



INPAA

Button Battery Safety & Compliance Workshop

29th September 2021

Workshop Agenda



AGENDA



ACCC- a Regulator's Perspective on the Standards



Purpose of the Standards



Product Safety Standard



Product Information Standard



Battery Safety Standard



Battery Information Standard



Take Action



Question Time



Director, Consumer Product Safety Division

acc.gov.au

Who we are and what we do



- Independent Commonwealth agency
 - Competition and Consumer Act 2010
 - Australian Consumer Law (Schedule 2)
- Identify and address the risk of serious injury and death from safety hazards
- Take action including:
 - Negotiating recalls
 - Educating industry and consumers
 - Work to introduce changes to voluntary or mandatory requirements
 - Implement changes to mandatory safety standards and bans



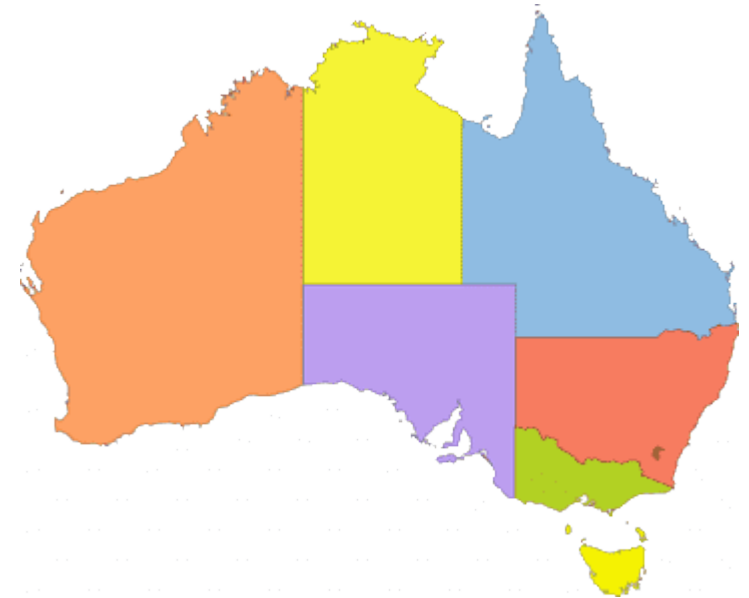
"The world-first standards for button batteries will improve safety in the design of products containing button batteries, the packaging of button batteries, as well as the warning requirements alerting consumers to the risks," Mr Sims said.

Source: Speech – National Consumer Congress, March 2021

Product safety in Australia



- Shared responsibility for product safety regulation
 - ACCC – national regulator
 - Fair trading agencies – Australian states and territories
 - Specialist regulators
- General consumer goods
 - Excludes goods covered by specialist regimes
 - Medicines, chemicals, vehicles, food, others
- Serious injury and death from safety hazards in general consumer goods



