TGA THERAPEUTIC GOODS ADMINISTRATION

Commonwealth Department of Health and Aged Care

APMA	AUSTRALIAN SELF-MEDICATION INDUSTRY BETTER HEALTH THROUGH RESPONSIBLE SELF-MEDICATION
Complementary Healthcare Council	Medical Industry Association of Australia
Consumers' Health Forum	

Guideline for the Tamper-Evident Packaging of Medicines, Complementary Healthcare Products and Medical Devices

This guideline has been developed by the Australian Self-Medication Industry (ASMI) in consultation with the Australian Pharmaceutical Manufacturers Association (APMA), the Complementary Healthcare Council of Australia (CHC), the Medical Industry Association of Australia (MIAA), Consumers Health Forum (CHF), the Therapeutic Goods Administration and the State and Territory Health Departments.

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1. INTRODUCTION

This guideline has been developed by the Australian Self-Medication Industry (ASMI) in consultation with the Australian Pharmaceutical Manufacturers Association (APMA), the Complementary Healthcare Council of Australia (CHC), the Medical Industry Association of Australia (MIAA), Consumers Health Forum (CHF), the Therapeutic Goods Administration and the State and Territory Health Departments.

It has been based on the guideline developed by and imposed as a condition of membership of the ASMI since the early 1980s. The development and subsequent revisions were based largely on the US requirements. In this revision, the US, UK, Canada and New Zealand have been consulted and as a result the Guideline reflects world's best practice.

It is believed that compliance with this guideline is in the interests of the community, the industry and individual companies alike.

In order to maximise the effectiveness of tamper-evident packaging, the industry is committed to educating consumers, healthcare professionals and retailers about the importance of identifying that tamper-evident packaging features are present and intact as part of normal purchasing and use practices.

An Industry Guidelines Committee (IGC) has been formed to:

- maintain the currency of TEP Guideline with appropriate reference to international best practice;
- assess new forms of tamper-evident packaging for inclusion into the Guideline;
- coordinate annual reviews as set out in section 6.2;
- review the Guideline following three-year implementation period prior to the introduction of legislation;
- coordinate/advise on the evaluation of consumer recognition and understanding of labelling statements; and
- periodically review products exempted from the Guideline.

2. DEFINITIONS/CONCEPTS

Tamper-Evident Packaging (TEP):

Packaging having an indicator or barrier to entry which, if breached or missing, can reasonably be expected to provide visible or audible evidence to consumers that tampering has occurred. [1]

Tamper-evident packaging may involve immediate-container/carton systems or any combination thereof. It is intended to provide a visual indication of package integrity when handled in a reasonable manner during manufacture, distribution and retail supply. The visual indication is required to be accompanied by appropriate

[1] This definition is derived from the US FDA definition for Tamper-resistant packaging.

precautionary label statements to describe the tamper-evident feature(s) to the consumer and to warn that the absence of or damage to such feature(s) at the time of purchase is an indication of possible tampering with the product.

"Tamper proof" (as distinct from tamper-evident packaging) is not possible and, therefore, any suggestion that a package is tamper proof, is considered to be deliberately misleading.

3. Scope

The guideline has been developed for the Australian Medicines Industry, including Complementary Healthcare Products and the Medical Devices, Industries.

This guideline comes into effect on 1 January 2001. For the next three years compliance will be voluntary (see Clause 6.2 on auditing for compliance). It is envisaged that after three years, compliance will become mandatory under therapeutic goods legislation.

Tamper-evident packaging is to be applied to:

3.1 Non-Prescription and Complementary Healthcare Products

All non-prescription and complementary healthcare products that may be administered transdermally, ingested orally or come in contact with mucous membranes (other than dentrifices, lozenges, essential oils and preparations in aerosol containers).

3.2 Prescription Medicines

In recognition of the secure supply chain for prescription products and their restricted availability to consumers, being stored in the dispensary and only supplied on prescription, prescription medicines are not required to be packaged in tamper-evident packaging. However, many prescription medicines are currently packaged in acceptable tamper-evident packaging as described in Section 4. If sponsors choose to use TEP for their prescription products, they should use an acceptable form of packaging as described in this guideline.

