SUMMARY OF THE INVENTION

[011] In the following description, certain aspects and embodiments will become evident. It should be understood that the invention, in its broadest sense, could be practiced without having one or more features of these aspects and embodiments. It should be understood that these aspects and embodiments are merely exemplary.

[012] In one aspect, as embodied and broadly described herein, the invention includes a container for containing and/or suppressing a fire. The container may include a floor, a roof, and at least one wall associating the floor and the roof. The at least one wall may define an opening configured to provide access to the interior of the container. The container may further include at least one panel configured to close the opening. At least one of the floor, the roof, the at least one wall, and the at least one panel may include an intumescent material substantially covering an interior surface thereof.

[013] A further aspect may relate to a system of containers for suppressing and/or containing a fire. The system may include a container including a floor, a roof, and at least one wall associating the floor and the roof. The at least one wall may define an opening configured to provide access to the interior of the container. The container may further include at least one panel configured to close the opening. The system may further include at least one relatively smaller container contained within the container. At least one of the container and the at least one relatively smaller container may include an interior surface substantially covered with an intumescent material.

[014] In another aspect, a method for improving a container's fire containment and/or fire suppression capability may include providing a layer of intumescent material on at least one interior surface of the container.

[015] Aside from the structural and procedural arrangements set forth above, the invention could include a number of other arrangements such as those explained hereinafter. It is to be understood that both the foregoing description and the following description are exemplary only.

BRIEF DESCRIPTION OF THE DRAWINGS

[016] The accompanying drawings are incorporated in and constitute a part of this specification. The drawings illustrate exemplary embodiments and, together with the description, serve to explain some principles of the invention. In the drawings,

[017] Fig. 1A is a schematic perspective view of an exemplary embodiment of a container for containing and/or suppressing a fire;

[018] Fig. 1B is a schematic, partial cross-section view of a portion of the embodiment of Fig. 1A;

[019] Fig. 2A is a schematic perspective view of another exemplary embodiment of a container for containing and/or suppressing a fire;

[020] Fig. 2B is a schematic, partial cross-section view of a portion of the embodiment of Fig. 2A; and

[021] Fig. 3 is a schematic perspective view of an exemplary embodiment including a system of containers for containing and/or suppressing a fire.

SUMMARY OF THE INVENTION

[011] In the following description, certain aspects and embodiments will become evident. It should be understood that the invention, in its broadest sense, could be practiced without having one or more features of these aspects and embodiments. It should be understood that these aspects and embodiments are merely exemplary.

[012] In one aspect, as embodied and broadly described herein, the invention includes a container for containing and/or suppressing a fire. The container may include a floor, a roof, and at least one wall associating the floor and the roof. The at least one wall may define an opening configured to provide access to the interior of the container. The container may further include at least one panel configured to close the opening. At least one of the floor, the roof, the at least one wall, and the at least one panel may include an intumescent material substantially covering an interior surface thereof such that a fire inside the container is at least one of contained within the container and suppressed.

[013] A further aspect may relate to a system of containers for suppressing and/or containing a fire. The system may include a container including a floor, a roof, and at least one wall associating the floor and the roof. The at least one wall may define an opening configured to provide access to the interior of the container. The container may further include at least one panel configured to close the opening. The system may further include at least one relatively smaller container contained within the container. At least one of the container and the at least one relatively smaller container may include an interior surface substantially covered with an intumescent material, such that a fire inside the container with the interior surface substantially covered with intumescent material is at least one of contained within the container and suppressed.

[014] In another aspect, a method for improving a container's fire containment and/or fire suppression capability may include providing a layer of intumescent material on at least one interior surface of the container, wherein the layer of intumescent material protects the interior of the container from fire inside the container.

[015] Aside from the structural and procedural arrangements set forth above, the invention could include a number of other arrangements such as those explained hereinafter. It is to be understood that both the foregoing description and the following description are exemplary only.

BRIEF DESCRIPTION OF THE DRAWINGS

[016] The accompanying drawings are incorporated in and constitute a part of this specification. The drawings illustrate exemplary embodiments and, together with the description, serve to explain some principles of the invention. In the drawings,

[017] FIG. 1A is a schematic perspective view of an exemplary embodiment of a container for containing and/or suppressing a fire;

[018] FIG. 1B is a schematic, partial cross-section view of a portion of the embodiment of FIG. 1A;

[019] FIG. 2A is a schematic perspective view of another exemplary embodiment of a container for containing and/or suppressing a fire;

[020] FIG. 2B is a schematic, partial cross-section view of a portion of the embodiment of FIG. 2A; and

[021] FIG. 3 is a schematic perspective view of an exemplary embodiment including a system of containers for containing and/or suppressing a fire.

WHAT IS CLAIMED IS:

1. A container for containing and/or suppressing a fire, the container comprising:

a floor;

a roof;

at least one wall associating the floor and the roof, the at least one wall defining an opening configured to provide access to the interior of the container; and

at least one panel configured to close the opening,

wherein at least one of the floor, the roof, the at least one wall, and the at least one panel comprise an intumescent material substantially covering an interior surface thereof.

2. The container of claim 1, wherein the intumescent material substantially covers an interior surface of the roof, the at least one wall, and the at least one panel.

3. The container of claim 1, wherein the roof and the at least one wall comprise at least one material selected from aluminum, plastic material, composite material, Lexan®, fiberglass, Kevlar®, polypropylene, and honeycomb panel.