Product safety priorities



Toppling furniture

2021



Product safety online



Quad bikes



Sleeping products

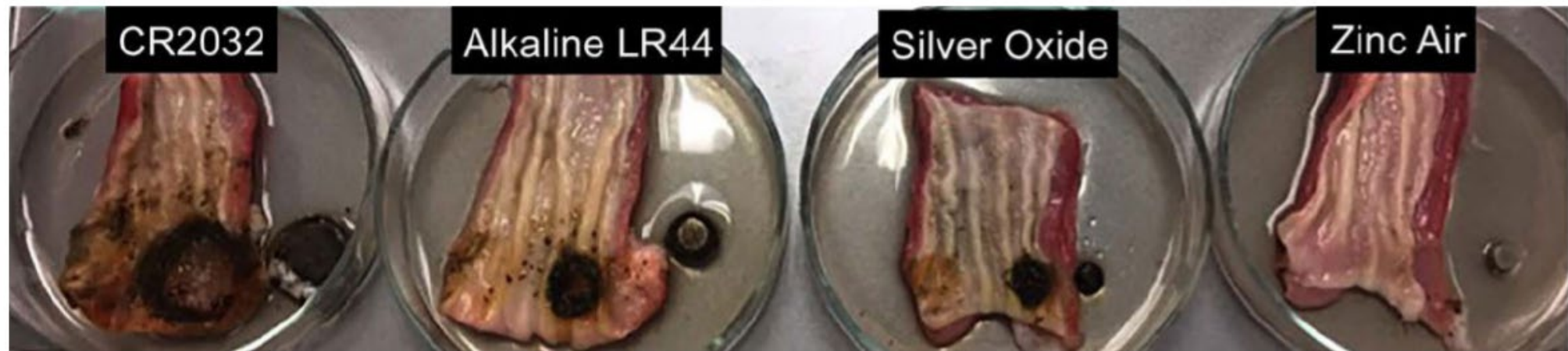


Button batteries

Button battery hazards

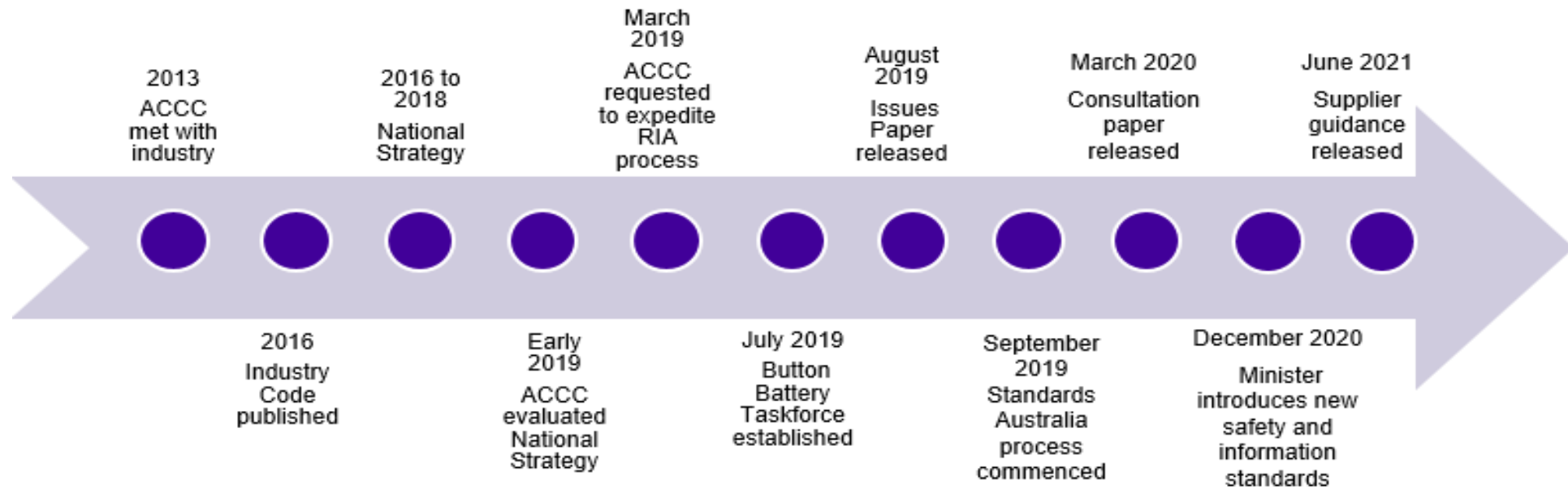


Figure 2: Tissue damage caused by batteries of various chemistries after 6 hours²⁹



Source: Kris R. Jatana, MD; Keith Rhoades, BS; Scott Milkovich, PhD; Ian N. Jacobs, MD, *Basic Mechanism of Button Battery Ingestion Injuries and Novel Mitigation Strategies After Diagnosis and Removal*, *Laryngoscope*, 127:1276-1282, 2017

Safety investigation



Button battery work



Work with state and territory ACL regulators to promote the new standards



Develop guidance material to assist in understanding and meeting the standards



Advocate for other standards-setting bodies to update existing voluntary standards



Support work on other measures to improve button battery safety

Your responsibilities



- Everybody in the supply chain is responsible – not just manufacturers
- If you manufacture, or are in possession or control of button batteries or products containing button batteries and you offer them for supply to or in Australia, they must comply with the Standards.



How do I know if it complies?



Responsible
sourcing of
safe products



Test products



Pre-
shipment
inspections



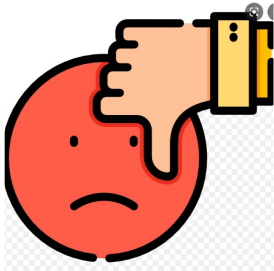
Other
compliance
measure



What happens if it doesn't comply



Unsafe products can cause serious injuries or death



Major impact on your customers and your business



Fines and penalties

What happens if it doesn't comply



When you become aware your product is unsafe you can conduct a **voluntary recall**

Recall process

- stopping the supply of a product
- informing the relevant authorities of the problem
- warning consumers of the hazard the product presents
- offering consumers a remedy in the form of a repair, replacement or refund.



More information



Have a question?

