different aspect of the invention, an object is to address the problem of materials taking a long time to disintegrate when buried in the ground.

Summary of Invention

According to a first aspect of the present invention, there is provided a method of increasing the initial combustion-rate of a combustible coffin when it is exposed to flame, including the steps of:

providing the coffin material with a combustion-enhancing material, and
igniting the combustion-enhancing material using a flame.

According to a second aspect of the present invention, there is provided a combustible coffin wherein the coffin is made of a material that includes a combustion-enhancing material that enhances the initial combustion-rate of the coffin, the combustion-enhancing material adapted to catch fire immediately or almost immediately upon exposure to a flame.

According to a third aspect of the present invention, there is provided a method of constructing a coffin from coffin material, including the steps of including a combustion-enhancing material in the coffin material that enhances the initial combustion-rate of the coffin, the combustion-enhancing material adapted to catch fire immediately or almost immediately upon exposure to a flame.

Preferably, the combustion-enhancing material is a fire-starter material.

Preferably, the fire-starter material is impregnated into the coffin material in discrete pieces.

Preferably, the fire-starter material is inserted into slots provided in the surface of the coffin material.

Alternatively, the fire-starter material may be formed in the coffin material as an integral ingredient of the coffin material.

Preferably, the fire-starter material includes a petroleum-based flammable material.

According to a fourth aspect of the present invention, there is provided a coffin composite material adapted to be used in the manufacture of a coffin having a high initial combustion rate, including:

combustible particulate matter, and

a binder that binds the particulate together,

wherein the coffin composite material is impregnated with fire starters adapted to catch fire immediately or almost immediately when the coffin composite material is exposed to a flame.

The combustible particulate matter may include one or more of wood chips, sawdust, or paper.

The binder may be a starch.

The binder may be a combustible resin.

The material may be reinforced with a wire mesh.

In one exemplary embodiment, the composite material may include starch, cold water, hot water and particulate in substantially the following ratio—1 : 0.8 : 2.1 : 1

Alternatively, the composite material may include starch, cold water, hot water and particulate in substantially the following ratio—0.5 : 0.4 : 3.4 : 1.7

Alternatively, the composite material may include starch, cold water, hot water and particulate in substantially the following ratio—1 : 0.8 : 3.5 : 1.7

According to a fifth aspect of the present invention, there is provided a method of cremating a coffin, including the steps of including a combustion-enhancing material in the coffin material that enhances the initial combustion-rate of the coffin, the combustion-enhancing material adapted to catch fire immediately or almost immediately upon the step of exposure to a flame.

According to a sixth aspect of the present invention, there is provided a biodegradable composite material, including:

particulate matter, and

a binder that binds the particulate together,

wherein the particulate matter and the binder are characterised by being substantially biodegradable.

According to a seventh aspect of the present invention, there is provided a use of the composite material in the manufacture of a combustible coffin adapted to catch fire immediately or almost immediately upon exposure to a flame wherein said composite material enhances the initial combustion-rate of the coffin.

According to an eighth aspect of the present invention, there is provided a use of the composite material in the manufacture of a biodegradable plant container adapted to be buried below ground level so as to eventually biodegrade.

According to a ninth aspect of the present invention, there is provided a plant container adapted to be buried below ground level so as to eventually biodegrade wherein the plant container is made from or substantially from the biodegradable composite material of the present invention described above.

According to a tenth aspect of the present invention, there is provided a use of the composite material in the manufacture of a coffin.

Drawings

In order that the various aspects of the present invention might be more fully understood, embodiments of each aspect of the invention will be described, by way of example only, with reference to the accompanying drawings, in which:

Figure 1 shows an embodiment of a coffin which is made from a material provided with a combustion-enhancing material;

Figure 2A is a photograph showing a perspective view of an example of an embodiment of a composite material for construction of the coffin in Figure 1, except that the fire-starters are not shown here in this illustrated sample (the fire-starters being added later);

Figure 2B shows a schematic diagram of a cross-section of the material of Figure 2A from which the coffin of Figure 1 is made, showing the fire-starters in place;

Figure 3A shows a plan view of the mould used for casting the composite material of Figures 2A and 2B;

Figure 3B shows perspective views of components of the mould;

Figure 3C shows a perspective view of the parts of the mould of Figure 3B assembled together; and

Figure 4 shows a perspective view of another embodiment of a composite material that is provided with structural reinforcement, in this example the reinforcement being an internal wire frame embedded in the moulded composite material.

