

[54] CHILD SAFETY PACKAGE

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206/498, 206/807

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[58] Field of Search 206/56 AA, 56 AB, 56 R,
206/46 P, 42, 78 B, 80 A, DIG. 5; 229/66, 51
TS, 51 D, 51 R, 85; 222/107

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[57]

ABSTRACT

A sealed package that is openable by adults but which is sufficiently difficult for children to open is disclosed. The sealed package is preferably in the form of an envelope of the type having a pocket or cavity for receiving and storing a material such as a drug. The sealed package is preferably made from a plastic film which is flexible, liquid impervious and resists tearing even by adults but which will tear when manipulated to expose a hidden tear zone positioned away from any of the exposed sealed edge portions. Thus, the package in the sealed and unmanipulated position is in an inoperative tear resistant position and when manipulated is in an operative tear or opening position.

15 Claims, 14 Drawing Figures

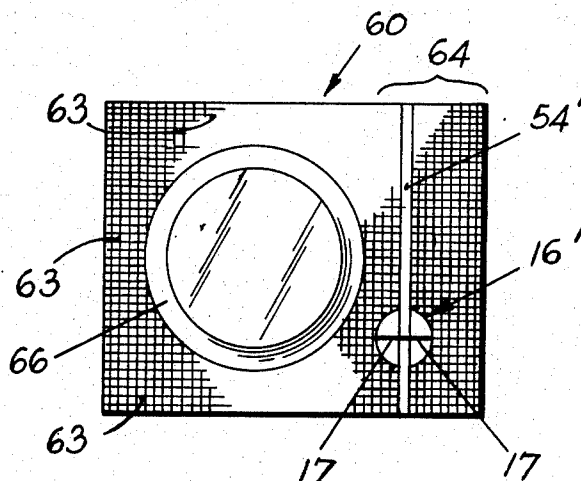


Fig. 1

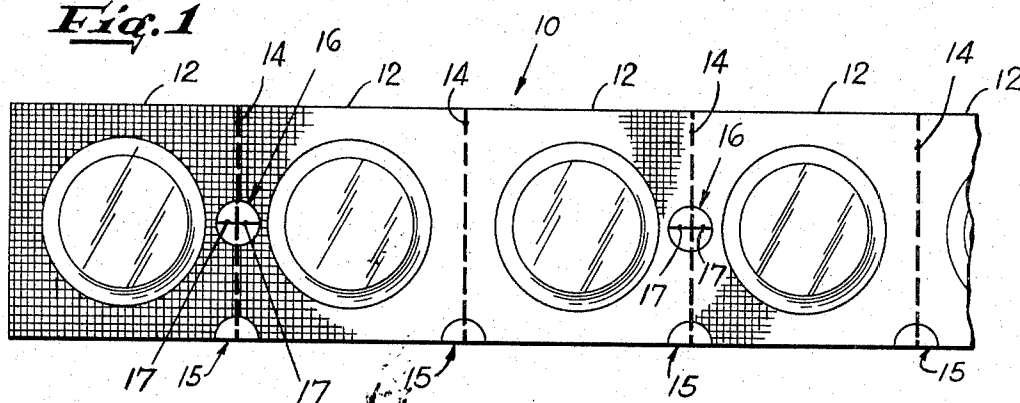


Fig. 2

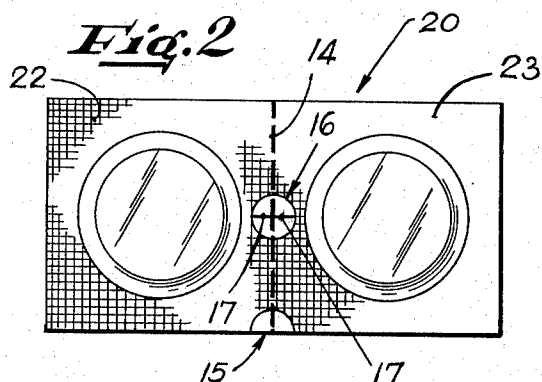