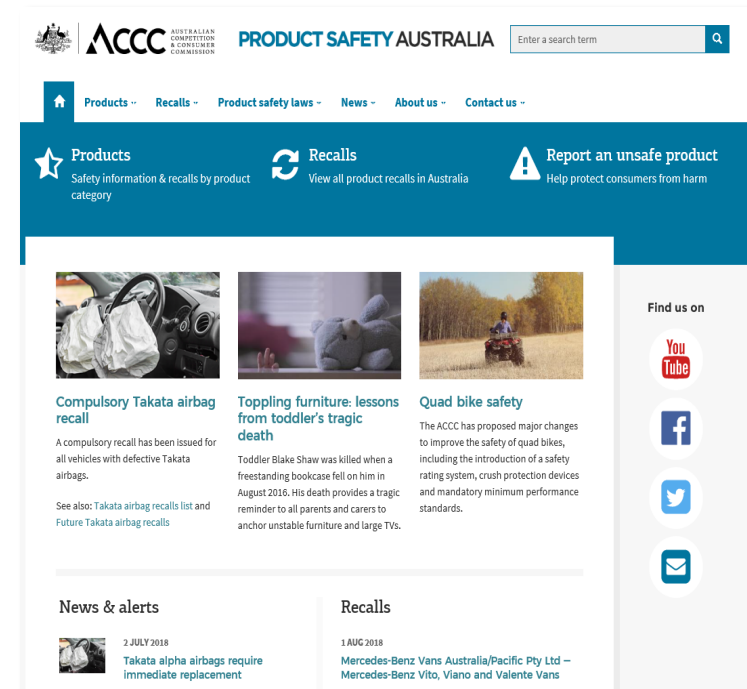
ACCC Infocentre -

www.accc.gov.au/contact-us

Want to know more?

Guidance and education
material

www.productsafety.gov.au/



Why are we here?

3

Children have died in Australia due to button battery ingestion

2

Swallowing can lead to serious injury or death in less than 2 hours

1

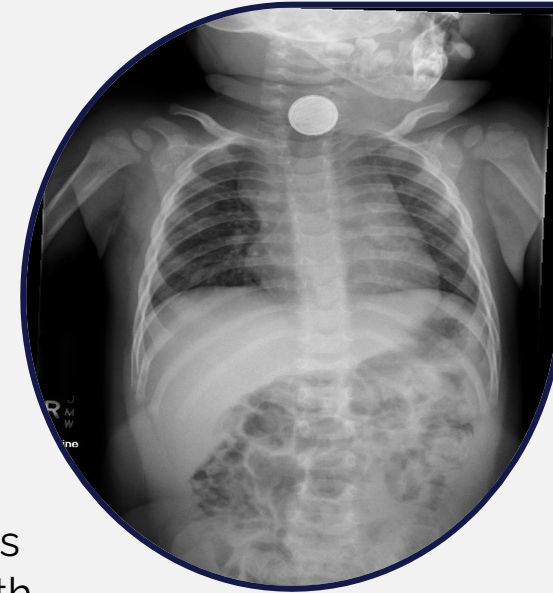
Child per month sustains a severe injury

1000

Children per year are rushed to Australian emergency departments after ingesting or inserting button batteries

10

The average shelf life of a button battery is ten years and the batteries can cause severe injuries and death even if flat.



1000s

The number of types of products you can find button batteries in!



SCALES



**REMOTES
KEYS**



**WATCHES
CLOCKS**



CALCULATORS



**GADGETS
NOVELTIES**



TRACKERS



TORCHES



GIFTS



THERMOMETERS



**BOOKS
CARDS**



TOYS



What is the hazard?



**What
you
see**



**What
a 3-year-old
sees**

Even batteries that are perceived to be 'flat' because they don't operate a device can generate enough current to cause serious tissue damage if ingested.



What is the hazard?



<https://www.youtube.com/watch?v=qQcxNTNRME4>

The Australian Consumer Law mandatory standards





Four mandatory standards have been introduced to reduce the risk of death and injury associated with the use of button and coin batteries.

The requirements of the mandatory standards are applicable to both button cell and coin cell batteries, in addition to the products that are designed to use or store them.

This makes Australia the first country in the world to have mandatory requirements for button battery safety that apply across ALL consumer product categories.



**Australian
Competition &
Consumer
Commission**

Product Safety	Product Information	Battery Information	Battery Safety
Consumer Goods (Products Containing Button/Coin Batteries) Safety Standard	Consumer Goods (Products Containing Button/Coin Batteries) Information Standard	Consumer Goods (Button/Coin Batteries) Information Standard	Consumer Goods (Button/Coin Batteries) Safety Standard
<ul style="list-style-type: none"> Designed so batteries are not released. Secure battery compartment. Compliance must be demonstrated by testing. 	<ul style="list-style-type: none"> Symbol on front of packaging. Warning on packaging and/or instructions. Icon/warning on product or label/tag for unpackaged products. 	<ul style="list-style-type: none"> Engraved on the battery (e.g. 3V Lithium). Provided on packaging – icon and text. 	<ul style="list-style-type: none"> Every battery packed Individually child resistant. Must meet compliance testing requirements.
			

The standards were introduced on 21 December 2020.

By **22nd June 2022** all in-scope products must comply at RETAIL.

It will be illegal to supply (including to consumers) non-compliant products.

