

Audit and review of packaging environmental labelling and claims

Australian Council of Recycling

Final report



59 Stubbs Street,
Kensington, VIC 3031
+61 3 9372 5356

194 Varsity Parade,
Varsity Lakes QLD 4227
+61 4 04 899 961

Web – equil.com.au
Email – info@equil.com.au



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Client	Australian Council of Recycling
Client contact	Pete Shmigel (CEO)
Date	28 July 2020
Prepared by	Madelaine Waters and Damien Wigley (Equilibrium) Mark Field (The Real Food Professor)
Reviewed by	Nick Harford (Equilibrium)
<p>This report has been prepared for the sole use of the client stated above, the only intended beneficiaries of our work. No other party should rely on the information contained herein without the prior written consent of Equilibrium OMG Pty Ltd (Equilibrium).</p> <p>The results and findings are based upon Equilibrium’s professional judgment, experience and expertise, based upon the reliance of information used to prepare this report.</p> <p>Equilibrium has limited its assessment to the scope agreed upon with its client.</p> <p>Equilibrium believes that its findings are reasonably supported and that they have been developed according to the professional standard of care for the environmental and sustainability consulting profession in this area at this time.</p>	

Executive Summary

It has been identified that consumers are becoming more socially and environmentally aware, driven by a greater understanding of global issues through social and traditional media, non-government organisations and key influencers.

The Australian Council of Recycling (ACOR) commissioned Equilibrium to undertake a review (consisting of a packaging audit as well as literature research) to identify logos and claims pertaining to packaging materials and, in particular, recycling claims.

The consumer's ability to make change by reducing the amount of packaging waste that ends up in landfill is a growing consideration when making product or brand selection. While this environmental awareness and consciousness is extremely powerful, this research report shows that lack of information or complex messaging can hinder the ability to make the correct choices with respect to recycling or disposing of packaging waste.

Of the 150 products sampled for this project, 61% displayed a recycling claim or label. Of those that displayed a recycling claim or label, 23% were the Australian Recycling Label (ARL) and 29% were the mobius loop.

Although the majority of products had a recycling claim, the logos were commonly only on outer packaging rather than on each packaging component. As 52% of products sampled consisted of more than one packaging component, this was a significant finding with respect to inconsistent recycling labels relating to one or more packaging types.

Furthermore, it was identified that some labelling is incorrect or non-existent (some claim to be recyclable when not, some have no claim despite being recyclable) and the terminology used to explain the recyclability of the packaging is not consumer friendly (e.g. "this packaging is recyclable" when only the one component is actually recyclable).

Other incorrect statements included liquid paper board packaging that claimed to be recyclable and soft plastic packaging that contained a recycling logo with no explanation or guidance on separating from other recyclables and where to recycle it.

The Tidyman logo appeared on 15% of products sampled, accompanied by statements that included "dispose of thoughtfully or responsibly". It was found to appear on both recyclable and non-recyclable products and offers no instructions or information on the correct waste stream for the type of packaging it appeared on.

The use of resin codes on packaging was also not found to be helpful or useful as it could be misconstrued to mean that the product is recyclable and therefore the material could end up in kerbside recycling. As discussed, this is not the intent of the code and therefore it would be beneficial to any labelling program if it could be entirely eliminated from packaging materials.

The assessment concluded that ambiguity is influencing the consumer's ability to effectively recycle packaging through recycling programs and that recyclability labels need to be specific about the disposal methods of all components, and also include instructions to avoid contamination.

In order to help consumers make the right choices, there needs to be a clear, concise and evidenced based label that is mandatory, engaging and able to raise awareness placed on every product and packaging type sold into the Australian market.

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Recycling labels and claims are not consistently used across different packaging types and some labelling is incorrect or non-existent (some claim to be recyclable when not, some have no claim despite being recyclable) and the terminology used to explain the recyclability of the packaging is not consumer friendly.

With so many different and potentially conflicting labels, statements, logos and symbols, consumers deserve something that is simple, incumbent and empowers them to understand how to effectively recycle or dispose of all packaging from products sold into, and used within, the Australian market.

In summary the major findings were:

- 88% of the packaging components that were sampled are recyclable through either kerbside recycling or REDcycle, but only 40% had a recycling claim.
- This 40% consisted of 37% from recyclable components, 1% on non-recyclable components and 3% on components where the recyclability was unclear.
- There is a large gap in what is labelled as recyclable and what can potentially be recycled.
- Lack of any disposal labelling, as seen on 51% of products, may also lead to consumers wrongfully placing non-recyclable items into their kerbside recycling bin potentially resulting in contamination.
- Ninety-nine products were Australian made and 49 were imported. Fifty five percent of imported products and 64% of Australian products displayed a recyclability claim.
- 28% of Australian products had the ARL specifically, showing the largest reach of any other label. However, it fell short of capturing all supermarket and other items that were sampled as part of this project.
- There was no consistent placement or sizing of recyclable labels. While majority of them were located on the back of the packaging, they were placed on a variety of different locations and were displayed in different sizes.

Based on the findings the recommendations are:

- Labels need to be specific about the management methods of all components, and also include instructions to avoid contamination as ambiguity is influencing consumers' ability to effectively recycle household packaging through recycling programs.
- There needs to be a clear, concise and evidenced based label placed on every product and packaging type sold into the Australian market.
- The preferred label should be made mandatory and be flexible enough to incorporate new technologies and systems as they come online to recycle more products.
- The use of resin codes can be misconstrued as meaning recyclable. Therefore, the material could end up in kerbside recycling which is not the intent of the code. Similarly, the mobius loop could cause consumer confusion. A short cut to achieving greater clarity and consistency to remove these from packaging.
- There is a role for authorities (including the Australian Competition and Consumer Commission - ACCC) in driving and ensuring clarity and consistency in environmental claims and labels pertaining to recycling.

