PERSONAL SAFETY PRODUCT

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ABSTRACT

A personal safety product formed from a pouch having an internal area with a safety item of the type used in emergency situations secured within the internal area, the internal area being vacuum sealed and the safety item being folded for miniaturization. In addition, a safety item sealed within a pouch in combination with a conventional article of manufacture, the pouch forming a sealed area and a flap, wherein the flap of the pouch is attached to the conventional article of manufacture. Also, a currency holder safety system, the currency holder safety system having a currency holder and a personal safety product, the personal safety product having a safety item sealed within a protective pouch, the personal safety product being secured within the currency holder for easy access thereto. Safety items may include emergency blankets, shelters, masks, or the like. The pouch is preferably air and moisture resistant.
PERSONAL SAFETY PRODUCT

BACKGROUND OF THE INVENTION

[0001] The present invention relates to personal safety products. More particularly, the present invention relates to personal safety products which may be readily associated with articles of manufacture which are otherwise conventional in appearance, such that the personal safety product is available for immediate use by a custodian of the article. The articles preferably retain the full utility of their intended use despite the addition of a personal safety product. In addition, it is preferred that the articles also retain the appearance, feel, weight, and other key characteristics of conventional equivalent articles.

[0002] The articles are preferably of the type that a person would commonly carry or have available during most hours of the day, such as a currency holder, personal digital assistant (PDA) holder, belt, cell phone case, shoe or shoe insert, clothing, or bags, to name a brief sample. In this regard, it is anticipated that one would typically have the personal safety product on their person or within a reasonable distance thereof, in the event that the personal safety product is needed.

[0003] The personal safety product preferably comprises a protective pouch housing one or more safety items, such as aluminized safety blankets, protective masks, eye protectors, safety hoods, safety structures or shelters, fire-resistant blankets, and the like in a novel manner. The protective pouch preferably stores and maintains the safety items in a manner suitable for long-term storage, without adversely affecting the integrity of the safety item.

[0004] Aluminized safety blankets, also commonly referred to as Space® blankets or emergency blankets, are well known. Space® is a registered trademark of Metallized Products, Inc., 27 East St., Winchester, Mass. 01890. This is particularly true in the first alert and outdoorsmen communities. Originally invented for NASA (the National Aeronautics and Space Administration), such blankets have been used worldwide by the relief agencies, various military units, medical personnel, search and rescue groups, and the like. They also find common use among outsiders and sportsmen, particularly for emergency situations. In non-emergency roles, it is also common to see aluminized blankets being used for athletics at the end of an athletic event, such as a marathon.

[0005] Aluminized safety blankets are typically formed from polyester film (also known as PET film) with an extremely thin layer of aluminum vacuum deposited on one or both sides. The aluminized film is commonly of a thickness in the range of 48 to 55 gauge when completed. Aluminized safety blankets, created from such film are commonly offered in packages approximately 2.5 inches wide×4.5 inches long×0.5 inches thick. Within the package, the aluminized safety blanket itself may be folded from various sizes, commonly 60 inches×84 inches, 56 inches×84 inches, 54 inches×83 inches, or 52 inches×82 inches. These combinations of gauge thicknesses and sizes create a conventional aluminized safety blanket weighing approximately 1.5 to 2 ounces.

[0006] As with aluminized safety blankets, protective masks are also well known. Such masks are employed commonly in both industrial and personal settings. For example, travelers may reduce their exposure to airborne viruses, such as the SARS (Severe Acute Respiratory Syndrome) virus, by wearing a NIOSH (National Institute for Occupational Safety and Health) approved, N95 particulate respirator or mask. This level of protection is recommended by both the World Health Organization and the Centers for Disease Control in the United States. Greater levels of protective masks are also available, such as the NIOSH approved N99 or N100 masks; the latter commonly employed for environments where an OSHA standard applies for substances such as lead, cadmium, arsenic, or MDA. Whether N95, N99 or N100, the safety masks may be provided in different sizes with dual straps for a secure fit. The safety masks may also include an exhaust valve for free breathing.

[0007] Other safety items, such as eye protectors, safety hoods, safety blankets, safety structures or shelters, fire-resistant blankets, or the like are also commonly known.

[0008] However unfortunate, the risk of industrial accidents and terrorist attack are imminent today. Additionally, the instances of severe weather events, such as bad winter storms or high winds or flooding, also seem to be increasing. During these types of events, particularly where the weather is cold or even cool, aluminized safety blankets find great utility among the suffering. Even in extremely warm conditions, aluminized safety blankets can serve to shield those suffering from sun exposure to ward off sunburn, maintain moisture levels in the body, and to generally assist with regulating body temperature. Aluminized safety blankets are therefore often passed out by emergency personnel to those affected by accidents, terrorist attack or act of nature. Notwithstanding such efforts, emergency personnel are not always present and affected persons may be left to fend for themselves for extended periods of time. During large scale events, even if emergency personnel are present, they may not have sufficient inventory of safety items to provide everyone affected with protection. It is during these periods of time where it would be most useful to have an aluminized safety blanket, protective mask, or other safety item within one’s custody for immediate use.

[0009] Additionally, seemingly everyday events could engender the need for aluminized safety blankets. For example, many motorists are stranded each day due to vehicle breakdowns. In other situations, persons may find themselves outdoors in the elements on unexpectedly chilly evenings or hot days. Attending a simple sporting event without a jacket could leave one uncomfortable if the temperature drops below anticipated levels. Even a common picnic may be uncomfortable if the ground is moist or air hot. In these situations, it would also be beneficial to have an aluminized safety blanket with one’s person for immediate use. In the case of the chilly evening, the aluminized safety blanket could be used in the conventional manner. For moist ground, the aluminized safety blanket could be used as a ground cloth.