If you have not already done so, you need to start taking actions today, to ensure all products are compliant, and non-compliant products are removed from sale by the 22nd June 2022.



Product Safety



Key Requirements

- 1** All products containing button batteries, whether they are replaceable or not, must be designed to ensure that the **batteries do not release** during reasonably foreseeable use or misuse conditions.
- 2** Additionally, for products that contain consumer-replaceable button batteries, the **compartment** in which the battery is held must be designed to ensure that it **is resistant to being opened by young children**.
- 3** If a screw or other fastening device is used to secure the battery compartment then it must be designed to be **'captive'** - i.e. it must remain with the door to the compartment at all times (except if they are compliant with AS/NZS/IEC 60065/60950/62368).
- 4** Compliance to requirements 1-3 must be **demonstrated by testing to specific standards**. It is recommended that this testing be conducted by an accredited third party laboratory.

1 Batteries do not release

- ☑ All products containing button batteries, whether they are replaceable or not, must be designed to ensure that the **batteries do not release** during reasonably foreseeable use or misuse conditions

[Part 2, Division 2, Subsection 8 (1)]

- This means they must not be released during the intended use of the product, as well as in foreseeable misuse- for example if the product is dropped or knocked.

- ☑ Compliance must be demonstrated by testing *[Part 2, Division 2, Subsection 8 (2)]*:

- **Audio/Visual Standard** (AS/NZS or IEC 62368.1:**2018 (do not use earlier edition)**):
 - 4.8.4.2 – Stress relief test
 - 4.8.4.3 – Battery replacement test
 - 4.8.4.4 – Drop test
 - 4.8.4.5 – Impact test
 - 4.8.4.6 – Crush test
 - OR corresponding clauses of AS/NZS 60065:2018 (Clauses 12.7.3.2 to 12.7.3.6)
- **Luminaires Standard** (AS/NZS 60598.1:2017):
 - Clause 4.101.1 – Push and Pull forces/Torque test as appropriate
- **Safety of Toys Standard** (AS/NZS ISO 8124.1:2019):
 - Clause 5.24 – Drop test
- **Lithium Technologies / Non-Product Specific Standard** (UL 4200A):
 - 6.3.2 - Drop test for portable devices
 - 6.3.3 - Impact test
 - 6.3.4 - Crush test

2 Compartment resistant to opening

- ☑ For products that contain consumer-replaceable button batteries, the compartment in which the battery is held must be designed to ensure that it is resistant to being opened by young children.

[Part 2, Division 2, Subsection 9 (1)]

- Secured by a fastener e.g. screw, or opened only with the use of a tool OR
- If allowed by the testing standard, opened only with at least two independent and simultaneous movements. Not allowed under the toy standard or luminaires standard.

- ☑ Compliance must be demonstrated by testing *[Part 2, Division 2, Subsection 8 (2)]*. The below testing incorporates the testing required for Requirement 1:

- **Audio/Visual Standard** (AS/NZS or IEC 62368.1:2018):
 - 4.8.3- Requirement for battery compartment to be secure.
 - 4.8.5 – Compliance criteria (conducted after the tests of 4.8.3.2-4.8.3.6
 - OR corresponding clauses of AS/NZS 60065:2018 (Clauses 12.7.2-12.7.4)
- **Luminaires Standard** (AS/NZS 60598.1:2017):
 - Clause 4.101.1 – Push and Pull forces/Torque test as appropriate
 - Clause 4.101.2 – Captive fastener requirement
- **Safety of Toys Standard** (AS/NZS ISO 8124.1:2019 & AS/NZS 62115:2018 (IEC 2017)):
 - Clause 5.24 – Drop test (AS/NZS ISO 8124.1:2019)
 - Clause 13.4.1 (requirements for small batteries) of AS/NZS 62115:2018 (IEC 62115:2017)
 - Clause 13.4.6- Captive fastener requirement of AS/NZS 62115:2018 (IEC 62115:2017)
- **Lithium Technologies / Non-Product Specific Standard** (UL 4200A):
 - 6.2 – Preconditioning tests (stress relief and battery replacement)
 - 6.3.5 (conducted after the abuse tests of 6.3.2-6.3.4) – Compliance criteria