In conclusion to the study, Mark Field, Director of The Real Food Professor has provided the following observation; "the fast moving consumer goods and recycling industries can both play an important role in driving and supporting environmental awareness, with the ultimate aim of making it easier for the consumer to understand the recyclability of their food and non-food packaging, supporting more effective recycling and reducing waste to landfill."

1 Introduction

The purpose of this report is to present the findings of an audit and review of an appropriate selection of products and packaging that make up a typical grocery basket (consisting of food and other consumer products and packaging), as well as convenience and other popular fast food product packaging.

The purpose of the review was to identify logos and claims pertaining to packaging material containing the products, indicating whether it can be recycled (including the polymer / resin identification code and mobius loop where they were used) or requires disposal as there are no current recycling options available.

Other “sustainable” claims relating to the product packaging, such as recycled content, were also assessed. In addition to the logos and claims, other specific information relating to the product included on the packaging such as nutritional information, ethical or other allergy statements, country of origin, self-claims and other labels were recorded to enable an assessment across brands, products and packaging type and what information was available overall. Where the claims and logos were typically placed on the packaging was also documented.

In addition to the audit, research on environmental labelling programs that are currently being accessed and used in Australia, as well as current standards and guidelines (including Australian Competition and Consumer Commission guidance), were reviewed to give background on the wide variety of key labelling programs and their relevance to assist consumers to identify whether to recycle or otherwise dispose of the packaging to landfill at end of life.

1.1 Background

There are a number of various schemes and logos that are used on packaging, both within Australia and internationally, that have been designed to assist consumers to make an informed choice when it comes to disposing of the packaging. The purpose of these are to help consumers to differentiate and separate packaging waste, reducing product to landfill whilst supporting recycling programs.

These logos and claims have been developed and endorsed by a wide range of organisations, as well as commercial enterprises that collect and recycle products and other materials including packaging, with the aim of providing consumer guidance and supporting the delivery of packaging waste reduction claims by major brands. Some are also apparent self-claims, where there is no external verification or endorsement.

A list of Australian and international disposal, recycling and compostability labels and claims is presented in Appendix A, and are discussed further in this document.

1.2 Objective and purpose

The objective of the project is to provide an up-to-date, evidence-based, comprehensive and objective analysis of the range of environmental and recycling logos and labels being used in Australia.

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The purpose of the audit and research is to provide the Australian Council of Recycling (ACOR) with an assessment of the range of labels that are used on grocery, convenience, and other fast food products as to:

- the adequacy of current labelling;
- how they are used, and;
- whether they are clear, accurate and can easily be understood by consumers.

This report also provides recommendations with respect to a uniform and consistent approach to environmental labelling with a focus on their relevance, as well as ability to assist consumers to identify whether to recycle or otherwise dispose of the packaging at end of life.

2 Scope and audit methodology

2.1 Scope

The scope of the project was to audit products purchased from big chain retailers, smaller independent supermarkets, convenience stores and take-away food outlets located in Queensland and Victoria, and assess the packaging for a wide range of information and elements, including but not limited to environmental claims.

A total representative of 150 stock keeping units (SKU's) or meals in the case of fast food venues were audited, consisting of the following broad product categories:

- Baby and infant
- Bakery goods
- Convenience products
- Dairy
- Deli
- Beverages
- Eggs
- Other refrigerated items
- Frozen goods
- Fruit and vegetable items
- Health and beauty products
- Household items (including cleaning products)
- Lunch box and confectionary items
- Meat and seafood
- Pantry goods (including tinned products)
- Pet foods
- Fast (take-away) meal items

2.2 Audit methodology

The methodology used to undertake the audit is summarised as follows:

1. Items for purchase were broken down into categories to enable an assessment of a wide range of products to be sampled across the store/locations that were chosen as representative for the project.
2. A shopping list of items was documented by store/location, enabling a representative mix of products from each category to be sampled. Some flexibility was built into the sampling program in case products were not available, or if another product that included packaging that was unique was identified.
3. The methodology used by the auditors to ensure equal and representative products were purchased from the item lists were as follows:
 - a. A scan from the top shelf to the bottom shelf or through the product display was undertaken to ensure products were purchased from a variety of placements and not just from eye level only, enabling access across mixed price points and brand positions.
 - b. A cross section of brand names as well as private label products were chosen from each category and by each auditor.
 - c. Products with packaging that was the most appropriate representation of the category were chosen to ensure that typical products were sampled.
 - d. A mix of Australian made and imported products were sampled to compare labels across countries of origin.
 - e. Once the product was selected, similar category products were inspected and products that contained the Australian Recycling Label (ARL) were documented.
4. When assessing the packaging, each aspect of the item was reviewed, including:
 - a. Sides of packaging
 - b. Separate packaging components within the one product
5. Photographs were collected from all component packaging.
6. The following information, including the location of the label on packaging, and any references to support claims was documented:
 - a. Store and date of purchase
 - b. Product name
 - c. Country of origin/manufacture
 - d. Packaging material/s (including use of polymer/resin code)
 - e. Recycling/disposal claim, label, or instruction (e.g. ARL, return and earn, REDcycle)
 - f. Other environmental or packaging claims (e.g. recycled content, FSC, compostable etc.)
 - g. Other claims pertaining to product not packaging (e.g. allergens, dietary requirements, religious claims, organic, non-GMO)

All information was captured in a labelling information capture sheet and amalgamated to inform the audit findings presented herein in this report.

2.3 Environmental labelling and claims

The desktop research review focused on Australian claims whilst including international environmental labelling and claims.

Although not all international or country-specific labelling and claims have been documented within this report, it has been considered that the majority of labels have the potential to be applicable to products sold and consumed in Australia.

A summary of Australian and international disposal, recycling and compostability labels and claims is presented in Appendix A.

In the context of this report (and in line with AS14021:2018) *environmental claims made in regard to products may take the form of statement, symbols or graphics on products or package labels, or in product literature, technical bulletins, advertising, publicity, telemarketing, as well as digital or electronic media, such as the Internet.*

3 Packaging labelling and claims research

3.1 Product and packaging content labels

In addition to product and packaging content labels, there are also packaging labels that are concerned with recycled content claims, where packaging may contain some pre-or post-consumer materials.