Description of Embodiments

Referring to the accompanying drawings, Figure 1 shows an embodiment of a combustible coffin 100 that has a very high initial combustion rate. In other words, the coffin 100 in Figure 1 is adapted to catch fire very rapidly when initially exposed to flames. This high initial combustion-rate of the coffin 100 is achieved by providing the coffin material, from which the coffin is made, with a combustion-enhancing material.

Figure 2A shows a photograph of an embodiment of material used in producing the coffin 100. This photograph is only included to show the texture of the material.

Examples are given of two variations:

The first variation is where the fire-starter material is impregnated into the coffin material in discrete pieces. For instance, in Figure 2B, the fire-starter material can be seen as discrete lumps.

In Figure 2B, the combustion-enhancing material is a fire-starter material in the form of fire-starters 200.

The fire starters 200 are located in slots 300 which are formed in the body of the coffin material 100. In Figure 2B, the fire-starters 200 are exposed to the exterior of the coffin, so that flames can contact the fire-starters when the coffin is surrounded by flame.

In the embodiment, the slots 300 are randomly located throughout the coffin material. Alternatively, in further embodiments, the slots 300 can be arranged in a regular grid or other arrangement or pattern.

In a second variation, the fire-starter material is formed in the coffin material as an integral ingredient of the coffin material. For instance, when the material is a composite, a highly inflammable fire-starter material can be mixed throughout the coffin material as particles that are scattered throughout the matrix of the composite material. Alternatively, a flammable liquid can be mixed into the composite material. For example, liquid fuel can be mixed into the composite material so that the overall material becomes more flammable.

Fire-Starter Material

The fire-starter material would consist of a flammable material that is known for being used as a fire-starter that catches fire very rapidly. For instance, in the embodiment, the fire-starter material includes a petroleum-based flammable material. However, other material or materials other than petroleum-based material, that can catch fire very rapidly in the presence of flame, can also be used. The invention is therefore not limited to any particular fire-starter material or materials. In some embodiments, the fire starters can consist of solidified lumps, for example, solidified lumps of petroleum oils or fuels.

Alternatively, in other embodiments, the fire starters can include an absorbent matrix, for instance, consisting of pieces of paper, cloth or woodchips, into which a flammable liquid is soaked.

In the embodiment of Figures 1, 2A and 2B, the coffin is made of a composite material that is adapted to have a very high initial combustion rate. In other words, it catches fire very quickly. The composite material is merely flammable and does not have a high initial combustion rate. Here, a distinction is made in the sense that the fire-starter material 300 is the actual ingredient that provides the high initial combustion rate.

Composite Material

The composite material is made of combustible particulate matter bound together by a binder that binds the particulate together.

In the embodiment of Figure 2, even when the particulate is bound together by the binder, it is found that there is sufficiently porosity in the composite structure to allow air or oxygen to aid the combustion of the composite material. However, when the fire-starters 300 are exposed to the external environment, such as in Figure 2B, it is strictly not required for the coffin material 100 to be porous or have substantial inherent porosity.

The particulate matter of the composite materials can be bonded together with a biodegradable binder such as starch, for instance, flour mixed with water. An advantage of such biodegradable binders is that, if the coffin is buried rather than cremated, it accelerates the time needed for breaking down of the coffin material underground.

Alternatively, the binder can include resins or glues.

In the embodiments, since the aim is to achieve fast combustion of the coffin, it is preferable to bind the combustible particulate matter with a binder which itself is also fairly or very combustible.

The use of flammable composite materials, including a flammable binder and flammable particulate, further reduces the overall time taken to cremate the coffin. In other words, the use of the fire starters 300 increases the initial combustion rate, while the use of a flammable composite material decreases the overall time taken to fully cremate the coffin.

Manufacturing Process – Casting & Moulding

The embodiment of the composite material used in the manufacture of the coffin of embodiment of Figures 1, 2A and 2B is created by a casting or moulding process.

Figure 3A shows a plan view of the mould used for casting the composite material. In this example, the mould includes two pairs of side-walls 20 that fit together to form a rectangular trough.

Figure 3B shows perspective unassembled views of the individual side-wall components 20 which together form the mould.

Figure 3C shows a perspective view of the parts of the mould as assembled, with the side-walls 20 fitted together, and placed on top of a base 10.