4. The container of claim 1, wherein the at least one panel comprises at least one material selected from metal and fiberglass.

5. The container of claim 1, wherein the intumescent material comprises at least one of an epoxy material and an acrylic material.

6. The container of claim 1, wherein the panel comprises fiberglass cloth and is configured to roll up.

7. The container of claim 6, wherein the intumescent material substantially covers an interior surface of the panel.

8. The container of claim 7, wherein the intumescent material comprises an acrylic material.

9. A system of containers for suppressing and/or containing a fire, the system comprising:

a container comprising

a floor,

a roof,

at least one wall associating the floor and the roof, the at least one wall defining an opening configured to provide access to the interior of the container, and

at least one panel configured to close the opening; and

at least one relatively smaller container contained within the container,

wherein at least one of the container and the at least one relatively smaller container comprises an interior surface substantially covered with an intumescent material.

10. The system of claim 9, wherein at least one of the floor, the roof, the at least one wall, and the at least one panel comprise the intumescent material substantially covering an interior surface thereof.

11. The system of claim 9, wherein the at least one relatively smaller container comprises an interior surface substantially covered with the intumescent material.

12. The system of claim 9, wherein the container and the at least one relatively smaller container comprise interior surfaces substantially covered with the intumescent material.

13. A method for improving a container's fire containment and/or fire suppression capability, the method comprising:

providing a layer of intumescent material on at least one interior surface of the container.

14. The method of claim 13, wherein the container comprises a roof, at least one wall defining an opening, and at least one panel closing the opening, wherein the method comprises providing the layer of intumescent material on an

interior surface of at least one of the roof, the at least one wall, and the at least one panel.

15. The method of claim 13, further comprising placing the container within a relatively larger container, the relatively larger container comprising an interior surface substantially covered with an intumescent material.

WHAT IS CLAIMED IS:

1. A container for containing and/or suppressing a fire inside the container, the container comprising:

a floor;

a roof;

at least one wall associating the floor and the roof, the at least one wall defining an opening configured to provide access to the interior of the container; and

at least one panel configured to close the opening,

wherein at least one of the floor, the roof, the at least one wall, and the at least one panel comprise an intumescent material substantially covering an interior surface thereof, such that a fire inside the container is at least one of contained within the container and suppressed.

2. The container of claim 1, wherein the intumescent material substantially covers an interior surface of the roof, the at least one wall, and the at least one panel.

3. The container of claim 1, wherein the roof and the at least one wall comprise at least one material selected from aluminum, plastic material, composite material, polycarbonate sheet, fiberglass, para-aramid synthetic fiber, polypropylene, and honeycomb panel.

4. The container of claim 1, wherein the at least one panel comprises at least one material selected from metal and fiberglass.

5. The container of claim 1, wherein the intumescent material comprises at least one of an epoxy material and an acrylic material.

6. The container of claim 1, wherein the panel comprises fiberglass cloth and is configured to roll up.

7. The container of claim 6, wherein the intumescent material substantially covers an interior surface of the panel.

8. The container of claim 7, wherein the intumescent material comprises an acrylic material.

9. A system of containers for suppressing and/or containing a fire inside at least one of the containers, the system comprising:

a container comprising

a floor,

a roof,

at least one wall associating the floor and the roof, the at least one wall defining an opening configured to provide access to the interior of the container, and

at least one panel configured to close the opening; and

at least one relatively smaller container contained within the container,

wherein at least one of the container and the at least one relatively smaller container comprises an interior surface substantially covered with an intumescent material, such that a

fire inside the container with the interior surface substantially covered with intumescent material is at least one of contained within the container and suppressed.

10. The system of claim 9, wherein at least one of the floor, the roof, the at least one wall, and the at least one panel comprise the intumescent material substantially covering an interior surface thereof.

11. The system of claim 9, wherein the at least one relatively smaller container comprises an interior surface substantially covered with the intumescent material.

12. The system of claim 9, wherein the container and the at least one relatively smaller container comprise interior surfaces substantially covered with the intumescent material.

13. A method for at least one of containing and suppressing a fire inside a container, the method comprising:

providing a layer of intumescent material on at least one interior surface of the container, wherein the layer of intumescent material protects the interior of the container from fire inside the container.

14. The method of claim 13, wherein the container comprises a roof, at least one wall defining an opening, and at least one panel closing the opening, wherein the method comprises providing the layer of intumescent material on an interior surface of at least one of the roof, the at least one wall, and the at least one panel.

15. The method of claim 13, further comprising placing the container within a relatively larger container, the relatively larger container comprising an interior surface substantially covered with an intumescent material.

16. The container of claim 1, wherein the at least one wall is formed of a sheet of material partially defining the interior surface of the container, and wherein the interior surface is at least partially coated with the intumescent material, such that the intumescent material is exposed to the fire inside the container.

17. The system of containers of claim 9, wherein the at least one wall is formed of a sheet of material partially defining the interior surface of the container, and wherein the interior surface is at least partially coated with the intumescent material, such that the intumescent material is exposed to the fire inside the container.

18. The method of claim 13, wherein the container comprises a wall formed of a sheet of material partially defining the interior surface of the container, and wherein providing a layer of intumescent material on at least one interior surface of the container comprises at least partially coating the sheet of material with the intumescent material, such that the intumescent material is exposed to the fire inside the container