The applicability of the labels and claims as well as plastic codes is discussed further in this document and summarised in Appendix B.

3.1.1 Plastic Identification Code

The Plastic Identification Code (PIC) or resin identification codes distinguish the resin composition of a polymer material into seven categories. Launched in 1988 by the Society of the Plastics Industry (SPI) and introduced to Australia in 1990, the coding system was intended to provide guidance for the recycling industry as to the polymer type for easy sorting and division into new products.

The code provides a number to identify the polymer that is then surrounded by the mobius loop or three chasing arrows.

In its simple form, it is a voluntary scheme for which manufacturers can indicate the resin code on materials (including packaging).

In 2003, Chemistry Australia (known then as the Plastics and Chemicals Industry Association) reviewed the Plastics Coding System against the changing marketplace and revised the Code of Practice to assist the industry on where and how to use the coding symbols and make it easier for re-processors to identify and separate used plastics for new applications.

It is noted that since that time, re-processors in Australia have increasingly employed automated technology to sort used plastics. At Material Recovery Facilities (MRFs) and plastics recycling operations, technology is widely used to sort used plastics into different polymers. Therefore, it is not clear to what extent the code continues to be used by re-processors for the stated purpose of being to identify and separate used plastics.

3.1.2 Mobius loop

The mobius loop was launched in 1970 as part of a contest sponsored by the Container Corporation of America (CCA). It is often referred to and used as a universal symbol for recycling indicating the capability of the particular material that bears it to be recycled.

However, it does not mean the product will be accepted for recycling as not all facilities can accept all potentially recyclable materials. The symbol is not trademarked and there is no official regulation for its use. As a result, it can appear on any item and does not necessarily indicate recyclability but could also mean that the material contains a certain percentage of recycled content.

The mobius loop has historically been associated and used in conjunction with resin identification codes although both symbols are not in any way associated with each other.

It appears that a form of mobius loop/recycling triangles continues to be the prevalent label in the Australian beverage industry, even though almost all its companies are members of the Australian Packaging Covenant Organisation (APCO).

Both codes in isolation, and together, do not guarantee that the material bearing the logos will be recycled.

3.2 Standards, guidance and specifications

In addition to the environmental labels and claims, there are a number of international standards and guidance that relate to the use of environmental labels and claims.

These standards and guidelines are important with respect to making claims in relation to an environmental statement or number of statements as well as positive enforcement around the relationship of the claim and its relevance to the product.

For completeness, a summary of current environmental labelling standards as well as definitions relating to recycling labels and claims has been presented in Appendix C.

There are a number of standards and guidelines that are applicable to the Australian manufacturing industry with respect to packaging claims and marketing environmental or sustainability claims or information on product packaging.

AS14021:2018 – Environmental labels and declarations – Self declared environmental claims (Type II environmental labeling) is related to the use of self-declared claims which may be made by manufacturers, importers, distributors, retailers or anyone else likely to benefit from such claims.

The standard sets the parameters for ensuring that environmental claims are clear, transparent, scientifically sound and documented so that those who purchase or may potentially purchase products can be assured of the validity of the claims.

The standard contains a number of qualifications that relate to a wide variety of terms that could describe the environmental and sustainability credentials of a particular product including packaging. Terms that are covered by the standard include:

- Compostable
- Degradable
- Design for disassembly

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- Extended product life
- Recovered energy
- Recyclable
- Recycled content
- Reduced energy consumption
- Reduced resource use
- Reduced water consumption
- Reusable and refillable
- Waste reduction

The Australian Competition and Consumer Commission guidance on Green Marketing and the Australian Consumer Law published in 2011, states that under Australian Consumer Law businesses must not mislead or deceive consumers in any way. This guidance document, as well as explaining Australian Consumer Law, provides both broad principles that should be considered when making environmental claims and a framework for advertising as it relates to the law.

The guidelines also provide background to a number of regulatory schemes that could apply to particular products as well as assistance to identify and rectify any misleading claims.

In summary, if an environmental claim is made about a product or service then it should be clearly and accurately explained as well as:

- Being honest and truthful
- Detailing the specific part of the product or process it is referring to
- Using language which the average member of the public can understand
- Explaining the significance of the benefit
- Be able to be substantiated.

The ACCC also made comment on recycling claims, namely that to claim recyclability a product or packaging needs to be:

- 1) Technically recyclable
- 2) Able to be included in existing systems, and
- 3) Is actually being recycled

The (APCO Sustainable Packaging Guidelines have been developed to assist signatories to the Australian Packaging Covenant (APC) to adhere to their commitments in the design of new packaging and review of all packaging annually.

The document establishes 10 Sustainable Packaging Principles including on-pack consumer labelling as Criteria 2.5 of the packaging related framework.

Relevant to this project, the guidelines provide reference to labelling of packaging consistent with AS/NZS ISO 14021:2016, (especially the ARL) throughout many of the principles, particularly with respect to the following specific principles:

7. Design to minimise litter
9. Design for accessibility; and
10. Provide consumer information on sustainability.

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The Australasian Recycling Label (ARL) was launched in 2018 as an on-pack labelling program designed to help consumers understand what elements of packaging were able to be recycled or not and through what scheme (i.e. kerbside recycling or specific drop off point).

Application of the label requires an assessment utilising the Packaging Recyclability Evaluation Portal (PREP) which is an online tool that assesses packaging recyclability by considering typical Australian and New Zealand recovery systems, such as MRFs and markets for recycle material.

Access to PREP, and therefore use of the ARL logo, is exclusive only to APCO members.

For Australia and New Zealand, a Technical Advisory Committee (TAC) has been formed by APCO to review the parameters and thresholds underpinning the PREP assessments to ensure all technical and kerbside data is as up to date and verified as possible. The TAC also considers research in areas where the recyclability assessment is not clear. The TAC is:

- Responsible for verifying PREP data
- Comprised of representatives across the supply chain and government
- Comprised of two subcommittees – Plastics & Paper, Glass and Metal

There are currently 391 organisations participating in the ARL program (as at 4 June 2020), and it is supported by consumer and industry education campaigns delivered by Planet Ark (consumer education) and APCO (industry update and engagement) (APCO, 2020).