The base 10 is provided with perforated holes 15. These holes 15 in the mould assembly are provided to aid drying of the composite material while it forms in the mould.

Before filling the mould with a slurry of the composite material, the inner surfaces of the mould are oiled. This prevents the composite material from adhering to the surfaces of the mould.

After the mould has been prepared, a slurry, consisting of the ingredients of the composite material, is poured into the mould. The components of the mould are compressed.

In the embodiment, the slurry of the composite mixture includes wood chips, saw dust, paper particles etc. mixed together in a starch, such as rice flour. After the mould is filled with the slurry, a cover 25 is placed on top of the mould. The cover 25 forms the upper surface of the mould.

In Figure 3C, the underside of the cover 25 has protrusions. During the casting process, the protrusions project into the wet slurry so as to form corresponding slots 300 in the coffin material. The slots 300, which are also seen in Figure 2B, are adapted to receive fire starters.

In the embodiment, the arrangement of the slots 300 in the surface of the composite material is random, although in other embodiments the arrangement can be regular.

The cover 25 and base 10 are clamped together and pressed together tightly to hold the material together. This also may allow excess starch or other binder material to ooze out from the perforated holes.

Next, the mould is dried in an oven at around 100 degrees Celsius, for example, for about one day. The mould material is preferably made of metal, in view of the long period that the mould has to remain in the oven.

Once the material has been dried in the oven, and cooled, the mould is removed.

In the above example, in the manufacturing process, the solid fire starters are inserted into the slots 300 after the composite material has dried.

However, in other modifications of the manufacturing process, the wet composite material is pre-formed with slots, and the mould is removed while the composite material is still wet, and the fire starters are inserted into the slots in the wet composite material while it is drying. It is found that this enables the fire-starters to be fixed more securely inside the slots. In this respect, there are two variations:

i) where the fire starters consist of solidified lumps or pieces of material, these lumps or pieces are inserted into the slots, and

ii) where the fire starters are an absorbent matrix which absorbs liquid fire starter material, the absorbent matrix is first inserted into the slots, and then the liquid inflammable material is poured onto the absorbent matrix to let the flammable liquid soak through the absorbent matrix in the slots.

During the manufacturing process, the addition of the inflammable fire-starter material to the composite material should happen after the heating and drying process, since the flammable material or materials may otherwise ignite due to the heat of the drying process.

For example:

i) with fire starters in the form of solidified lumps, these can be inserted into the slots after the drying process.

ii) With fire starters in the form of an absorbent matrix into which flammable liquid is soaked, the actual pieces of absorbent matrix can be inserted into the slots before the heated drying

process, but the flammable liquid is only soaked into the matrix after the heating and drying process.

iii) Where the fire starter material is an integral ingredient of the coffin material, the fire starter material would be added before the heating and drying step, however, in such a case, the heating and drying temperature would be kept sufficiently low to ensure that the fire starter material does not ignite inside the oven.

It is possible, also, to perform methods i) and ii) before the heating process, and the keep the oven temperature sufficiently low to avoid auto-ignition of the fire starter material, but lower temperature tends to lead to longer drying times.

In use, the mass of particulate is impregnated with fire starters so that the composite material will catch fire immediately when the coffin is initially placed in flame. This avoids the disadvantage in the prior art, where the prior art coffin can be initially lapped with flames for many minutes without catching fire. In contrast, in the present embodiment, when the coffin comes into contact with the flames, in these initial moments the fire-starters 200 in the coffin material will immediately or very quickly catch fire, thus accelerating or increasing the initial combustion of the coffin.

Examples of Compositions of Composite Material

Material Example 1

The materials for the composite material are apportioned by the following ratio:

1 kg	starch (raw powder)
0.8 kg	cold water
2.1 kg	hot water
1 kg	wood chips

In other variations, the material can be made only of wood chips, or from a mixture of wood chips and paper, or alternatively from paper only. However, paper alone does not provide the weight that the industry tends to associate with prior art wooden coffins.

In practice, the starch, cold water and hot water are mixed to form a paste or slurry. One or more of wood chips, saw dust, recycled paper are then added into the paste. The slurry composition is then injected or fed into the mould.

As an alternative to wood chips, the slurry can include saw dust as an ingredient.