3.3 Medical Devices

Most medical devices are supplied directly to healthcare providers. In recognition of the secure supply chain for medical devices supplied to healthcare providers and their restricted availability to patients, being stored either in controlled rooms with restricted access or departments where there supply is controlled, medical devices are not required to be packaged in tamper-evident packaging as described in Section 4. Should sponsors choose to use TEP for their medical devices, they should use an acceptable form of packaging that will meet the Essential Principles relating to product safety

outlined in the Medical Devices Regulations, anticipated to come into effect in mid 2001. The Essential Principles require, among other things, that a medical device must be designed, manufactured and packed in such a way as to ensure any risks associated with contaminants and infection are minimised having regard to the intended purpose of the device.

Products such as contact lens, cleaning solutions, eye lubricants and artificial tears that can be purchased by consumers and that come into direct contact with the eye, are required to be packaged in tamper-evident packaging as described in Section 4.

3.4 Two-Piece Hard Gelatin Capsule Products

Many products that are available on the Australian market are presented as two-piece hard gelatin capsules.

Two-piece hard gelatin capsules are specifically dealt with here because, of the product tampering incidents around the world, many have occurred in two piece hard gelatin capsules and this dosage form is now considered to be vulnerable to tampering attempts.

In response, some manufacturers have employed technology to seal the capsule so that it is not easily taken apart. This type of sealing has become mandatory in the US.

The approach of the Australian industry is to recognise the vulnerability of this dosage form and to set out specific tamper evident packaging requirements but not to mandate the use of capsule sealing technology which is a costly and prohibitive burden and is not considered to have the desired effect. It is considered that the way to maximise the effectiveness of tamper evident packaging features is through education of consumers and healthcare professionals to enhance consumers' ability to identify the features and to use them as part of their purchasing and medication use regimes rather than through increasing the number of physical barriers.

Tamper evident packaging requirements for:

<u>Unsealed Two-Piece Hard Gelatin Capsules</u>

A minimum of two tamper evident packaging features and corresponding statements on the label or consumer medicine information (CMI).

<u>Sealed Two-Piece Hard Gelatin Capsules</u>

A minimum of one tamper evident packaging feature and a corresponding statement on the label or consumer medicine information (CMI).

4. ACCEPTABLE TAMPER-EVIDENT FEATURES

The packaging technologies listed below are considered to meet the requirements for TEP provided that they are properly designed and appropriately used.

Whilst these classes of packaging are acceptable, they should not be seen to be exclusive of other packaging types or to preclude technological innovation.

Tamper-evident packaging must not be regarded as replacing or obviating the need for Child Resistant Closures wherever the law requires such closures.

In selecting/developing tamper-evident packaging, manufacturers are urged to give serious consideration to the needs of arthritic or manually impaired persons.

4.1 Film Wrappers

A transparent film with distinctive design is wrapped securely around the entire product container. The film must be cut or torn to remove the product. The wrapper must have an identifying characteristic (e.g. a pattern, name, registered trade mark, logo, or picture) that cannot be readily duplicated.

Tinted wrappers are not acceptable as an identifying characteristic because of the possibility that their material may be available to the public.

A reasonably tight "fit" of the film around the container must be achieved, e.g. by a heat shrink type process. Sealing of a film wrapper with overlapping end flaps is acceptable only if the ends cannot be opened and resealed without leaving visible evidence of tampering.

The use of cellophane with overlapping end flaps is not acceptable because of the possibility that the ends can be opened and resealed without leaving visible evidence that tampering has occurred.

4.2 Blister or Strip Packs

Dosage units (for example, capsules or tablets) are individually sealed in plastic or foil. The individual compartment must be torn or broken to obtain the product. The backing materials cannot be readily separated from the blisters or easily replaced without leaving evidence of tampering.

4.3 Bubble Packs

The product and container are sealed in plastic and mounted in or on a display card. The plastic must be torn or broken to remove the product. The backing material cannot be readily separated from the bubble or easily replaced without leaving evidence of tampering.

4.4 Heat Shrink Bands or Wrappers

Bands or wrappers with a distinctive design (e.g., a pattern, name, registered trade mark, logo, or picture) are shrunk by heat to seal the union of the cap and container.

The seal must be cut or torn to remove the product. The band or wrapper cannot easily be worked off and reapplied without visible damage to the band. Use of a perforated tear strip can enhance tamper evidence.

Cellulose wet shrink seals are not acceptable as the knowledge of how to remove and reapply these seals without evidence of tampering is widespread.

4.5 Foil, Paper, or Plastic Pouches

The product is enclosed in an individual pouch that must be torn or broken to obtain the product. The pouch should have a distinctive design (e.g., a pattern, name, registered trademark, logo, or picture).