United Nations Guidelines for Providing Product Sustainability Information were published in 2017. These were established to provide clear guidance on making effective, trustworthy claims to consumers, on product-related sustainability information. The Guidelines outline ten best practice principles, consisting of 5 fundamental principles being:

- Reliability,
- Relevance,
- Clarity,
- Transparency and
- Accessibility.

In the recently released 2020 report titled Can I Recycle This? A Global Mapping and Assessment of Standards, Labels and Claims on Plastic Packaging, the United Nations undertook an assessment of global plastic packaging claims against the 2017 Guidelines, where the ARL received a Net Positive score, meeting the clarity, accessibility and reliability ratings (UN, 2020, p.41)

4 Specific project findings

4.1 Research findings

As highlighted in the National Waste Report 2018, Australian kerbside recycling bins can contain anywhere between 4 - 16% contaminated materials (Pickin et al, 2018, p.52). This may consist of materials that are not actually recyclable, or materials that can be recycled however are contaminated with food or other materials. Not only does this illustrate that items are being incorrectly placed in the recycling stream, but recyclable items are also ending up in landfill.

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The Don't Waste Your Waste study by Nestle and Planet Ark found that 80% of Australians want to reduce what they send to landfill while a UL Environment survey found 70% of respondents claimed to be consciously searching for greener products, which includes waste reduction (UL Environment, 2014, p.18). Despite this, Australians are still placing the wrong items into the recycling and general waste bins.

According to a report by Kelton (2019), only 22% of people are aware of the REDcycle soft plastic return program despite soft plastic packaging representing a third of plastic packaging placed on the Australian market.

Improper disposal of packaging is likely to be in part due to consumer confusion or lack of awareness about what materials can be recycled and what needs to be disposed to landfill either due to contamination or because there are no established recovery streams.

In addition to the absence of recyclability logos and claims, many consumers do not understand the meaning of some labels which may appear to be a recycling or recyclability logo, which has the potential to lead to the incorrect placement of non-recyclable materials into kerbside disposal bins causing contamination at the down-stream processing facility i.e. MRF's). While the mobius loop may not always denote recyclability, 82% of Australians believe that it does (Nestle, 2019). It may refer to recycled content or can apply to the product or the packaging. For this reason, the AS/NZS ISO 14021 stipulates that "if there is any potential for confusion about whether it applies to the product or the packaging, the symbol shall be accompanied by an explanatory statement" (p.6). Words such as degradable, biodegradable, oxo-degradable, bio-based and compostable that appear on packaging often cause confusion among consumers, as they are unaware of the implications of the claims and therefore, how to dispose of the product or packaging (United Nations Environment Programme, 2020, p.22).

It is likely that consumers do not understand the meaning of resin or polymer identification codes which may or may not be located on plastic packaging. Adding further to this confusion is that the codes are displayed within chasing arrows similar to the mobius loop, which could be confused with the fact that the plastic is recyclable. The resin identification code, though designed as a technical aid to recycling, does not specifically convey that the packaging can be recycled as there may not be systems in place to effectively recycle the packaging in the location it was consumed. A recommendation from the United Nations Environment Programme is that the term 'recyclable' or other environmental claims shall not be placed in proximity to resin identification codes (United Nations Environment Programme, 2020, p.25) to avoid confusion in what the consumer should potentially do with the packaging at end of life.

The Organisation for Economic Co-operation and Development (OECD) analysed the growth of environmental labelling and information schemes and listed 544 schemes worldwide from 1970-2012. While providing greater choice for consumers to find labels targeting their values, the multiplicity of labelling systems leads to complexity in supply chain management, difficulty in determining which labels are valued, and confusion for consumers in the criteria and meaning of claims.

Furthermore "theoretical modelling suggests that competition between labels may reduce environmental performance compared to a single label with strict environmental goals" (OECD, 2016, p.10).

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It has become clear through the research that there are a small number of key consistent recommendations that environmental claims including the terms recyclable should be:

- Legible and understandable: be written in plain language and consider font and print size so they can be easily read (Federal Trade Commission).
- Specific: the claim should specify what part of the product or packaging it is referring to and should avoid ambiguous terms relating to environmental or sustainability claims (Australian Competition and Consumer Commission).
- Truthful and substantiated: claims must be able to be verified, for example by gaining third party accreditation (United Nations Environment Programme). “ACC Businesses have an obligation not to engage in any conduct that is likely to mislead or deceive consumers” (Australian Competition and Consumer Commission).
- Adaptable: environmental marketing strategies and messages need to be ongoing and adaptable as technology advances (Kaufman et al, 2020). They should also be relevant and take into account different consumer preferences.

Consumer recycling behaviour relating to packaging disposal was compared with and without the ARL over two years (APCO 2020). An increase in correct disposal for packaging with the ARL was noted in all six material components studied, demonstrating a significant potential improvement in recycling from effective labelling. However, the study did not compare the ARL to other recycling labels and therefore a comparison across different labels was not able to be drawn from this research.

Other key insights from the research as provided by APCO included:

- Sentiment for a recycling label continues to be positive, with 77% of respondents agreeing the ARL is a great idea, and 73% would like to see it on all packaging.
- 76% of respondents agree that the ARL is easy to understand and would make them more likely to recycle.
- In influencing purchase, 39% of respondents agreed that the ARL would influence their decision to buy a product.
- Consumers continue to find information on recycling via packaging product (62%) and their local councils (59%).
- 90% of respondents say recycling at home is the right thing to do, 78% say regular recycling is the most helpful thing they can do for the environment, 84% say it is easy to recycle at home although 65% would like more information on what they can and can't recycle.