Examples

Good
accessible only by tool
multiple fasteners

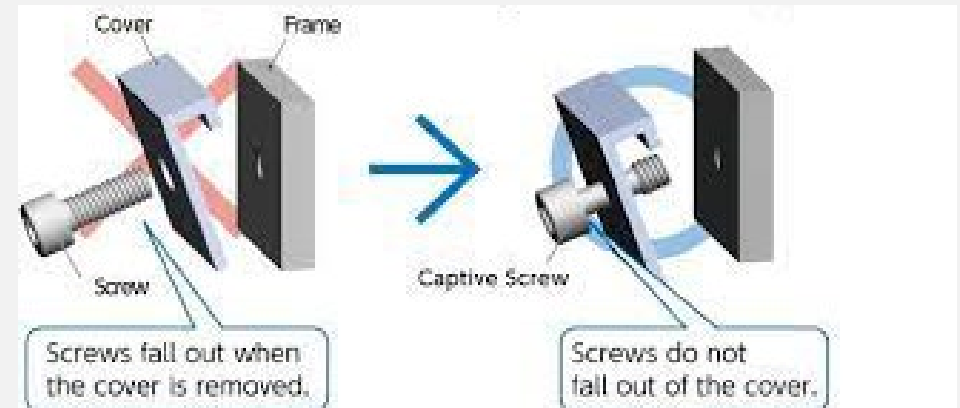


Bad
battery compartment easy
to open without a tool



3 Captive fasteners

- ☑ Products that have been assessed to the Lithium Technologies or **Non-Product Specific Standard** (UL4200A), must be designed to ensure the screws or similar fasteners used to secure the battery compartment are **captive** (i.e.. remain with the door or cover of the compartment). *[Part 2, Division 2, Subsection 10 (1-2)]*
 - Captive fasteners are also required for products under the scope of the Electric Toys Standard (AS/NZS 62115:2018/IEC 62115:2017) and Luminaires Standard (AS/NZS 60598.1:2017).
 - Captive fasteners are best practice for ALL battery compartments as they ensure that the fasteners are not misplaced (causing the compartment to be unsecured), and prevent them from becoming choking hazards.
- ☑ Compliance must be demonstrated by testing *[Part 2, Division 2, Subsection 10 (3)]*.
 - **Luminaires Standard** (AS/NZS 60598.1:2017):
 - Clause 4.101.2
 - **Electric Toys Standard** (AS/NZS 62115:2018 (IEC 62115:2017)):
 - Clause 13.4.6



4 Compliance Testing

- ☑ Compliance to requirements 1-3 **must be demonstrated by testing** to the standards and clauses listed in the mandatory standard. Make sure **your test report has images of your product and a clear description with model details.**
- ☑ **Which standard should I use:**
 - Your product should be tested to the standard that is most appropriate for its intended use and foreseeable misuse.
 - Generally, accredited laboratories cannot issue an accredited report to a standard if the product is not in scope of that standard- e.g. testing a toy to the lighting standard.
 - Your product may have risks that are not addressed by testing to a single standard- e.g. a torch may best fit under the luminaires standard, however it is likely to be dropped, and should additionally be tested using the drop test of AS/NZS ISO 8124.1, Clause 5.24.
- ☑ **Who should conduct the testing:**
 - To ensure that the testing is both independent and conducted in accordance with ISO 17025, testing should be conducted by a third party body, accredited to the standard being tested. The accreditation mark (e.g. NATA, CNAS, IANZ, TAF) should be on the front page of the report, signifying that the laboratory issued the report under their accreditation, and all requirements of 17025 were adhered to.
 - Independent test reports also hold more weight with regulators, and may be required by the retailers you are supplying to.

Product Information



Key Requirements

1

You must include warnings:

- in the instructions, if they accompany the goods;
- on the package, if the goods are packaged;
- attached to the goods themselves, if the goods aren't packaged.

If the consumer goods are packaged, the front panel of the packaging must be marked with an internationally recognised safety alert symbol, regardless of where the full text of the required warning is located.

2

The warnings must be clearly visible, prominent, and legible. If on the product, they must be sufficiently durable.

Note:

- These warning requirements are unique to the ACCC mandatory standards. Even if your product complies with one of the safety standards, the warning and instructions requirements of those standards are not the same as those required in the mandatory standard.