Material Example 2

The materials for the composite material are apportioned by the following ratio:

0.5 kg	starch (raw powder)
0.4 kg	cold water
3.4 kg	hot water
1.7 kg	wood chips

Material Example 3

The materials for the composite material are apportioned by the following ratio:

1 kg	starch (raw powder)
0.8kg	cold water
3.5 kg	hot water
1.7kg	wood chips

The material of example 1 is most suitable for coffin construction, while the material in example 2 is slightly more brittle than the material of example 1. The material of example 3 is better than the material of example 2, but it is still fairly brittle.

The materials can be tested for surface hardness using tests such as the Rockwell Hardness test. Preferably, the composite material would be similar in strength and hardness to a range of woods or materials used in known coffin manufacture. This is because the composite material preferably is intended as a wood-substitute for those materials previously used in the manufacture of coffins.

To create the composite material, the mixture of paper, wood chips, sawdust, water and starch are mixed together in a mixing apparatus.

In the embodiment, the binder is starch because of its low cost and effective binding qualities, and is also biodegradable. Starches can include tapioca starch, potato starch, rice/flour starch. Tapioca starch is favoured because of its high degree of stickiness. Other binding materials can also be used.

Rather than using solid wood, the embodiment of the combustible coffin can be made of these types of composite materials, for example in Material Examples 1, 2 and 3. In the embodiment, the particulate can be made, for example, from wood chips, sawdust, paper, either alone or a combination of these materials. Other particulate material can also be used, provided that the particulate can be burned. The use of these materials, which are often waste materials, aids conservation of forestry resources.

In other embodiments of the composite material, in order to provide greater structural rigidity to the coffin material, the particulate material may be reinforced with a wire mesh 400, as shown in Figures 2B and 4.

In the embodiment, the fire starters themselves do not contribute to the structural strength of the coffin.

In the embodiment, the fire-starters are impregnated into the coffin material itself, since this achieves the fastest rate of enabling the coffin material to catch fire. There is little advantage in placing the fire-starters merely on the outer surface of the coffin that contacts the flame initially, without embedding them, since the flames from surface-fire-starters would merely cause flame to touch the outer surface of the coffin, which already happens when the coffin is surrounded by flames during the initial part of the combustion process. In other words, having fire-starters on the outer surface, that contacts the flame initially, would not add significantly to what already happens.

Rather, in the present embodiment, the placement of fire-starters inside the coffin material itself expedites the flames reaching the inner parts of the coffin material, and/or the interior of the coffin.

In other embodiments, the combustion of the interior of the coffin can be enhanced by providing small ventilation gaps or holes in the coffin to facilitate greater oxygen flow reaching the fire-starters.

Beside the pieces of fire-starters, there can also be ventilation gaps so that oxygen can reach the fire-starters during these critical initial stages of combustion. For instance, in Figure 2B, there is a slight gap between the fire-starter 200 and the wall of the slot 300 which allows passage of air to aid combustion. In Figure 2B, this gap has been exaggerated for the sake of illustration, since in practice there should preferably be some contact or slight fit between the fire-starter 200 and the slot 300 to ensure that the fire-starter 200 does not fall out of the slot.

The fire-starter materials are preferably located on the underside of the coffin. Firstly, the flame would tend to reach the underside and sides of the coffin during the cremation process. Secondly, having fire-starters on the upper and side surfaces can be unsightly, since people are used to coffins being made of solid material. Alternatively, the fire-starter material can be located in the

side and upper surfaces of the coffin, and in these cases, the fire-starter materials are dyed or painted with the same colour of the coffin.

In other embodiments, the fire starters can be located throughout the coffin material, not just on the underside.

In the preferred manufacturing process, the fire starters 200 are inserted into the slots 300 in the coffin material 100. As discussed above, the insertion preferably happens after the composite material has been dried, following the moulding process, depending on the nature of the fire starter material. In the preferred embodiment, the fire-starters 200 are inserted after the coffin composite material has dried, to avoid a case where the flammable oil, contained in the fire starters, could mix with the wet coffin slurry material.

As mentioned above, in other embodiments, the fire starters are inserted into the composite material during the manufacturing stage, when the composite material is still soft, such that the fire starters are set in place as the composite material dries and hardens. It is found that the fire starters may be held in place more securely when incorporated into the composite material in this manner.