It is recognised that increased clarity and consumer understanding of environmental claims will improve brand perception. “When consumers get confused by a product claim, it carries over to how they feel about your brand” (UL Environment, 2014, p.20).

This research supports the need for a consistent and clear recycling label for all Australian products. The following section summarises the audit findings based on an audit of products purchased from big chain retailers, smaller independent supermarkets, convenience stores and take-away food outlets located in Queensland and Victoria for a wide range of information and elements, including but not limited to environmental claims.

A total representative of 150 stock keeping units (SKU's) or meals in the case of fast food venues, were audited.

4.2 Audit findings

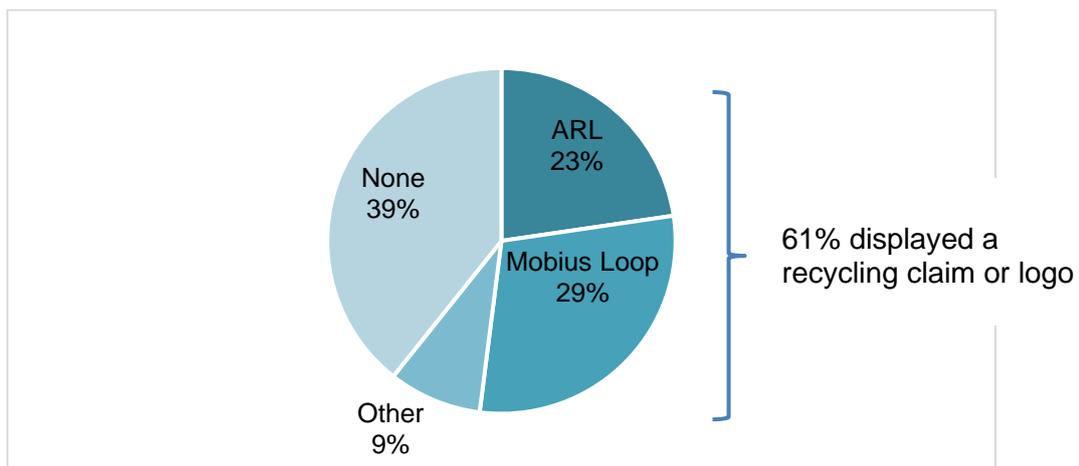
A breakdown of product category items that were audited are provided in Appendix D.

Recyclability claims were reviewed in three separate categories: mobius loop, ARL and other. The 'other' category consists of:

- The REDcycle label (not part of ARL but a program that enables consumers to return soft plastics to a number of collections points)
- Container deposit return claims
- Compostable logos or claims
- UK OPRL (was observed on one product that was sampled)
- Brand-specific written claims of recyclability without a recognised logo such as "this package can be recycled" or "soft plastic recycling"

Of the 150 products, 61% displayed a recycling claim or label, 23% of which were the ARL and 29% were the mobius loop. Four products contained compostability logos, three referencing Australian standards and one referencing European Standards. In the data, these four products were defined as recyclable.

Figure 1: Products displaying a recyclability claim or logo



The following figures shows an example of a recyclability claim with the mobius loop and the ARL.

Figure 2: Example of mobius loop on packaging



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Figure 3: Example of ARL on packaging



Although the majority of products had a recycling claim, the logos were commonly only on outer packaging rather than on each packaging component. As these are often separated and disposed of at different times, it may lead to incorrect disposal of some components. Only two products with the ARL identifying multiple components actually had the label on each component (see Figure 4 below).

Figure 4: Example of packaging with ARL (and REDcycle) on all packaging components



Considering 52% of products sample consisted of more than one component, this was a significant finding with respect to the inconsistency of displaying recycling labels relating to one or more packaging types. Furthermore, as well as not appearing on all components, many recycling logos or instructions did not capture all components of the product.

Figures 5 and 6 display information on the country of origin/manufacture and logos of the products sampled. Ninety-nine products were Australian made and 49 were imported. Fifty five percent of imported products and 64% of Australian products displayed a recyclability claim. Furthermore, 28% of Australian products had the ARL specifically, showing the largest reach of any other label. However, it fell short of capturing all supermarket and other items that were sampled as part of this project.

Of the 66% of products that were Australian made, it was identified that incorrect or ambiguous labelling had been applied to a number of packaging materials. Examples of these that were noted included liquid paper board packaging that claimed to be recyclable (Figure 7) and soft plastic packaging that contained a recycling logo with no explanation or guidance on separating from other recyclables (Figure 8) and where to recycle it.