1

Warning Content



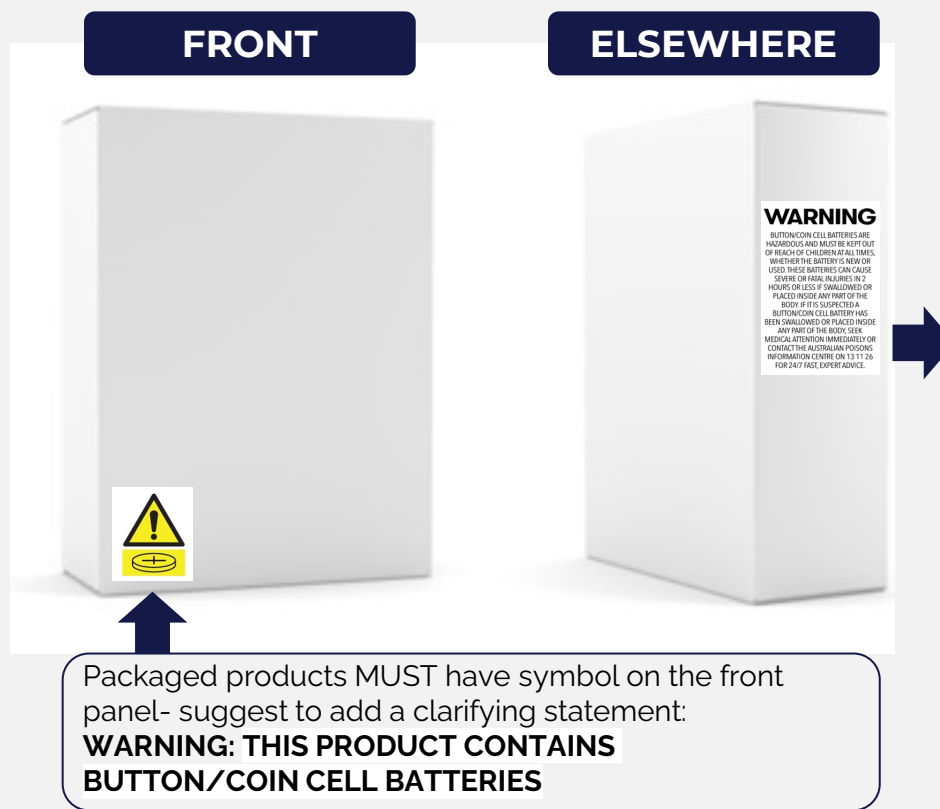
Alert Word-
Danger, Warning
Caution

A recognised
safety alert
symbol is
required which
must include a
combination of
symbol ISO
7010-W001 and
symbol IEC
60417-6367.



1. A statement to the effect that the battery is hazardous and is to be kept away from children (whether the battery is new or used);
2. If the battery is a lithium button/coin battery—a statement to the effect that the battery can cause severe or fatal injuries in 2 hours or less if it is swallowed or placed inside any part of the body;
3. if the battery is a non-lithium button/coin battery—a statement to the effect that the battery can cause serious injuries if it is swallowed or placed inside any part of the body;
4. advice to the effect that medical attention should be sought immediately if it is suspected the battery has been swallowed or placed inside any part of the body.
5. Preferably- advice to contact the Poisons Information Centre

1 Warning Placement



1. If the product has an instruction manual, the full text of the warning must be included.



2. If the product is supplied in packaging but has no manual, then the warnings must be on the packaging. It is recommended to have them on the packaging and in the instruction manual if both are supplied.



3. If the product is NOT supplied in packaging, then the warning must be attached to the product- e.g. using a label or tag.

2 Warning Format

- ☑ Warnings must be sufficiently visible, prominent and legible.
- ☑ The mandatory standard refers suppliers who are seeking guidance in how to achieve this, to ISO 3864-2:2004 – Graphical Symbols – Safety Colours and Safety Signs – Part 2: Design Principles for Product Safety Labels.
- ☑ Some guidance in line with ISO 3864-2:2004 is to consider:
 - Is the warning in a colour that **sufficiently contrasts** with the background of my packaging or product?
 - **Is the text large enough to read?** The larger the print size, the easier the warning will be to read. This facilitates the clear communication of warnings and instructions.
 - Does the warning draw attention to the hazard when it is needed- e.g. prior to purchase; when changing the batteries.
 - Alert words- e.g. WARNING, should be in a larger font to draw consumer's attention to the rest of the warning text.
 - Is the typeface used clear and simple- do not use decorative fonts for warnings!
 - Printing must be clear and crisp, and free from blurring or other distortion. Printing must be sufficiently durable so as not to fade, run, smudge or otherwise lose legibility during reasonable handling and storage for the predicted life of the products.
 - Is the colour of the text distinctly contrasted to the background- use light coloured text on dark backgrounds, and dark coloured text on light backgrounds.
 - Remember colour blindness affects up to 10% of Australian males. Never use red, green, brown, grey and purple next to each other or on top of each other.
 - Never place warning text over a patterned background or photo
 - Have you printed out your artwork at 100% and made sure others in your office can easily read it? It usually looks bigger on the screen!

'Low Risk' Exemptions

The following products are considered to have a lower risk profile:

- Hearing Aids
- Products where the battery is fully enclosed in the consumer goods and not accessible to the consumer (this does not mean in a secured compartment)
- Products with batteries that are not intended to be removed or replaced by the consumer.
- Products that require a specialist to install or remove the battery.

If these products are supplied with instructions, then the warnings (including the safety alert symbol) only need to be in the instructions. They do not need to be on the product packaging.

If these products are NOT supplied with instructions, then the exemption does not apply.

Battery Safety



Key Requirements

- 1** Button/coin batteries must be supplied in **child-resistant packaging** that is difficult for young children to open.
- 2** When blister packaging is used, the packaging must be **designed to only release one battery at a time**.
- 3** Compliance to requirements 1-2 must be **demonstrated by testing to specific standards**. It is recommended that this testing be conducted by an accredited third party laboratory.