The end seals of the pouches cannot be separated and resealed without showing visible evidence of entry.

For sterile medical devices, packaging is designed so that it cannot be opened without obviously damaging the unit pack or seal of the unit pack, which is non-resealable and carries a label statement “Sterile if in unopened undamaged pack” or words or symbols to that effect. This type of packaging is considered to be tamper-evident without additional labelling requirements.

Direct printing of the label on the container is preferred to using a label that could be removed and substituted.

4.6 Bottle Mouth Inner Seals

Paper, thermal plastic, polystyrene foam (except those applied with pressure-sensitive adhesive), plastic film, foil, or combinations thereof, with a distinctive design (e.g., a pattern, name, registered trademark, logo or picture) is sealed to the mouth of a container under the cap. The seal must be torn or broken to open the container and remove the product.

Seals applied by heat induction to containers appear to offer a higher degree of tamper evidence than those that depend on an adhesive to create the bond.

4.7 Tape Seals

Paper or foil with a distinctive design is sealed over all carton flaps or a bottle cap. The seal must be torn or broken to remove the product.

Tape seals are acceptable only if they contain a unique feature that makes it apparent if the seals have been removed and reapplied, e.g., a permanent adhesive.

4.8 Breakable Caps

The container is sealed by a plastic or metal cap that either breaks away completely when removed from the container or leaves part of the cap attached to the container. The cap, or a portion thereof, must be broken in order to open the container and remove the product. The cap cannot be reapplied in its original state.

4.9 Sealed Metal Tubes or Plastic Blind-end Heat Sealed Tubes

Both ends of the tube are sealed. The mouth or blind-end must be punctured to obtain the product.

A tube with a crimped end is acceptable if the crimped end cannot be breached by unfolding and refolding without showing visible evidence of tampering.

Direct printing of the label on the container is preferred to using a label that could be removed and substituted.

4.10 Aerosol Containers

Pressurised aerosol containers are believed to be inherently tamper-resistant because of their particular design. However it is recommended that a secure overcap be used.

Direct printing of the label on the container (e.g., lithographing), is preferred to using a paper label which could be removed and substituted.

4.11 Cans (Both All-Metal and Composite)

The top and bottom of a composite can must be joined to the can walls in such a manner that they cannot be pulled apart and reassembled without visible evidence of entry. Rather than attaching a separate label, direct printing of the label onto the can (e.g., lithographing) is preferred.

4.12 Cardboard Cartons

Cardboard Cartons specifically designed to ensure that in order to obtain the product, the carton seal must be cut or torn to remove the product and must not be able to be easily worked open and resealed without obvious damage to the carton. The carton must be non-resealable without showing visible evidence of entry.

4.13 In-Built Tamper-Evident Controls

Products such as In-Vitro Diagnostics (IVDs), which are supplied direct to the public, may have built in controls which demonstrate clearly that the product is unacceptable by showing a test-method failure, avoiding the potential for false results. Products incorporating such controls, which must be obvious to the user from the packaging information / instructions when trying to assess the test results, are considered as having Tamper-evident controls, and for the purposes of this Guideline are considered to comply with the requirements without needing additional packaging or labelling.

5. UNACCEPTABLE TAMPER-EVIDENT FEATURES

5.1 Sealed Cartons

Sealed paperboard cartons as currently available in the marketplace (e.g., cartons sealed by gluing the end flaps together) are unacceptable. However, future technological advances may provide sealed paperboard packages that meet the intent of the TEP requirements.

5.2 Paper, thermal plastic, polystyrene foam bottle seals applied with pressure-sensitive adhesive do not offer adequate evidence of tampering.

5.3 Cellulose wet shrink seals are not acceptable as the knowledge of how to remove and reapply these seals without evidence of tampering is widespread.

5.4 Tape seals that do not carry a feature that makes it apparent if the seals have been removed and reapplied, e.g., a permanent adhesive are unacceptable.

6. APPLICATION

6.1 Validation

Validation against the relevant description and to ensure that the tamper-evident feature performs as designed is required. The test should be appropriate to, and challenge, the particular tamper-evident feature. The notes in Appendix 1 may be helpful.

Recognizing the variability of packaging components, routine testing on a batch-by-batch basis is recommended to ensure that the tamper-evident packaging system is appropriately applied and complies with specifications. These tests should form part of the routine quality control (QC) specifications.

Written validation and verification (QC) records must be maintained.