Figure 5: Country of origin/manufacture information

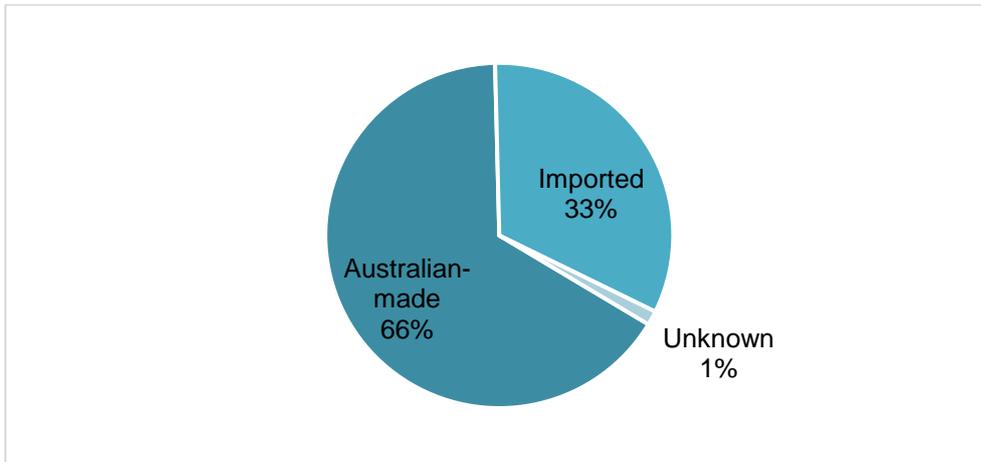


Figure 6: Recycling claims by country of origin/manufacture

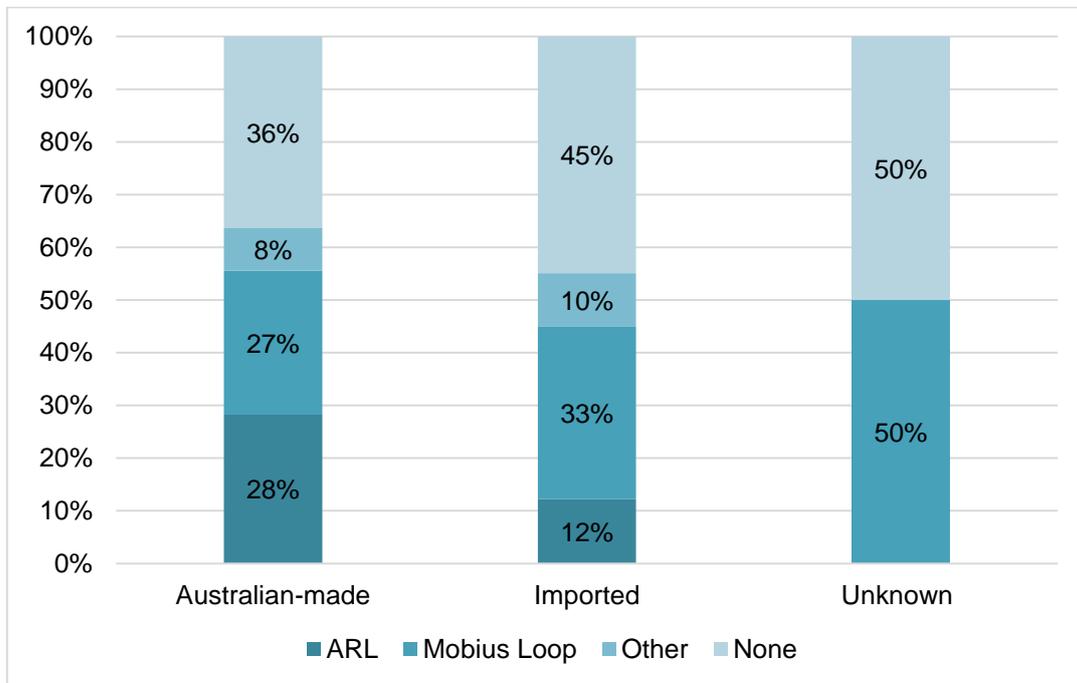


Figure 7: Liquid paperboard labelled as recyclable



Figure 8: Soft plastic with unidentifiable recycling logo and no further explanation on how to recycle the packaging



Other findings included instances where a logo was used differently in different circumstances such as the ARL or other labels stating a soft plastic film should be disposed of to a general waste bin. This was identified on ARL logos from ALDI brands, presumably since ALDI do not offer REDcycle collections at their stores. As a result, recyclable soft plastics are instructed to be disposed of in general waste.

The Tidyman logo appeared on 15% of products sampled (Figures 9 and 10), accompanied by statements that included “dispose of thoughtfully or responsibly”. It was found to appear on both recyclable and non-recyclable products and offers no instructions or information on the correct waste stream for the type of packaging it appeared on (Figure 11).