Note:

- The above applies to button/coin batteries sold separately AS WELL as to those supplied with products if they are not secured in the battery compartment
- Batteries with zinc-air chemistry sold for hearing aid use and batteries sold in bulk for trade/industrial use are exempt.

1 Child-resistant packaging

- ☑ The packaging of all button/coin cell batteries (unless exempted) must be designed to be resistant to opening by young children.
{Part 2, Subsection 7 (1)}
 - This means the packaging is difficult to open for young children but not impossible!
- ☑ Compliance must be demonstrated by testing *{Part 2, Subsection 7 (2-3)}*:
 - **Non-reclosable packaging:**
 - AS 5808-2009 - Clause 3.2.1
 - EN 862:2016 - Clause 3.2.1
 - ISO 28862:2018 - Clause 4.2.1
 - Subchapter E (Poison Prevention Packaging Act of 1970 Regulations) of Chapter 2 (Consumer Product Safety Commission) of Title 16 of the Code of Federal Regulations- paragraphs 1700.15(a) and (b)(1)
 - **Reclosable packaging**
 - AS 1928-2007 – Clause 4.3.1
 - ISO 8317:2015 – Clause 3.3.1
- ☑ **These tests involve real-life studies with real-life children!**
 - They thus cannot be done in-house and must be done by a suitably accredited body.
 - If you currently supply batteries loose with your product, you will need to closely consider your options.



2 Blister packaging

- ☑ If blister packaging is used (which it predominately is), and there is more than one battery in the packaging, then it must only release one battery at a time, and the packaging must remain resistant to opening by young children.
[Part 2, Subsection 8 (1)]

- ☑ Compliance must be demonstrated by testing *[Part 2, Subsection 8 (2-3)]*:

- **Annex E of IEC 60086-4: 2019 Primary Batteries—Part 4: Safety of lithium batteries**

- Note the scope of the standard is to be disregarded, and all batteries in scope of the ACCC requirement must be tested- i.e.. even button batteries smaller than 16mm and non-lithium chemistries.
- The policy intent of the Consumer Goods (Button/Coin Batteries) Safety Standard is to allow blister packaging to comply with either the tests in the standards outlined in the previous slide or comply with the tests of Annex E (this slide). Some stakeholders have suggested there is an issue with how this is drafted in the mandatory standard and the ACCC is evaluating what steps are necessary to ensure the standard strictly reflects the policy intent.



Battery Information



Key Requirements

1

Any packaging used to supply button/coin batteries must be marked clearly with a warning.

2

Button/coin batteries with a diameter of 20 mm or more must be marked with a 'Keep out of reach of children' symbol on the battery itself.

Note:

- The above applies to button/coin batteries sold **separately AS WELL as to those supplied with products including where secured in a compartment.**
- Batteries sold in bulk for trade/industrial use are exempt.

1 Warnings on packaging

- ☑ The packaging of all button/coin cell batteries (unless exempted) must be marked with a warning that is clearly visible, prominent and legible. *[Part 2, Subsection 9 (1)]*
- ☑ This warning must include the substance of all of the following (if space permits on front of pack, if not then the first three items must be on front of pack):
 - An alert word (such as DANGER, WARNING or CAUTION) with the letters of the alert word in upper case;
 - A combination of an internationally recognised safety alert symbol and an internationally recognised “keep out of reach of children” symbol;
 - A statement to the effect that the battery is hazardous and is to be kept away from children (whether the battery is new or used);
 - If the battery is a lithium button/coin battery—a statement to the effect that the battery can cause severe or fatal injuries in 2 hours or less if it is swallowed or placed inside any part of the body;
 - If the battery is a non-lithium button/coin battery—a statement to the effect that the battery can cause serious injuries if it is swallowed or placed inside any part of the body;
 - Advice to the effect that medical attention should be sought immediately if it is suspected the battery has been swallowed or placed inside any part of the body.