Fig. 3

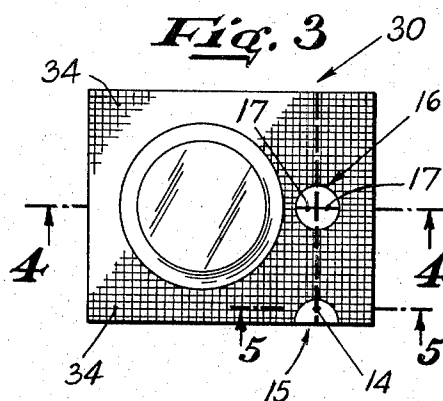


Fig. 4

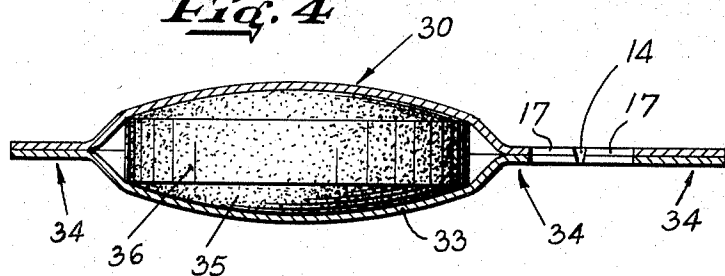


Fig. 5

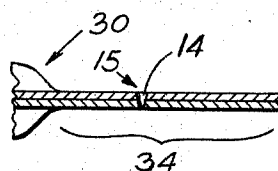


Fig. 6

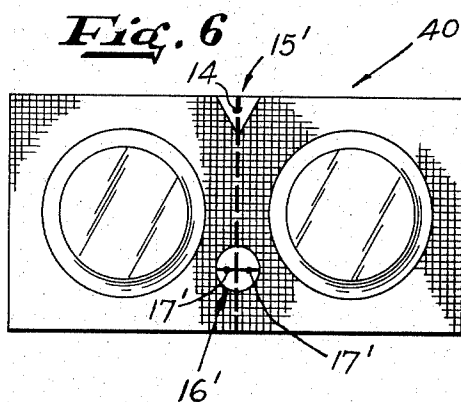


Fig. 7

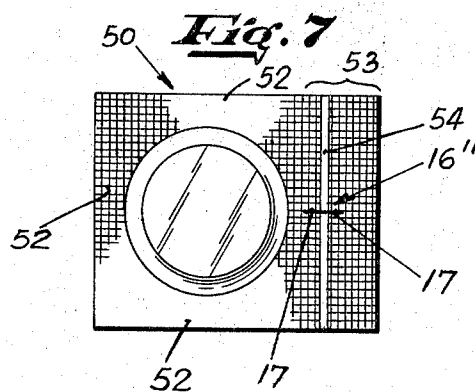


Fig. 8

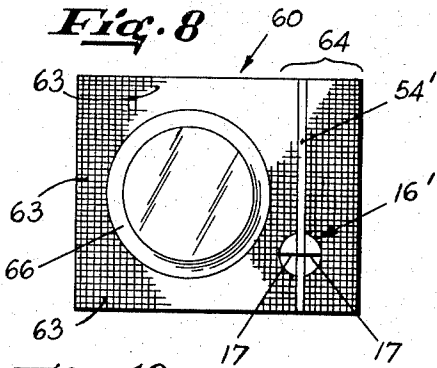


Fig. 9

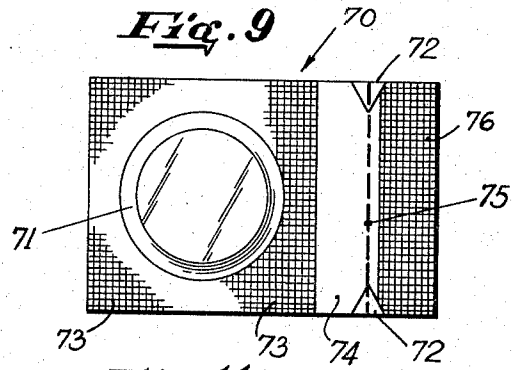


Fig. 10

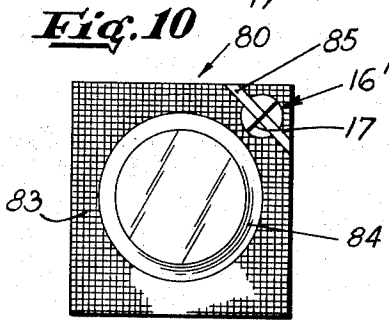


Fig. 11

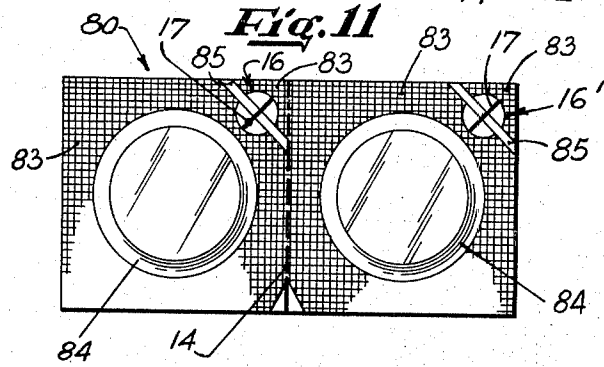


Fig. 12

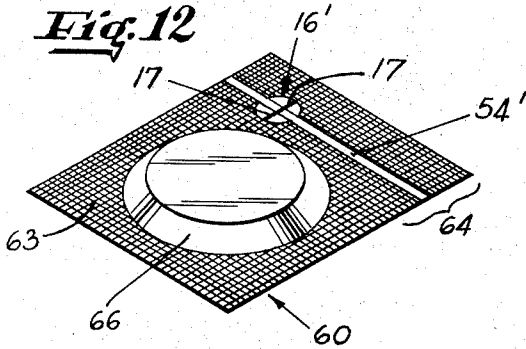


Fig. 13

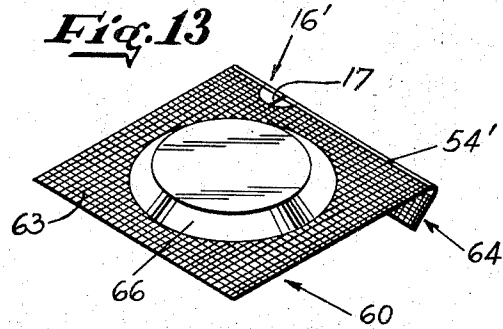
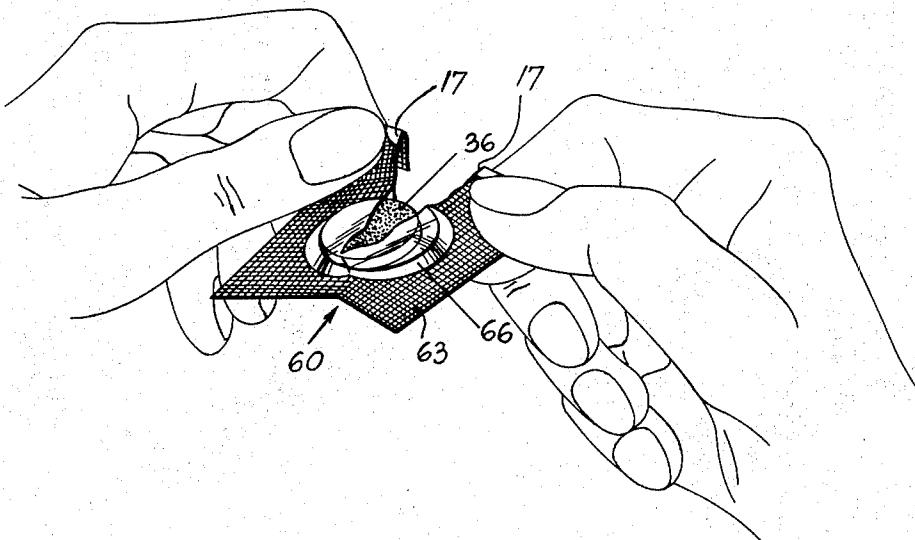