In this specification, a distinction is made between a flammable material such as wood or wood chips, versus a combustion-enhancing material such as a fire-starter. Both materials eventually catch fire, but for the purposes of this specification, a flammable material is one that will eventually catch fire, whereas a combustion-enhancing material, such as a fire-starter, is one that will immediately, or almost immediately catch fire when exposed to flame. Thus, solid wood would not be regarded as a combustion-enhancing material for the purposes of this specification. A flammable material, such as wood, may take quite some time to catch fire, particularly if it is a very hard wood, or if the wood has a layer of varnish.

It is found that coffins made from the embodiment of the composite material are fully combusted in an hour or less, compared to the usual 2 to 2½ hours for prior art coffins. This has immediate benefits in terms of fuel-saving, faster cremation, and decreased pollution.

Moreover, the cost of making coffins, made from the composite material of the present embodiment, is either comparable or cheaper than coffins made conventionally from solid wood. Moreover, the particulate matter used for the embodiment is biodegradable. Whilst it may not cause less pollution when burned, it would certainly not cause more pollution than, say, burning solid wood. The pollution savings arise from the shorter time required to fully cremate the coffin.

The particulate matter, used in the embodiment of the composite material, may, for example, be wood chips, sawdust and paper. These materials can come from waste products which can reduce the cost of the coffin, and also encourages recycling of waste materials.

Once the composite sheet material has been prepared, the coffin 100 is created and produced from the flat or sheet material according to known coffin construction techniques.

In a further embodiment of the coffin of the present invention, the coffin need not be made from a composite material. For instance, the coffin can be made from solid wood, in which slots are created and filled with fire-starter material.

In some embodiments, it is desirable for the coffin to be coated with a veneer of colour or lacquer so that the coffin outer surface has a high quality appearance. The coloured veneer also masks the presence of fire starters in the surface of the coffin material. The veneer does not affect the combustion of the fire starters, since the veneer is quickly burnt off when it contacts the flames.

Bio-Degradability

In the examples of embodiments of composite materials described above, it is found that the some or all of the ingredients used lead to providing the composite material with a high degree of bio-degradability, compared to wood. This may be considered advantageous when coffins are made out of this highly bio-degradable material.

For instance, in practice, even though the coffin materials of the present invention are characterised by superior combustion, it is understood that the end-users may in fact purchase coffins from the manufacturer and not actually cremate the coffins, but rather use them in burial. In such instances, the high degree of bio-degradability becomes an advantageous feature of such coffins.

In particular, the use of starch in the embodiment contributes to the bio-degradability because when starch contacts with water in the soil, it speeds up the degradation of the material. This fact applies to the use of the material either in coffins or plant containers.

It is found that the highly bio-degradable material of the embodiment, used for coffin manufacture, is also highly suitable for other applications that require a high degree of bio-degradability. For example, the composite material is used in an embodiment of a plant container, such as a flower pot, which is adapted to be buried below ground level so as to eventually biodegrade. The embodiment of the plant container is manufactured from the composite material described above.

The bio-degradable nature of the material also lends itself to other uses, such as storage containers for garbage disposal.

The embodiments have been advanced by way of example only, and modifications are possible within the scope of each of the various aspects of the present invention as defined by the

appended claims.

CLAIMS:

1. A method of increasing the initial combustion-rate of a combustible coffin when it is exposed to flame, including the steps of:
 - providing the coffin material with a combustion-enhancing material, and
 - igniting the combustion-enhancing material using a flame.
2. A method of claim 1 wherein the combustion-enhancing material is a fire-starter material.
3. A method of claim 2 wherein the fire-starter material is impregnated into the coffin material in discrete pieces.
4. A method of either claim 2 or 3 wherein the fire-starter material is inserted into slots provided in the surface of the coffin material.
5. A method of claim 2 wherein the fire-starter material is formed in the coffin material as an integral ingredient of the coffin material.
6. A method of any one of the preceding claims wherein the fire-starter material includes a petroleum-based flammable material.
7. A combustible coffin wherein the coffin is made of a material that includes a combustion-enhancing material that enhances the initial combustion-rate of the coffin, the combustion-enhancing material adapted to catch fire immediately or almost immediately upon exposure to a flame.
8. A coffin of claim 7 wherein the combustion-enhancing material is a fire-starter material.
9. A coffin of claim 8 wherein the fire-starter material is impregnated into the coffin material in discrete pieces.
10. A coffin of either claim 8 or 9 wherein the fire-starter material is inserted into slots provided in the surface of the coffin material.