[0010] In emergency situations where adverse weather is not a factor, aluminized safety blankets can still find beneficial use. In situations where one may be lost in the outdoors, such as when skiing or hiking, aluminized safety blankets may be used as a reflective surface to attract rescue workers, particularly those in planes or helicopters.
Notwithstanding the numerous examples of situations where an aluminized safety blanket can find beneficial utility, it has been found that a significant number of individuals do not carry such blankets on a regular basis. This is true for the average person as well as those conducting risky activities which may lead to the need for an aluminized safety blanket.

It has also been found that individuals, who may already be straddled with having to carry keys, a cell phone, and a currency holder, do not desire to be burdened with carrying safety items, despite their potential utility. Even if an individual were inclined to carry a safety blanket, the conventionally sized 2.5 inches wide x 4.5 inches long x 0.5 inches thick safety blanket package is unwieldy and awkward to carry on a full-time basis. In addition, the conventional packaging is not sturdy enough to withstand normal day-to-day abuse. Conventional packaging is typically formed from low density polyethylene and often includes a Ziploc®-type closure. Ziploc® is a registered trademark of S.C. Johnson Home Storage, Inc., 1525 Howe Street, Racine, Wis. 53403-2236. The combination of the basic material and Ziploc® closure permits the infiltration of air over time. This infiltration is accelerated by physical manipulation. The entrance of air, or even air within the package from the start, can cause the folded aluminized safety blanket to swell as air becomes lodged between the successive layers. This causes the entire package to swell and is an undesirable result. The air infiltration may also damage the aluminized safety blanket as moisture may permit mold to form and prosper.

Similar concerns revolve around the carrying and use of other safety items, such as safety masks. Individuals are not typically inclined to carry such products on a day-to-day basis, and thus may not have them readily available in a time of need.

Accordingly, it would be beneficial to provide a personal safety product with characteristics such that the personal safety product could be carried full-time without being significantly damaged or compromised, and without being an additional burden. It would also be beneficial to provide a personal safety product that could be concealed within conventional articles of manufacture, such that the personal safety device does not detract from the utility or aesthetics of the conventional article. In this regard, the personal safety product could be included within a conventional article such that it is readily separable and the conventional article may retain the full utility of its intended use despite the addition of the separable safety product. The personal safety product is intended to contain a safety item, such as an aluminized blanket, safety mask or the like.

SUMMARY OF THE INVENTION

The present invention overcomes the shortcomings of the prior art by providing, in certain embodiments, a personal safety product which may be associated with articles of manufacture which are otherwise conventional in appearance. These conventional articles may house the personal safety product such that the personal safety product is readily available for use. The articles preferably retain the full utility of their intended purpose despite this addition of a separable safety product. In addition, it is preferred that the articles also retain the appearance, feel, weight, and other characteristics of conventional equivalent articles. It is also preferred that the articles be of the type that a person would commonly carry or have available during most hours of the day, such as a currency holder, PDA case, cell phone case, or shoe insert. It is anticipated that one would always have the personal safety product on their person or within a reasonable distance thereof. The personal safety product preferably comprises a protective pouch housing one or more personal safety items, such as aluminized safety blankets, protective masks, eye protectors, safety hoods, safety structures or shelters, fire-resistant blankets, and the like.

Aspects of the invention include either the novel personal safety product alone, or the personal safety product in novel combination with conventional articles of manufacture.

In accordance with certain aspects of the present invention, a personal safety product may comprise an air and moisture resistant pouch having an internal area and a safety item of the type used in emergency situations secured within the internal area, wherein the internal area may be vacuum sealed and the safety item may be folded for miniaturization.

The safety item may be compressed within the pouch.

The safety item may be an aluminized safety blanket.

The safety item may be one of a safety mask, eye protector, safety hood, safety structure, or fire resistant blanket.

The pouch may be formed from a single sheet of material.

The pouch may further comprise a first end edge and second end edge, the first end edge being sealed and the second end edge comprising a fold of the single sheet of material.

The first end edge may be sealed by one of heat sealing, chemical sealing, dielectric sealing, or ultrasonic sealing.

The pouch may further comprise a first side edge and a second side edge, each of the first side edge and second side edge spanning the first end edge and the second end edge and being sealed by either one of heat sealing, chemical sealing, dielectric sealing, or ultrasonic sealing.

The sealed first end edge may form a flap.

The flap may be adapted to support a connection mechanism to connect the personal safety product to a conventional article of manufacture.

The connection mechanism may be an adhesive.

The connection mechanism may be the male portion of a track system.

The pouch may include an opening mechanism.

The opening mechanism may be one of a serration or pull string.

If the opening mechanism is serration, the serration may be either linear or non-linear.
The safety item may be folded into a configuration whereby the folded configuration includes a pair of stacked portions and a thinner middle portion spanning the stacked portions.

The personal safety product may be folded in the area of the thinner middle portion in excess of 30,000 times without substantially compromising air or moisture resistance.

The safety item may be an aluminized safety blanket having a thickness of less than 30 gauge.

The safety item may be an aluminized safety blanket and the personal safety product may have a weight of less than 0.9 ounces.

The pouch may be printable.

The personal safety product may be printed with at least one of instructions, source identification, promotional markings, or an expiration or “use by” date.