Fig. 14



CHILD SAFETY PACKAGE

BACKGROUND OF THE INVENTION

It has been a practice of the drug industry particularly where childrens' medications are employed to make them more palatable so that children can be induced to take them. In this connection, aspirin, vitamins, anti-biotics and other medications are prepared to taste like candy so that a child will freely take them. If such drugs or medications are packaged in containers which are readily opened when accessible to children then the danger of a child accidentally taking an overdose of the packaged contents exists if such a container is within the reach of a child and adequate safety precautions are not followed.

The problem of accidental ingestion of tablets contained in bottles or other packaging containers which can be easily opened by children is presently being investigated by governmental agencies. Ultimately, laws will be enacted to prevent the packaging of such drugs and medications in such containers and rigid safety precautions governing the construction and instructions for opening the package will be set forth by the governmental agencies.

It is known to package tablets in sealed envelopes having individual compartments or pockets particularly for adult use. However, these packages can be easily opened by simply tearing across one edge because such packages are made of tearable material such as metal foil, cellophane or the like. Other containers, for example, bottles with screw caps which have a locking thread or which require pressure to be applied against the cap to turn it have proven inadequate because after use the container may not have the cap reapplied in the prescribed manner. Other packages such as envelopes have tear strings or tear tapes for readily opening the package. All these so called safety packages have been found to be inadequate because where safety precautions are not taken a child could accidentally obtain sufficient quantities for an overdose.

SUMMARY OF THE INVENTION

With the foregoing in mind, it is an object of this invention to provide a sealed package in the form of an envelope having a pocket for enclosing a single dosage unit or a fractional dosage unit thereof of a medicinal or other compound particularly of the type which would be used for dispensing to children.

Another object of the invention is to provide a sealed package which is made of a tear-resistant material which resists tearing even by adults and which can be opened only by manipulating the package from an inoperative tearing position to an operative tear opening position by exposing a tear opening zone positioned away from any of the sealed edge portions.

Another object of the invention is to provide a safety package which is made of a flexible, liquid impervious tear-resistant material which is preferably made from a sheet of plastic material and, when sealed around its edges, will resist opening even by adults.

Still another object of the invention is to provide a sealed unitary package made of tear-resistant material in which single unit dosages are provided in a pocket thereof and in which each unitary package is serially connected to provide sequential packages in which

each package may be separated from each other without exposing the contents thereof.

Another object of the invention is to provide a child safety package which is designed to be discarded after a single use and cannot be reused.

The invention generally contemplates a sealed package suitable for packaging medicinal compounds or other compounds suitable for dispensing to children in which the contents of the sealed package cannot be readily exposed except by manipulating the package to expose a tear opening zone. The sealed package is made from a sheet of flexible tear-resistant liquid impervious material. It is preferably in the form of a plastic film which resists tearing even by adults but which when manipulated exposes a hidden tear zone positioned adjacent or away from a sealed edge of the package. Such a package requires a minimum of two hand manipulations to first expose the hidden tear zone and then tearing the package open. Such a design for a package of the invention herein requires some dexterity by the user to open the package.

DESCRIPTION OF THE DRAWINGS

For a better understanding of the invention herein, reference is had to the drawings illustrating the various embodiments thereof.

FIG. 1 is a plan view of one embodiment of the invention in which unit sealed packages are serially attached but which when removed will not expose the packaged contents thereof.