Figure 9: Products displaying a recyclability or disposal logo

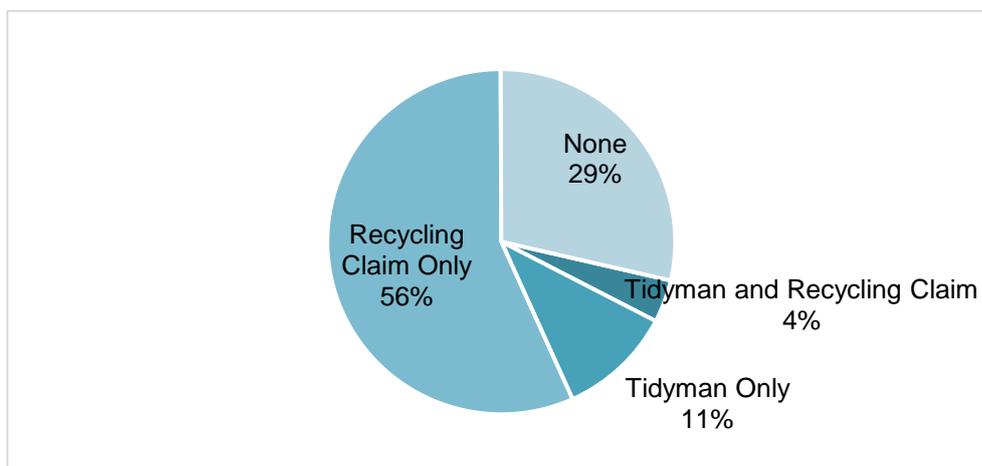


Figure 10: Products displaying the Tidyman logo

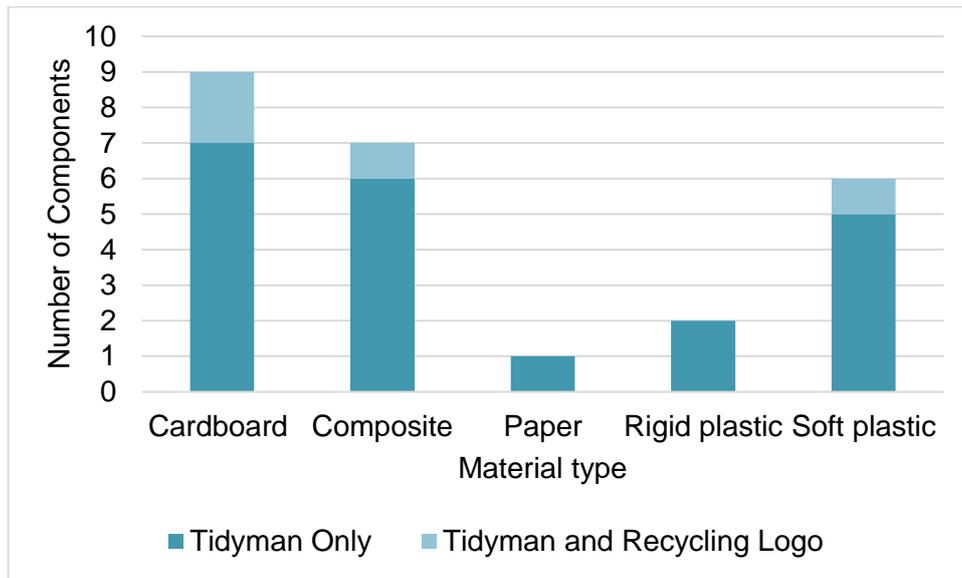


Figure 11: Example of Tidyman logo



Inconsistent instructions were found not only in relation to the Tidyman symbol, but also regarding recyclability in general. For example, a product may claim “this packaging is recyclable” when only the cardboard box is and not in the inner component if it was made of a non-recyclable material or if no clear recycling instructions were provided.

Figure 12: Example of inconsistent instructions



Example of consumer confusion

In the figure above, the consumer is required to investigate or research how to recycle the packaging as the logo states 'recycle at participating stores' with a link to a website.

On first inspection, the consumer might assume that it can be placed into the kerbside recycling bin for recycling.

If the consumer was to visit the website, there is no information relating to what participating stores accept the packaging, it only mentions REDcycle, and pizza boxes are not on the list of accepted products.

As mentioned above, 52% of products consisted of one or more components. A further breakdown into component materials was undertaken, as there were 246 components for the total 150 products. This found that soft plastics made up the highest portion of materials used at 30%, followed by cardboard and rigid plastic at 21% and 20% respectively (see Table 1).

Of plastic packaging components, only 28% declared the resin type. Resin type coding was only provided on 5 of the soft plastic components. This use of resin codes can be misconstrued as meaning recyclable. Therefore, the material could end up in kerbside recycling which is not the intent of the code.

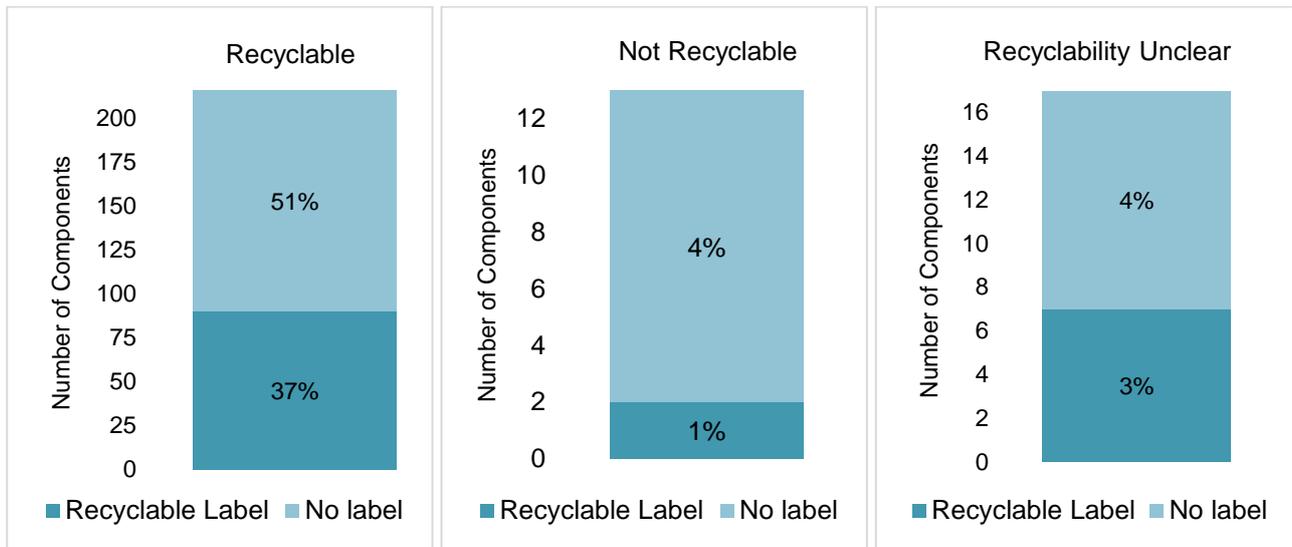
Table 1. Packaging components

Material	Number of components	Percent of components	Components displaying a code	Percent of components displaying a code
Aluminium	5	2%	1	20%
Bioplastic	1	0%	-	-
Cardboard	51	21%	2	4%
Composite	29	12%	2	7%
Foil	3	1%	-	-
Glass	6	2%	-	-
Paper	9	4%	-	-
Pulp	1	0%	-	-
Rigid plastic	48	20%	29	60%
Soft plastic	73	30%	5	7%
Steel	14	6%	1	7%
Liquid paper board	6	2%	-	-
TOTAL	246	100%	40	16%

It was identified that 88% of the packaging components that were sampled are recyclable through either kerbside recycling or REDcycle, but only 40% had a recycling claim. This 40% consisted of 37% from recyclable components, 1% on non-recyclable components and 3% on components where the recyclability was unclear (see Figure 13 for a further breakdown).

This leaves a large gap in what is labelled as recyclable and what can potentially be recycled. Lack of any disposal labelling, as seen on 51% of products, may also lead to consumers wrongfully placing non-recyclable items into their kerbside recycling bin potentially resulting in contamination.