In accordance with further aspects of the present invention, a personal safety product system may comprise a safety item sealed within a pouch, the pouch forming a sealed area and a flap, and a conventional article of manufacture, wherein the flap of the pouch may be attached to the conventional article of manufacture.

The attachment may be by heat welding such that the flap may be inseparable from the conventional article of manufacture.

The attachment may be by one of adhesive, hook-and-loop type fasteners, or a track system.

The conventional article of manufacture may be a currency holder.

The conventional article of manufacture may be one of a cell phone case, PDA holder, shoe insert, or clothing.

The currency holder may be a wallet having a main compartment and a main compartment opening, a plurality of secondary compartments, each of the plurality of secondary compartments having secondary compartment openings extending parallel to the main compartment opening, and at least one tertiary compartment having a tertiary compartment opening extending perpendicular to the main compartment opening and the plurality of secondary compartment openings.

The safety item and the pouch may have a combined weight of less than 0.9 ounces.

The safety item may have a weight of approximately 0.77 ounces.

The safety item may be an aluminized blanket.

The aluminized blanket may have a thickness of between 20 and 30 gauge.

The safety item may be one of a safety mask, eye protector, safety hood, safety structure, or fire resistant blanket.

The pouch may be vacuum sealed.

The safety item may be folded for miniaturization.

In accordance with still further aspects of the present invention, a currency holder safety system may comprise a currency holder and a personal safety product, the personal safety product having a safety item secured within a protective pouch, the personal safety product secured within the currency holder for easy access thereto.

The safety product may be secured to the currency holder with an adhesive.

The pouch may be vacuum sealed.

The safety item may be folded for miniaturization.

The pouch may be air and moisture resistant.

The safety item may be an aluminized safety blanket.

The currency holder and the safety items may be adapted to be folded at respective fold lines, at least one of the fold lines of each being in alignment.

BRIEF DESCRIPTION OF THE DRAWINGS

The subject matter regarded as the invention is particularly pointed out and distinctly claimed in the concluding portion of the specification. The invention, however, both as to organization and methods of operation, together with features objects, and advantages thereof, may be best understood by reference to the following detailed description when read with the accompanying drawings in which:

FIG. 1 is a plan view of a currency holder in an open condition in accordance with certain aspects of the present invention;

FIG. 2 is a plan view of a personal safety product in accordance with further aspects of the present invention;

FIG. 3 is a perspective view of the currency holder of FIG. 1 in a folded condition;

FIG. 3a is a partial blown-up and cut-away view of the currency holder of FIG. 3;

FIG. 4 is a diagrammatic view of a bulk roll of aluminized safety blanket material in accordance with additional aspects of the present invention;

FIG. 5 is diagrammatic view of a finished roll of the aluminized safety blanket material of FIG. 4;

FIG. 6 is a diagrammatic view of the finished roll of aluminized safety blanket material of FIG. 5 in a flattened condition;

FIG. 7 is a diagrammatic view of one folding technique for folding the flattened roll of aluminized safety blanket material of FIG. 6;

FIG. 8 is a diagrammatic view of an aluminized safety blanket folded in accordance with the procedure set forth in FIG. 7; and

FIG. 9 depicts a cross section of a currency holder and personal safety product showing a track-type connection mechanism in accordance with certain aspects of the present invention.

DETAILED DESCRIPTION

In the following are described the preferred embodiments of the personal safety product in accordance
with the present invention. In describing the embodiments illustrated in the drawings, specific terminology will be used for the sake of clarity. However, the invention is not intended to be limited to the specific terms so selected, and it is to be understood that each specific term includes all technical equivalents that operate in a similar manner to accomplish a similar purpose. Where like elements have been depicted in multiple embodiments, identical reference numerals have been used in the multiple embodiments for ease of understanding.

As previously stated, the present invention relates to personal safety products, and particularly to personal safety products which may be associated with articles of manufacture which are otherwise conventional in appearance. These conventional articles preferably house the personal safety product such that the personal safety product is readily available for use. The articles preferably retain the full utility of their intended purpose despite the addition of a separable safety product. In addition, it is preferred that the articles also retain the appearance, feel, weight, and other characteristics of conventional equivalent products.

It is also preferred that the articles be of the type that a person would commonly carry or have available during most hours of the day, such as a currency holder, PDA case, cell phone case or shoe insert. In this regard, it is anticipated that one would always have the personal safety product on their person or within a reasonable distance thereof for easy access to the personal safety product. The personal safety product preferably comprises a protective pouch housing personal safety items, such as an aluminized safety blankets, protective masks or the like.

For purposes of continued description, the remainder of this disclosure will predominantly refer to personal safety products incorporating aluminized safety blankets. However, it will be appreciated that numerous other safety items, known or unknown, may easily be incorporated within the personal safety product and are considered to be within the scope of the present invention. Such safety items include safety masks, eye protectors, safety hoods, safety structures or shelters, and fire resistant blankets among others. Modifications to these conventional safety products, known or unknown, are also considered to be within the scope of the present invention. For example, aluminized safety blankets may be provided with hoods, or may be provided as jackets.

Aluminized safety blankets are well known. They are typically formed from polyester film (also known as PET film) with an extremely thin layer of aluminum vacuum deposited on one or both sides. The aluminized film is commonly of a thickness in the range of 50 to 55 gauge when completed. Aluminized safety blankets, created from such film, are commonly offered in packages approximately 2.5 inches wide x 4.5 inches long x 0.5 inches thick. Within the package, the aluminized safety blanket itself may be folded from various sizes, commonly 60 inches x 84 inches, 56 inches x 84 inches, 54 inches x 83 inches or 52 inches x 82 inches. These combinations of gauge thicknesses and sizes create a conventional aluminized safety blanket weighing approximately 1.5 to 2.0 ounces.