FIG. 2 is another form of the invention wherein two sealed packages are joined by a perforated tear line and a hidden tear zone for opening each package is positioned between the ends of the perforated line.

FIG. 3 is a sealed package similar to FIG. 2 but containing a single compartment for holding a material.

FIG. 4 is a sectional view taken along the lines 4—4 of the package of FIG. 3.

FIG. 5 is a fragmentary sectional view of one of the tear zones taken along the line 5—5 of FIG. 3.

FIG. 6 is another form of a package similar to FIG. 2.

FIG. 7 is another embodiment of the invention illustrating a different configuration for the hidden tear zone positioned away from the sealed edges of the package.

FIGS. 9 through 11 illustrate other forms of packages with variations for positioning the tear zones away from the sealed edges of the package.

FIGS. 8 and 12 through 14 illustrate the opening of a sealed package of the invention which can be applied to the embodiments of FIGS. 3, 7, 10 and 11.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring to the drawings, all common or similar parts of the packages illustrated will be designated by similar numerals.

In FIG. 1 a plan view of serially connected sealed packages 10 is illustrated in which each sealed package 12 is separable along perforated or tear line 14 so that they may be individually dispensed by tearing each package along tear line 14 starting at the visible tear zone 15. Tear zone 15 is illustrated as a semi-spherical cut portion positioned at one end of perforated line 14. A hidden tear zone is formed along tear or perforated line 14 at 16 which is illustrated as a circle or circular

area positioned near or on the longitudinal medium line of packages 10. A slit 17 is formed perpendicular to tear line 14 so that slit 17 will extend through the sealed area of packages 12. It should be noted that hidden tear zone 16 is required only on alternate tear lines 14 thereby permitting only groups of two packages to be opened by a single slit 17. This permits one-half unit doses of a material to be dispensed with a hidden tear zone is exposed.

FIG. 2 is a plan view of a sealed package in which two sealed but separable packages 22 and 23 are joined by a common perforated tear line 14. The perforated tear line 14 separates the package in half so that one tablet can be removed without disturbing the other and further hidden tear zone 16 which is inaccessible until package 22 is separated from package 23 is positioned between the ends of tear line 14. Tear zone 16 is positioned away from the sealed edges of the package so that packages 22 and 23 cannot be opened until they are separated which exposes slit 17. Slit 17 facilitates tearing of the package as seen in FIG. 14.

The assembly of the sealed package or envelope of the invention herein is best illustrated in FIGS. 3, 4 and 5. Envelope 30 is formed from two sheets of plastic film 32 and 33 and is sealed around its edges along seal zones 34 only so that a pocket or compartment 35 is provided in the central portion of package 30.

The plastic sheet or film that is employed practicing the invention herein as indicated above must have the physical characteristics of being tear resistant even to adults when attempting to tear along any edge. It must be flexible and liquid impervious so that the package can be bent or flexed without rupture and also when sealed will prevent outside contamination from entering the package. Such a film found to be quite suitable for practicing the invention herein is a polyester film sold under the trademark MYLAR. However, any plastic film that has the physical characteristics as indicated herein would be quite suitable. Polyester or MYLAR film has been found quite suitable since one can grasp an envelope in both hands and it will resist tearing along any sealed edge even though great force is applied thereto. However, if a tear or a slit is made in the polyester film and is hidden from view as, for example, as shown in FIG. 7 and the slit is positioned in the sealed zone away from the edges, then unless one reads the directions on how to open the package it will resist tearing and can only be opened if a sharp instrument such as a scissors or a knife is used.

As illustrated in the invention herein for example the package of FIG. 7, the preferred manner for opening the package or envelope is illustrated in FIGS. 12-14. The package is folded or bent along a darkened zone or printed line to expose the slit 17 disposed in the hidden tear opening zone positioned between the ends of the darkened zone or printed line 55. When slit 17 is exposed, the package is in the tear opening position and will tear with very little resistance as illustrated in FIG. 14. The tablet 36 inside the compartment will then be exposed and can be removed from compartment 35.