6.2 Annual review

During the first three years of operation of this whole-of-industry guideline, the Industry Guideline Committee will coordinate an annual design review of product packaging to facilitate and measure industry's progress towards compliance with the Guideline. Non-compliant companies will be notified of the remaining time in which to bring products into compliance. Following the three-year implementation period, it is anticipated that the requirement to comply with the Guideline will be enforceable under the therapeutic goods legislation.

6.3 Changes to acceptable systems

If a system becomes unacceptable, the guideline will be reissued and become effective immediately for new products and within an agreed time frame for existing products.

On introduction of a new system, the guideline will be reissued and become effective immediately.

7. LABELLING

A fundamental requirement for any tamper-evident packaging system is the provision of appropriate advice to the intending consumer as to the nature of the specific tamper-evident characteristic and the ability of the consumer to then identify the relevant packaging features.

That advice must be displayed in a prominent place on the primary pack. The Consumer Medicine Information (CMI) leaflet that is provided at the point of purchase for some products may also help to communicate the TEP messages. For products with a container and primary pack, label advice must also be provided on the container, describing TEP features of the container (the only exceptions are blister packs and small containers). Alternatively, the container must bear a statement alerting the consumer that the container should be inside a carton (or other primary pack) at the time of purchase.

Each package should contain a statement that is prominently placed so that consumers are alerted to the specific tamper-evident feature of the package. The statement is required to be so placed that it will be unaffected if the tamper-evident feature of the package is breached or missing. Sample statements in current use are provided in Appendix 2. These statements have not been tested against performance principles. Coordination if such testing will be the responsibility of the Industry Guideline Committee.

If the tamper-evident feature chosen is one that uses an identification characteristic, that characteristic is required to be referred to in the Statement.

APPENDIX 1 – Notes for guidance on testing of tamper-evident packaging features

The following notes are designed to assist members undertaking routine validation and verification of TEP closures.

It should be noted that the Guideline provides acceptable design characteristics that depend on the correct conjunction of component, equipment and routine application for their performance to specification.

The Guideline is formulated in general terms and cannot address all potential situations. The onus remains with the company to ensure that the TEP feature performs as designed.

Some factors that may be considered in relation to validation are:

- line settings
- effect of temperature
- grades of plastic
- torque
- supplier certification

Some issues that may be considered in relation to the validation process itself are:

- the degree of challenge in respect to tolerances
- time intervals
- acceptable levels of failure
- sample size

Primary validation should be fully documented and take place at product pack development stage.

Verification (QC) of the functionality of the tamper evident features of the packaging should be fully documented and take place:

- prior to use of the packaging in the manufacturing process, and
- on the finished product prior to release for sale.

APPENDIX 2 – Sample label statements

The following statements are examples of those currently used in the Australian market to describe tamper-evident packaging features or drawn from overseas labelling recommendations. In deviating from these statements, it is recommended that sponsors employ performance-based labelling principles and ensure that revised statements deliver at least equivalent consumer understanding that is demonstrated through testing with consumers.

Tamper-Evident Feature	Suggested Wording
Film Wrappers	• Do not use if film wrapper is damaged or missing
Blister or Strip Packs	• Do not use if blister seal is broken • Do not use if blister backing is damaged
Bubble Packs	• Do not use if blister seal is broken
Heat Shrink Bands or Wrappers	• Do not use if seal (around cap/under lid, etc.) is broken or missing • Do not use if tape (band) around cap is damaged • Band around cap must be present to ensure package security • The seal over/around the cap is your assurance that the package has not been opened • For your protection, this bottle has an imprinted seal around the neck
Foil, Paper, or Plastic Pouches	• Do not use if pouch is torn
Bottle Mouth Inner Seals	• Do not use if inner foil liner is missing or broken • Bottle sealed under cap for your protection
Tape Seals	• Now with tamper-evident carton seal • Tape over carton flaps must be unbroken • Use only if carton seal is unbroken • Do not use if seals over carton ends are missing or broken
Breakable Caps	• Now with tamper-evident cap seal • Bottle has been opened if cap is separated • Use only if cap seal is unbroken • The seal on the cap is your assurance that the package has not been opened • Do not use if cap seal is broken
Sealed Metal Tubes or Plastic Blind-end Heat Sealed Tubes	• Do not use if foil seal at mouth of tube is broken • Do not use if sealed tip is cut
Cans (Both All-Metal and Composite)	• Do not use if can is damaged
In-Built Tamper-Evident Controls	• Sterile if in unopened undamaged pack