Aluminized safety blankets in the 40 to 55 gauge range with common sizes and weights of 1.5 to 2.0 ounces have been found to be unwieldy to carry in association with an article of manufacture so as to significantly impact the weight, feel, appearance or other physical characteristic of the article of manufacture. For example, inserting such a product into a wallet forces the wallet to become too thick. In addition, the conventional packaging materials allow infiltration of air, which causes ballooning and further exacerbates the problem. The resulting effects to the article of manufacture are typically too undesirable to tolerate, and persons go without the benefits of a readily available safety product.

It has been found that an aluminized safety blanket may be constructed to various gauges much thinner than 50-55 gauge, such as 20 to 30 gauge, while still retaining a majority of useful benefits. Preferably, 23 gauge aluminized safety blankets are utilized with the present invention as lighter gauge blankets tend to tear upon use. It has been found that 23 gauge strikes an appropriate balance between durability and light weight.

In 23 gauge form, an aluminized safety blanket of conventional size, such as 52 inches x 82 inches, weighs approximately 0.77 ounces. As previously discussed, conventional safety blankets weigh approximately 1.5 to 2.0 ounces. This weight difference does not greatly sacrifice the performance characteristics of the in-tact blanket. Rather, the thinner blanket may merely suffer from a less lengthy lifespan, which is irrelevant for safety purposes as the useful life span is still longer than typical emergency situations require. Thinner blankets are also more difficult to fold for later use than thicker blankets, but in emergency situations this characteristic is again not a major flaw, as they are typically one-time or limited use items.

In the past, it has been found that when aluminized safety blankets are packaged conventionally, such as in conventional plastic pouches with Ziploc® seals, air is either permitted to enter the package or may be trapped within the package during manufacture. With repeated manipulation of the package, such as by bending or flexing, air infiltrates the layers of the folded aluminized safety blanket where it can cause the blanket to balloon within the package. Once this swelling starts to occur, it is extremely difficult to evacuate the air, and the packaged safety blanket will continue to expand until the package itself limits full expansion. It will be appreciated that in this condition, the safety blanket is difficult to conceal within conventional articles of manufacture.

It would therefore be beneficial to have a personal safety product that limits air infiltration such that repeated manipulation of the product will not cause this ballooning affect to an aluminized safety blanket or other safety product stored therein.

In addition to infiltration of air, infiltration of moisture may also be detrimental. Any moisture permitted within the package may permit mold to grow. Because these products are typically intended for long-term storage, any existence of mold will be detrimental as the mold may have sufficient time to grow and render the aluminized safety blanket unsightly and unsanitary. This is particularly true for safety masks, which may spoil upon moisture infiltration.

In accordance with one aspect of the present invention, a conventional article of manufacture, such as a currency holder in the form of a wallet 100 shown in FIG. 1,
may be adapted to accept a personal safety product. Again, it will be appreciated that other conventional articles of manufacture may also be utilized. Such articles include, but are not limited to currency holders such as men’s, women’s, and children’s wallets, billfolds, front pocket wallets, bifolds, trifold, passport wallets, checkbook wallets, credit card holders, and the like; bags such as purses, funny packs, pocketbooks, backpacks, and the like; organizers such as PDA cases or conventional organizers; shoe inserts, and other articles of manufacture.

[0081] As will be discussed more fully, the wallet 100 may be specifically designed and manufactured to accept the personal safety product, such that the combination of the wallet and personal safety product may have the look, feel, and weight of a conventional wallet. Nevertheless, the wallet 100 may comprise conventional features of a typical wallet as well.

[0082] As shown in FIG. 1, the wallet 100 may comprise a main compartment 102 sized and particularly suited for reception of standard currency. The main compartment may, although not shown, include a longitudinal divider to separate the compartment into two adjacent compartments, as is found in some conventional wallets. The wallet 100 may also comprise a plurality of secondary compartments 104a-104f, particularly suited for reception of credit cards or the like. The plurality of secondary compartments 104a-104f preferably include openings which extend generally parallel to the main compartment 102, and are typically placed in successive layers in front of the main compartment. Finally, the wallet may also include a pair of tertiary compartments 106a, 106b, also suited for reception of credit cards, photographs, and the like. The tertiary compartments 106a, 106b preferably include an opening which extends perpendicular to the main compartment 102. Each of these features can be found in many conventional wallets.

[0083] The wallet may be bound by a continuous edge 108 having a top edge 110, bottom edge 112, a first side edge 114 extending between the top edge and bottom edge and an opposed second side edge 116 also extending between the top edge and bottom edge opposite the first side edge to generally form a rectangle. The continuous edge 108 may be formed along the first side edge 114, bottom edge 112, and second side edge 116 from a fold 118 secured in place by stitching 120. In areas of first side edge 114 and second side edge 116 that are left unstitched, side flaps 122a, 122b may remain. Preferably, these side flaps 122a, 122b are in areas adjacent to the main compartment 102, and facilitate entry of materials into the main compartment, such as personal safety products or currency, as will be discussed. Along the top edge 110, the continuous edge 108 may be formed by a main compartment flap 124 held in place by main compartment stitching 126.