The embodiment illustrated in FIG. 6 is a variation of the embodiment shown in FIG. 2 in which the hidden tear zone 16' is positioned nearer one of the sealed edges of envelope 40. Tear zone 15' is made in the form of "V" and is positioned away from hidden tear zone 16'. A "V" slot is cut through at least one layer

of the plastic film forming package 40 so that the separation of the packages along perforated line 14 is facilitated.

FIG. 7 illustrates another form of the invention in which sealed package 50 is heat sealed around three edges 52. The fourth edge has a slightly enlarged area 53. A line 54 is printed or painted as by inking across zone 53 as seen in FIG. 7. A hidden tear zone 16'' is positioned on printed line 54 in the form of a slit 17. The slit 17 passes through both layers of the film forming envelope 50. Thus, as illustrated in FIGS. 12 through 14 all that is required is that the heat sealed end 52 of package 50 be folded along printed line 54 thereby exposing hidden tear zone 16'' which permits envelope 50 to be torn open at slit 17 as illustrated in FIG. 14.

In FIGS. 8 and 12-14 a package 60 similar to the packages 50 of FIG. 7 is illustrated. Package 60 is generally rectangular in shape and is sealed around the edges at 63. An enlarged sealed zone 64 is formed similar to the sealed zone 52 of package 50 of FIG. 7. A printed line 54'' is positioned across enlarged sealed zone 64. A slit 17 is cut through sealed zone 64 and is hidden in printed line 54' between the ends thereof. FIGS. 12, 13 and 14 illustrate the procedure for opening package 60 of FIG. 8. The raised portion 66 of package 60 is the compartment which is used to house tablet 36 as seen in FIG. 14. Thus, package 60 can be opened by simply folding the sealed zone 64 along the line 54' so that hidden tear zone 16' can be exposed so that it will tear along slit 17 as indicated in FIG. 14.

In FIG. 9 a package 70 is illustrated as capable of housing one tablet in the raised circular area 76. The package is sealed around its edges 73 to form a square package. An unsealed area 74 is spaced from one sealed edge 73 and is provided with a perforated tear line 75 extending through both layers of unsealed film. A pair of "V" slots 72 is formed at each end of line 75 to facilitate tearing the package along tear line 75. A second seal zone 76 is formed to hold the tabs of the unsealed area 74 prior to use and to prevent a child from pulling on the tabs which open package 70. To open package 70 sealed area 76 is removed by tearing along perforated line 75. Then, two flaps are freed in the unsealed zone 74 and by grasping each flap and pulling the package the sealed section 73 of the package is opened and the contents removed.

In FIGS. 10 and 11 a package 80 is made from two sheets of plastic film which are heat sealed around its edges 83 so that a circular compartment 84 is formed for housing a material or drug to be dispensed. A line 85 is printed diagonally through adjacent sealed edges 83 as seen in FIG. 10. A hidden tear zone 16' is positioned between the ends of printed line 85 and a slit 17 is cut through the plastic film so that slit 17 is hidden by printed line 85.

In FIG. 11 a pair of packages 80 is joined by a common perforated tear line 14. A "V" slot similar to the "V" slot 72 of FIG. 9 is made at the edge of package 80 to facilitate separating the two packages one from the other. Each package is formed having a line 85 printed diagonally across two edges 83 of the package as illustrated in FIG. 10. A hidden tear zone 16' is positioned between the ends of line 85 and a slit 17 is cut through the plastic film so that upon manipulation of the package 80, that is, by bending or folding the cor-

ner along line 85, slit 17 becomes exposed so that package 80 can be readily torn as illustrated in FIG. 14.