11. A coffin of claim 8 wherein the fire-starter material is formed in the coffin material as an integral ingredient of the coffin material.
12. A coffin of any one of claims 7 to 11 wherein the fire-starter material includes a petroleum-based flammable material.
13. A method of constructing a coffin from coffin material, including the steps of including a combustion-enhancing material in the coffin material that enhances the initial combustion-rate of the coffin, the combustion-enhancing material adapted to catch fire immediately or almost immediately upon exposure to a flame.
14. A method of claim 13 wherein the coffin is in accordance with any one of claims 7 to 12.
15. A coffin composite material adapted to be used in manufacture of a coffin having a high initial combustion rate, including:
 - combustible particulate matter, and
 - a binder that binds the particulate together,
 - wherein the coffin composite material is impregnated with fire starters adapted to catch fire immediately or almost immediately when the coffin composite material is exposed to a flame.
16. A coffin composite material according to claim 15 wherein the combustible particulate matter includes one or more of wood chips, sawdust, or paper.
17. A coffin composite material according to claims 15 or 16 wherein the binder is a starch.
18. A coffin composite material according to any one of claims 15 to 17 wherein the material is reinforced with a wire mesh.
19. A composite material of any one of claims 15 to 18 including starch, cold water, hot water and particulate in substantially the following ratio—1 : 0.8 : 2.1 : 1
20. A composite material of any one of claims 15 to 18 including starch, cold water, hot water and particulate in substantially the following ratio—0.5 : 0.4 : 3.4 : 1.7

21. A composite material of any one of claims 15 to 18 including starch, cold water, hot water and particulate in substantially the following ratio—1 : 0.8 : 3.5 : 1.7
22. A coffin composite material according to claims 15 or 16 wherein the binder is a combustible resin.
23. A method of cremating a coffin, including the steps of including a combustion-enhancing material in the coffin material that enhances the initial combustion-rate of the coffin, the combustion-enhancing material adapted to catch fire immediately or almost immediately upon the step of exposure to a flame.
24. A cremation method of claim 23 wherein the coffin is in accordance with any one of claims 7 to 12.
25. A method of any one of claims 1 to 6, or any one of claims 13 or 14, wherein the coffin is made from a composite material of any one of claims 15 to 22.
26. A coffin of any one of claims 7 to 12, wherein the coffin is made from a composite material of any one of claims 15 to 22.
27. A biodegradable composite material, including:
particulate matter, and
a binder that binds the particulate together,
wherein the particulate matter and the binder are characterised by being substantially biodegradable.
28. A composite material of claim 27 wherein the binder is a starch.
29. A composite material according to claim 27 or 28 wherein the particulate matter includes one or more of wood chips, sawdust, or paper.
30. A composite material of any one of claims 27 to 29 wherein the coffin composite material is impregnated with fire starters adapted to catch fire immediately or almost immediately when the coffin composite material is exposed to a flame.

31. A composite material of any one of claims 27 to 30 wherein the material is reinforced with a wire mesh.
32. A composite material of any one of claims 27 to 31 including starch, cold water, hot water and particulate in substantially the following ratio—1 : 0.8 : 2.1 : 1
33. A composite material of any one of claims 27 to 31 including starch, cold water, hot water and particulate in substantially the following ratio—0.5 : 0.4 : 3.4 : 1.7
34. A composite material of any one of claims 27 to 31 including starch, cold water, hot water and particulate in substantially the following ratio—1 : 0.8 : 3.5 : 1.7
35. A composite material of either claim 27 wherein the binder is a combustible material.
36. A composite material of claim 27 wherein the binder is a combustible resin.
37. Use of the composite material of any one of claims 27 to 36 in the manufacture of a combustible coffin adapted to catch fire immediately or almost immediately upon exposure to a flame wherein said composite material enhances the initial combustion-rate of the coffin.
38. Use of the composite material of any one of claims 27 to 36 in the manufacture of a biodegradable plant container adapted to be buried below ground level so as to eventually biodegrade.
39. Use of the composite material of any one of claims 27 to 36 in the manufacture of a coffin.
40. A plant container adapted to be buried below ground level so as to eventually biodegrade wherein the plant container is made from or substantially from the biodegradable composite material of any one of claims 27 to 36.
41. A container adapted to be buried below ground level so as to eventually biodegrade wherein the plant container is made from or substantially from the biodegradable composite material of any one of claims 27 to 36.