[0084] The wallet 100 may be sized similar to that of conventional wallets and still accommodate a personal safety product, or may be slightly oversized. In this regard, the overall length of the wallet 1.1 may be in the range of 20 to 23.5 centimeters. The secondary compartments 104a-104f may have a length L.2 of approximately 8.75 centimeters to 10.25 centimeters leaving a gap 128 having a length L.3 of between 2.5 centimeters and 3.0 centimeters therebetween. As with conventional wallets, the gap 128 is designed to facilitate easy folding by being thinner than the remainder of the wallet 100, particularly when the wallet is loaded with credit cards and the like.

[0085] The overall height H.1 of the wallet 100 may be between 6 and 9 centimeters with an exposed area between the top edge 110 and the first secondary compartments 104a, 104f, in the present example shown in FIG. 1, of height H.2 equaling 1.0 to 1.6 centimeters. In a most preferred embodiment, the values for these dimensions are as follows:

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>L.1</td>
<td>22.5 cm</td>
</tr>
<tr>
<td>L.2</td>
<td>10.0 cm</td>
</tr>
<tr>
<td>L.3</td>
<td>2.5 cm</td>
</tr>
<tr>
<td>H.1</td>
<td>9.0 cm</td>
</tr>
<tr>
<td>H.2</td>
<td>1.5 cm</td>
</tr>
</tbody>
</table>

[0086] A personal safety product may be adapted to fit within the wallet 100 shown in FIG. 1, or other articles which are fairly conventional in appearance. As shown in FIG. 2, a personal safety product 150 may be rectangular in shape and may include a first end edge 152 and second end edge 154 with a first side edge 156 extending therebetween and an opposed second side edge 158 also extending therebetween to form the rectangle.

[0087] The personal safety product 150 may be formed from a material which is preferably, but not necessarily, transparent or at least translucent, such that internal objects may be identified. The personal safety product 150 is also preferably formed from a material which is highly resistant, or which is a complete barrier, to air and moisture infiltration, and which is highly crack resistant, even upon repeated bending or other manipulation. Such material is also preferably highly stable, such that it will not break down or decay over a reasonable lifespan of approximately 10-15 years.

[0088] The material forming the personal safety product 150 is also preferably printable. For example, use instructions may be printed on the outer surface of the personal safety product. Other items may also be printed, such as indica of a source or sponsorship, manufacturing date, useful lifespan (or “use by” date or the like).

[0089] Typically, the material forming the personal safety product may be oven heat-sealable polyester film with a heat seal range of between 105° Celsius and 125° Celsius. Through testing, it has been found that the performance characteristics of the material may be as follows. The material may have a nominal seal strength of 2 pounds per linear inch. Permeability characteristics of the material at a thickness of 0.75 Gauge may be as follows:

<table>
<thead>
<tr>
<th>Test Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moisture Vapor Transmission Rate (MVTR) at 38 degrees C., 100% Relative Humidity</td>
<td>37.0 g/m²·day</td>
</tr>
<tr>
<td>Oxygen Transmission Rate (OTR) at 23 degrees C., 0% Relative Humidity</td>
<td>2.4 g/100 In·2/day</td>
</tr>
<tr>
<td>81.0 cc/m²·day</td>
<td>5.2 cc/100 In·2/day</td>
</tr>
</tbody>
</table>
The personal safety product 150 is preferably formed from a single sheet of material of length L4 and a height of two times H3, which is folded over once to form second end edge 154 at the fold line. This results in a product of length L4 and height H3. The first side edge 156 and second side edge 158 may then be sealed to form sealed areas 168, 170. It will be appreciated that sealed area 168 is partially bound by first side edge 156 and first side edge seal limit 162, while sealed area 170 is partially bound by second side edge 158 and second side edge seal limit 164. The two sealed areas 168, 170 are also bound by the folded-over second end edge 154. Sealing of the sealed areas is typically achieved by heat sealing, although other bonding techniques may be utilized, as will be discussed.

The combination of sealed areas 168, 170 and folded-over second end edge 154 form a pouch 172 with three bound edges and a voided interior area 174. A safety item, such as an aluminized safety blanket 200, may be placed within the pouch 172. Other safety items, such as masks, shelters, and the like, may be exchanged for the aluminized safety blanket 200, if so desired, as discussed previously. Multiple safety items may also be provided in a single pouch 172.

In the case of aluminized safety blankets 200, it is preferred that such blankets be folded in accordance with a predetermined pattern which allows for certain advantages, including miniaturization, as will be discussed. Once the aluminized safety blanket 200 or other safety article is placed within the pouch 172, the pouch may be sealed in a sealed area 166 between the first end edge 152 to a first end edge seal limit 160, from first side edge 156 to second side edge 158. It will be appreciated, that the personal safety product 150 is therefore completely sealed around its perimeter, to form a totally enclosed pouch 172. Prior to final sealing, it is preferred that all air be evacuated from the pouch 172 such that a vacuum is formed therein. The pouch 172 may also be mechanically compressed prior to sealing.

So configured, it will be appreciated that the sealed areas 166, 168, 170, and particularly sealed area 166, may form a flap that may be utilized to secure the personal safety product 150 to other articles, such as a wallet 100. The sealed areas 166, 168, 170 forming a flap may be reinforced if desired.