The invention described herein illustrates several variations in package design. The package can be made in individual units as shown in FIGS. 3, 7, 8, 9 and 10 or they can be made in multiples of two as illustrated in FIGS. 2, 6 and 11, or they may be made as an elongated tape with perforated lines as indicated in FIG. 1. Thus, they can be made to dispense a single tablet or a multiple of tablets as desired. Obviously, the particular material packaged within the compartment may be a tablet, a powder or a capsule. The packages illustrated in the drawings require at least two separate hand manipulations in order to tear the package. The only way the package can be readily torn is by exposing the hidden tear zone 16 or 16' as discussed above so that the slit or other perforation or puncture made in the package can then be utilized to tear the plastic material. The package is safe for dispensing drugs or the like and can be handled safely by children. Obviously, many changes in design, variations in structure and materials may be employed without departing from the teachings herein.

I claim:

1. A safety package of the type sealed around its edges and providing a compartment therein for housing a material potentially harmful to children, said safety package adapted to prevent children from obtaining an unauthorized access to such potentially harmful material, said safety package comprising:

tear means to facilitate tearing the package at an angle to and positioned within one of the sealed edges thereby facilitating the opening of the package, the tear means being an aperture positioned between the marginal sealed edges of said package;

manipulating means associated with the tear means and adapted to assume a first and second position, said manipulating means including a fold line intersecting the aperture of the tear means when said manipulating means is in the first position the tear means is rendered ineffectual for tearing the package and upon folding the sealed marginal edge along the fold line the aperture is exposed whereupon the manipulating means is in the second position and the tear means is in an operative position to tear the package.

2. The package of claim 1 wherein the package being formed from at least two sheets of flexible, liquid impervious, tear resistant plastic film, said plastic film being sealed around its edges and forming the compartment.

3. The package of claim 2 wherein said tear resistant plastic film is polyester.

4. The package of claim 1 wherein said tear means includes an opaque line spaced away from the edge of the package with the ends of the line terminating at an edge of the package and the aperture spaced away from an edge of the package and being positioned to intersect the opaque line so that the aperture is hidden from

view.

5. The package of claim 4 wherein the opaque line is spaced away from and substantially parallel to a sealed edge of the package.

6. The package of claim 4 wherein the opaque line is positioned diagonally across a sealed corner of the package.

7. The safety package of claim 1 wherein said line is translucent.

8. The safety package of claim 1 wherein said manipulating means includes a fold line positioned diagonally across a sealed corner of the package and said aperture formed between the ends of said diagonal line.

9. The safety package of claim 1 wherein the manipulating means defines a line positioned within the marginal sealed edges of the package.

10. The safety package of claim 1 wherein said tear means associated with the manipulating means is an opening positioned within the manipulating means and away from the marginal edges of the sealed package.

11. The safety package of claim 1 wherein the manipulating means is defined as a line extending between two sealed edges of the safety package.

12. The safety package of claim 11 wherein the line is opaque.

13. The safety package of claim 11 wherein the tear means is positioned within the line at an angle thereto to facilitate opening the package away from the line and toward said compartment.

14. The safety package of claim 1 wherein the manipulating means is a line extending between at least two marginal sealed edges of the safety package and said aperture being a slit formed therein, said line being opaque so that said slit is hidden within the opaque line.

15. A safety package of the type sealed around its edges and providing a compartment housing a material therein that is potentially harmful to children, said safety package adapted to prevent children from obtaining unauthorized access to such potentially harmful material, said safety package comprising:

tear means to facilitate tearing the package at an angle to and positioned within one of the sealed edges thereby facilitating the opening of the package, the tear means being an aperture positioned between the marginal sealed edges of said package;

manipulating means associated with the tear means and adapted to assume a first and second position, said manipulating means including a fold line intersecting the aperture of the tear means when said manipulating means is in the first position the tear means is rendered ineffectual for tearing the package and upon folding the sealed marginal edge along the fold line the aperture is exposed whereupon the manipulating means is in the second position and the tear means is in an operative position to tear the package.

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