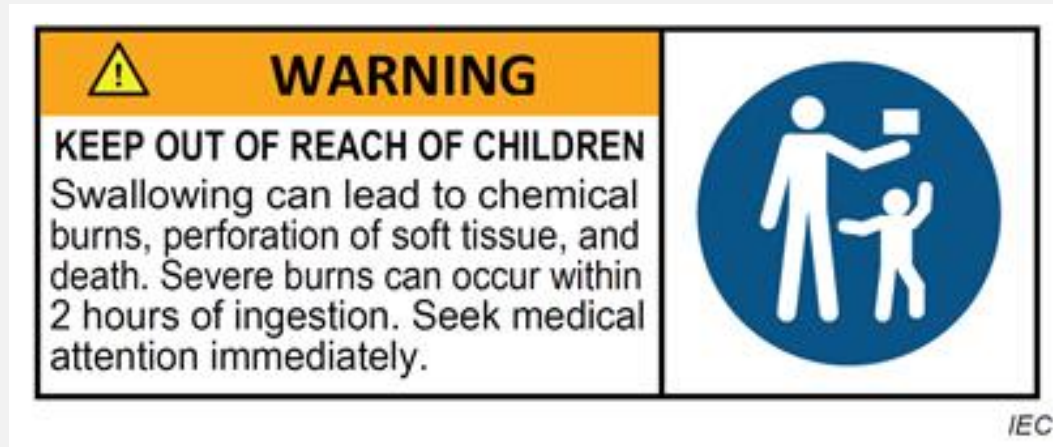
**Safety Alert
Symbol**



**Keep out of
Reach of
Children Symbol**

1 Warnings on packaging

- ☑ Alternatively this warning from **IEC 60086-4: 2019 Primary Batteries—Part 4: Safety of lithium batteries** may be used:



2 Warnings on the battery

- ☑ Button/coin batteries with a diameter of 20mm or more must be visibly, prominently and indelibly (e.g. engraved) marked with the international keep out of reach of children symbol. This must be at least 6mm in diameter.
[Part 2, Subsection 11 (1-2)]
- ☑ Note batteries complying with **IEC 60086-4: 2019 Primary Batteries—Part 4: Safety of lithium batteries** would already comply with this requirement.



Actions



What do I need to do?

Do not supply

- Products that have unsecured button batteries.
- Button battery packaging that is not child-resistant.
- Products and packaging that do not have the required safety warnings, symbols or user information.
- Products that have not been tested to the applicable standards.

Risk assess

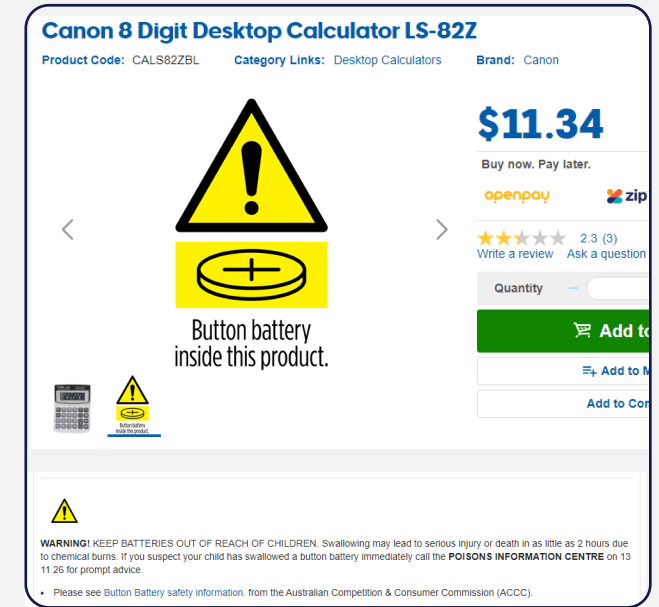
- Always know the products you are ranging, are they button batteries, contain button batteries or are powered by button batteries?
- Do these products need to be powered by button batteries?
- If you are unsure if your products comply ask for advice- e.g. from a test laboratory, consultant or even your retailer.
- If you are a retailer advise suppliers/sellers that products must meet the applicable requirements of the new mandatory standards before they can be ranged.

Acceptable for supply

- Products that have been tested, assessed and confirmed as meeting the new mandatory standards AND
- That meet the warning and packaging requirements of the mandatory standards.
- Sell through of any non-compliant (but safe) stock before June 2022

What more can I do?

- ☑ Consider battery type when designing/sourcing products. Many items can be designed to use other types of batteries, avoiding the hazard altogether.
- ☑ Consider implementing the recommendations contained in the mandatory standards, particularly with respect to:
 - Including the warnings on your online shopping platforms
 - Including the warnings on in-store POS displays
 - Including the Australian Poisons Centre number in all warnings- this is the best way of getting appropriate medical treatment if your child swallows a button battery.
 - Providing clear instructions on how to safely dispose or recycle the batteries.
 - Providing the warnings on pack, in the instructions and on the product, even if this is not mandatory.
- ☑ Remind your friends, family and customers with young children of the hazards associated with button batteries. You might just save a life!



The time to take action is now!

By 22nd June 2022 all in-scope products must comply at RETAIL.

It will be illegal to supply (including to consumers) non-compliant products.

If you have not already done so, you need to start taking actions today, to ensure all products are compliant, and non-compliant products are removed from sale by the 22nd June 2022.

you might just save a life...



Summer's Story



<https://www.youtube.com/watch?v=KF-bx-QB3w0>

Thank you
for your
time. We
hope you
found it
interesting?