The pouch 172 preferably includes an opening mechanism, such as a serrated portion 176, the serrated portion being locally weakened for easy tearing. As shown in FIG. 2, the serrated portion 176 may extend on an angle between the second side edge 158 and the second end edge 154. The serrated portion 176 is preferably adapted to be easily opened, but still withstand years of abuse and not significantly undermine the function of the protective pouch 172. The serrated portion 176 may be located along a surface of the pouch 172, as just described, or may extend along one of the edges themselves, such as the second side edge 158. The serrated portion 176 may also be configured in various configurations, such as linear, non-linear, chevron, wavy, sinusoidal, or the like, as determined to facilitate open, improve aesthetic, or for other reasons. Other opening mechanisms may also be provided, such as pull string tabs, that shear the material as a string is pulled through.

The sealed areas 166, 168, and 170 may be formed from a process of combined heat and pressure upon the personal safety product 150. This process is typically referred to as heat sealing, and is well known in the art. Other known processes such as dielectric sealing or ultrasonic sealing may also be utilized. It is preferred that the seal be long lasting and completely airtight.

The personal safety product 150 may be constructed to various sizes, however, to work most efficiently in conjunction with the wallet 100 shown in FIG. 1, it is preferred that the personal safety product have a height H3 of approximately 5 to 8.5 centimeters with a preferred height of 8.0 centimeters and a length L4 of approximately 18.5 to 22.0 centimeters with a preferred length of 21.0 centimeters. Of course, other sizes may also be utilized for the wallet 100 or for various other articles. In this regard, it will be appreciated that smaller articles may be more suited for personal safety products 150 with dimensions less than that which are appropriate for wallet 100 while larger articles may be able to accommodate larger personal safety products.

When so configured, the pouch may have a weight of between 0.05 and 0.1 ounces. Thus, in combination with, for example, a safety blanket having a weight of 0.77 ounces, the personal safety product may weight approximately 0.82 to 0.87 ounces. It is most preferred that this combined weight be less than 0.9 ounces.

As shown in FIG. 3, it is well known that wallets 100 may be folded for entry into a pocket or other receptacle. In this perspective view of the folded wallet 100 in a folded condition, the main compartment 102 is visible. It will be appreciated that the personal safety product 150 may be placed within the main compartment 102 for stowage therein. Such placement will have minimal impact on the ability of the wallet to be opened or closed.

In accordance with one aspect of the present invention, the personal safety product 150 may simply be slipped into a wallet, such as the wallet 100 of FIG. 1 or other conventional wallet. As with currency, the personal safety product 150 may be placed in compartment 102, and should not readily slip out of the wallet 100. Nevertheless, in accordance with other aspects of the present invention, more secure systems may be utilized to ensure that the personal safety product 150 does not separate from the wallet 100.

One such securing system is the inclusion of an adhesive material to the back (not shown) of the personal safety product 150. In this case, the personal safety product 150 may be placed within the main compartment 102 of wallet 100 and adhered thereto. Preferably, the adhesive is of a type that will permit removal of the personal safety product 150, if so desired. Suitable adhesives include pressure sensitive acrylic adhesive and silicone polymer adhesives. It is preferred that such adhesives cover a sufficient area of the back surface (not shown) of the personal safety product 150 to ensure long-term adhesion. Other more aggressive adhesives may also be utilized. In the case of highly aggressive adhesives, the personal safety product 150 may be ruptured or otherwise opened while still partially remaining in the wallet 100. The aluminized safety blanket 200 may then be removed from the ruptured pouch 172. In this case, the future usefulness of the wallet 100 may be sacrificed in that the ruptured pouch 172 itself will be left behind.

Another securing system which may be utilized with the present invention is male and female hook-and-loop
type fasteners (not shown). In this regard, the personal safety product 150 may include either male or female hook-and-loop type fasteners and the wallet 100 may contain the counterpart such that when placed together, the hook-and-loop fasteners are temporarily joined. Such fasteners are well known in the industry and are often sold under the trade name Velcro®. Velcro® is a trademark of Velcro Industries B.V., 22-24 Castorweg, Curacao, Netherlands Antilles. Another variant is a sliding track system whereby, for example, a male protrusion 178 on the pouch 172 may slide within a track 180 formed within the main compartment 102 to essentially lock the pouch 172 from moving in directions other than parallel to the track 180. A cross section of such a track system is shown in FIG. 9. Each of the male protrusions 178 and track 180 may be glued to the pouch 172 and wallet 100, respectively.

[0108] In accordance with another aspect of the present invention, in order to provide that the personal safety product 150 stay within the main compartment 102, the main compartment flap 124 may be arranged over the personal safety product 150, such that the main compartment stitching 126 penetrates the sealed area 166 to retain the personal safety product. Such an arrangement is shown in FIG. 3a, a partially cut-away view of wallet 100. As shown and as previously discussed, the wallet 100 may include a side flap 122b formed by the absence of stitching 120 along the fold 118 of second side edge 116. The personal safety product 150 may be slipped behind the side flap 122b as it is inserted into the main compartment 102 of the wallet 100. The main compartment flap 124 may then be placed over the personal safety product 150 and stitched in place with main compartment stitching 126. As shown in FIG. 3a, portions of the sealed area 166 will therefore be beneath main compartment flap 124 and held in place by main compartment stitching 126. It is preferred that sealed area 166, from first end edge 152 to first end edge limit 160, be of sufficient size to accommodate the main compartment stitching 126 without sacrificing the airtight seal.

[0109] In accordance with another aspect of the invention, the personal safety product 150, and particularly the sealed area 166, may be heat welded to the wallet 100. In this regard, the sealed area 166 may be heat welded directly on top of the main compartment flap 124 or adjacent area, after the main compartment flap is sewn down with the main compartment stitching 126. As known in the industry, heat welding of materials such as those used to form personal safety product 150 and materials used to make wallets, such as leather or vinyl, provides for a bond that is extremely tough to break. Also, there is little risk of the edge “peeling” up, as the bond is so strong. If created in such a manner, it is preferred that the personal safety product 150 include an opening device, such that the safety blanket 200 or other enclosed item may be removed from the pouch 172 without dislodging the personal safety product 150 from the wallet. Such opening devices may include a laser serrated edge, or pull-tab opener.

[0110] For use in an article where repeated folding and unfolding of the personal safety product 150 may occur, such as when placed within wallet 100 such that the personal safety product spans gap 128, the safety blanket 200 may be folded in a special manner prior to placement within the pouch 172 to form the personal safety product. This folding method provides that only a limited portion of the bulk of the aluminized safety blanket 200 is manipulated during each opening and closing event. In the preferred method of folding, sheets of aluminized safety blanket material may be provided in a continuous bulk roll 202, such as shown in FIG. 4. The bulk roll 202 may be unrolled to produce a sheet 204 which may be periodically cut by, for example, a cutting mechanism 206. The cut portions may then be rolled into a finished roll 208.

[0111] It will be appreciated that the bulk roll 202 may preferably have a length 1.5 of 52 inches. The sheets 204 may therefore be cut into widths W1 of 82 inches to create an aluminized safety blanket having conventional dimensions of 52 inches × 82 inches. Of course, other dimensions are possible if desired.

[0112] As shown in FIG. 5, the finished roll 208 may be pressed with pressure such that the finished roll is flattened into a flattened roll 210 have a shape shown in FIG. 6. It is preferred that, given a length 1.5 of 52 inches (132 centimeters), the width W2 of the flattened roll 210 be approximately 2.75 inches (7 centimeters). As shown in FIG. 7, the flattened roll 210 may then be folded sequentially along the fold directions indicated by arrows “a” through “k” and in alphabetical order, and fold lines 212 through 232. It will be appreciated that the fold lines 212 through 232 are predominantly separated by equal distances, other than between fold lines 220 and 232, which is a larger distance. The preferred intervals of fold lines 212 through 232 are indicated by capital letters “A” through “M”. The distance from each letter back to the beginning, in a preferred aspect of the invention where the length 1.5 of the flattened roll is 132 centimeters, is as follows:

<table>
<thead>
<tr>
<th>Letter</th>
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<tbody>
<tr>
<td>A:</td>
</tr>
<tr>
<td>B:</td>
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<tr>
<td>C:</td>
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<tr>
<td>D:</td>
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<tr>
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<tr>
<td>K:</td>
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<td>L:</td>
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<tr>
<th>Value</th>
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<td>0 cm</td>
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<tr>
<td>10.1 cm</td>
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<tr>
<td>20.2 cm</td>
</tr>
<tr>
<td>30.3 cm</td>
</tr>
<tr>
<td>40.3 cm</td>
</tr>
<tr>
<td>50.4 cm</td>
</tr>
<tr>
<td>71.7 cm</td>
</tr>
<tr>
<td>81.6 cm</td>
</tr>
<tr>
<td>91.7 cm</td>
</tr>
<tr>
<td>101.8 cm</td>
</tr>
<tr>
<td>111.8 cm</td>
</tr>
<tr>
<td>121.9 cm</td>
</tr>
<tr>
<td>132.0 cm</td>
</tr>
</tbody>
</table>

[0113] When provided as such, and folded in accordance with fold arrows “a” through “k”, the folded aluminized safety blanket 200 will be configured as shown in FIG. 8. It will be appreciated that the aluminized safety blanket 200 will therefore have a centerline CL in a thin area 234 which may easily be bent or otherwise manipulated, without having to bend or manipulate too many layers of material. The thin area 234 will therefore separate a first stack 236 from second stack 238 of material.

[0114] It has been found that conventional men’s wallets, of the type shown in FIG. 1 as wallet 100, are opened and closed approximately five times per day, which amounts to ten folds per day total. It has also been found that men tend to keep a wallet for approximately ten years on average. Given these two findings, it is therefore apparent that a wallet may be opened and closed approximately 36,500 times over its lifetime. The materials utilized for aluminized
safety blankets are capable of withstanding such manipulation. It is preferable that the pouch 172 also be capable of such manipulation.

[0115] The folding contemplated above is preferably achieved quickly and accurately by computer operated machinery. It has been found that if the folds are not made quickly and tightly, air may become trapped within the successive layers of aluminized material. An excess of air will ultimately prevent the personal safety product 150 and aluminized safety blanket 200 from having the desired thickness, and will be too thick. Air may also promote mold growth, as previously discussed. To eliminate the possibility of any air entrapment, the folding may take place in a vacuum, or so called “negative chamber.”

[0116] It will be appreciated that other folding techniques may be utilized in addition to that previously described. For example, the safety blanket or other safety product may be folded to an even smaller dimension, such that the personal safety product 150 fits into one side of currency holder, so opening and closing of the currency holder does not physically manipulate the personal safety product. Further, such a personal safety product 150 may fit where larger folding techniques will not permit. On the other hand, there may be applications where personal safety products 150 folded to larger dimensions are preferred, for example, when fitting the personal safety product into a shoe insert, or larger article, such as clothing.

[0117] The wallet 100 may be manufactured from materials which are typical of wallets, such as leather, vinyl, or nylon. In the case of leather man’s wallets, such as of the type which have been discussed (wallet 100), it is preferred that the wallet alone have an overall weight of approximately 1.0 oz. When combined with personal safety product 150 incorporating an aluminized safety blanket 200 of the gauge and size discussed above, having a weight of approximately 0.85 ounces, the combination will be approximately 1.85 ounces. It has been found that this is the approximate weight of a conventional leather wallet. Thus, the wallet 100 and personal safety product combination will have the look, feel, and weight of an otherwise conventional wallet.

[0118] Although the invention herein has been described with reference to particular embodiments, it is to be understood that these embodiments are merely illustrative of the principles and applications of the present invention. It is therefore to be understood that numerous modifications may be made to the illustrative embodiments and that other arrangements may be devised without departing from the spirit and scope of the present invention as defined by the appended claims.

1. A personal safety product comprising an air and moisture resistant pouch having an internal area and a safety item of the type used in emergency situations secured within said internal area, wherein said internal area is vacuum sealed and said safety item is folded for miniaturization.

2. The personal safety product of claim 1, wherein said safety item is compressed within said pouch.

3. The personal safety product of claim 1, wherein said safety item is an aluminized safety blanket.

4. The personal safety product of claim 1, wherein said safety item is one of a safety mask, eye protector, safety hood, safety structure, or fire resistant blanket.

5. The personal safety product of claim 1 wherein said pouch is formed from a single sheet of material.

6. The personal safety product of claim 5, wherein said pouch further comprises a first end edge and second end edge, said first end edge being sealed and said second end edge comprising a fold of said single sheet of material.

7. The personal safety product of claim 6, wherein said first end edge is sealed by one of heat sealing, chemical sealing, dielectric sealing, or ultrasonic sealing.

8. The personal safety product of claim 6, wherein said pouch further comprises a first side edge and a second side edge, each of said first side edge and second side edge spanning said first end edge and said second end edge and being sealed by either one of heat sealing, chemical sealing, dielectric sealing, or ultrasonic sealing.

9. The personal safety product of claim 6, wherein said sealed first end edge forms a flap.

10. The personal safety product of claim 9, wherein said flap is adapted to support a connection mechanism to connect said personal safety product to a conventional article of manufacture.

11. The personal safety product of claim 10, wherein said connection mechanism is an adhesive.

12. The personal safety product of claim 10, wherein said connection mechanism is the male portion of a track system.

13. The personal safety product of claim 1, wherein said pouch includes an opening mechanism.

14. The personal safety product of claim 10, wherein said opening mechanism is one of a serration or pull string.

15. The personal safety product of claim 14, wherein said opening mechanism is serration and said serration is either linear or non-linear.

16. The personal safety product of claim 1, wherein said safety item is an aluminized safety blanket having a thickness of less than 30 gauge.

17. The personal safety product of claim 1, wherein said safety item is an aluminized safety blanket and said personal safety product has a weight of less than 0.9 ounces.

18. The personal safety product of claim 1, wherein said pouch is printable.

19. The personal safety product of claim 18, wherein said personal safety product is printed with at least one of instructions, source identification, promotional markings, or an expiration or “use by” date.

20. A personal safety product system comprising:

   a safety item sealed within a pouch, said pouch forming a sealed area and a flap; and,

   a conventional article of manufacture,

   wherein said flap of said pouch is attached to said conventional article of manufacture.

21. The personal safety product system of claim 20, wherein said attachment is by heat welding such that said flap is inseparable from said conventional article of manufacture.

22. The personal safety product system of claim 20, wherein said attachment is by one of adhesive, hook-and-loop type fasteners, or a track system.

23. The personal safety product system of claim 20, wherein said conventional article of manufacture is a currency holder.

24. The personal safety product system of claim 20, wherein said conventional article of manufacture is one of a cell phone case, PDA holder, shoe insert, or clothing.
25. The personal safety product system of claim 23, wherein said currency holder is a wallet having a main compartment and a main compartment opening, a plurality of secondary compartments, each of said plurality of secondary compartments having secondary compartment openings extending parallel to said main compartment opening, and at least one tertiary compartment having a tertiary compartment opening extending perpendicular to said main compartment opening and said plurality of secondary compartment openings.

26. The personal safety product system of claim 20, wherein said safety item and said pouch have a combined weight of less than 0.9 ounces.

27. The personal safety product system of claim 20, wherein said safety item has a weight of approximately 0.77 ounces.

28. The personal safety product system of claim 20, wherein said safety item is an aluminized blanket.

29. The personal safety product system of claim 28, wherein said aluminized blanket has a thickness of between 20 and 30 gauge.

30. The personal safety product system of claim 20, wherein said safety item is one of a safety mask, eye protector, safety hood, safety structure, or fire resistant blanket.

31. The personal safety product of claim 20, wherein said pouch is vacuum sealed.

32. The personal safety product of claim 20, wherein said safety item is folded for miniaturization.

33. A currency holder safety system, said currency holder safety system comprising a currency holder and a personal safety product, said personal safety product having a safety item sealed within a protective pouch, said personal safety product secured within said currency holder for easy access thereto.

34. The currency holder safety system of claim 33, wherein said safety product is secured to said currency holder with an adhesive.

35. The currency holder safety system of claim 33, wherein said pouch is vacuum sealed.

36. The currency holder safety system of claim 33, wherein said safety item is folded for miniaturization.

37. The currency holder safety system of claim 33, wherein said pouch is air and moisture resistant.

38. The currency holder safety system of claim 33, wherein said safety item is an aluminized safety blanket.

39. The currency holder safety system of claim 33, wherein said currency holder and said safety items are adapted to be folded at respective fold lines, at least one of the fold lines of each being in alignment.

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