Figure 13: Recyclability of components vs recyclable label

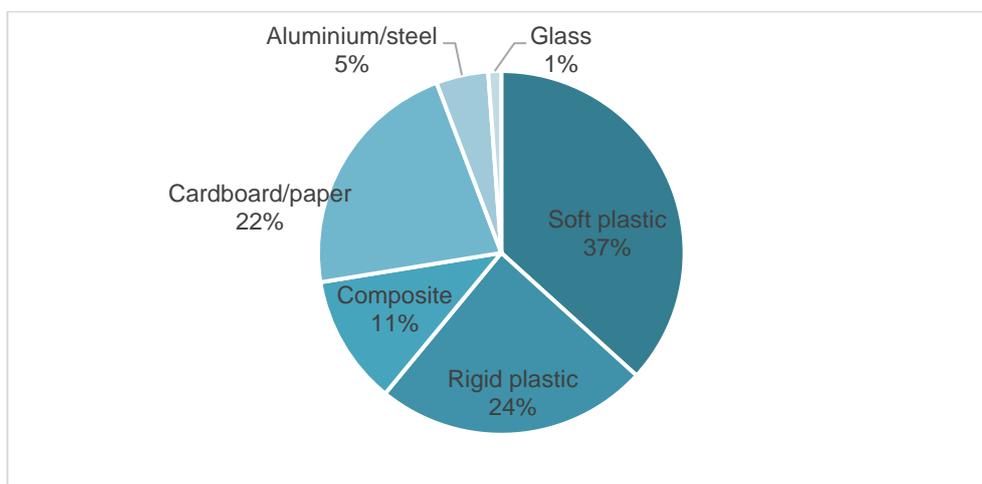


Interestingly, the audit also found a trend in packaging that contained organic and eco-friendly products. These products often do not have any recyclability claims, despite the packaging being easily recyclable.

While these products may cater to people who know the correct disposal methods for materials, it also may appear off-brand to not acknowledge the recyclability of packaging.

Figure 14 shows the material composition of the 59 products without a recyclability claim or logo. All materials except for composite packaging can be recycled either in kerbside recycling or through other drop off points. Moreover, composite materials can sometimes be recycled, depending on their makeup. It was assumed that 2 of the 5 composite materials would be accepted through recycling streams. Not included in this figure are the absorbing pads that were present in 2 meat trays and one fruit tray. The pads are not recyclable.

Figure 14: Components in products with no recyclability claim



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The audit found no consistent placement or sizing of recyclable labels. While majority of them were located on the back of the packaging, they were placed on a variety of different locations and were displayed in different sizes. It was noted, however, that the labels are usually not on the front of the packaging (only 4%), with nutritional labels taking priority. When a product has many different logos and claims, recyclability labels are often small and placed on the rear of the packaging or underneath.

Figure 15: Position of disposal logo on packaging

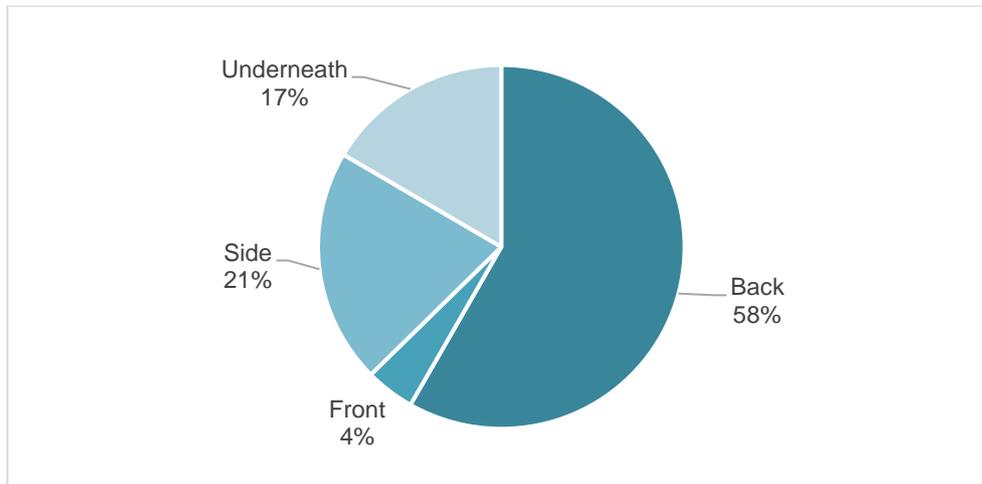


Figure 16: Comparative sizes of recyclability logos

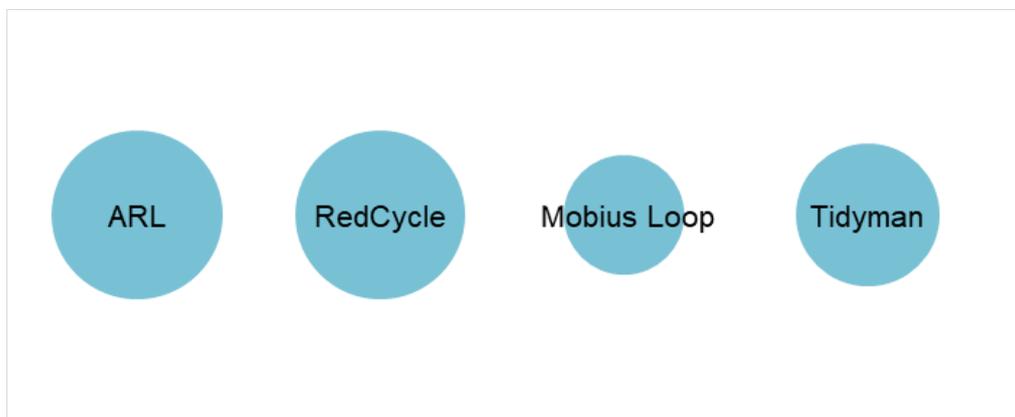


Figure 16 displays the average size of the recyclability logo when compared with the ARL logo. It was found that REDcycle logos are mostly the same size as the ARL, and in some instances are larger. The mobius loop is usually smaller, at approximately 50% the size, while the Tidyman is roughly 70% of the size of the ARL.

There were two instances (both cleaning products) where the ARL was accompanied by other brand-specific recyclability information, as detailed in Figure 17 on the next page.

Figure 17. Products with ARL and further recyclability claims elsewhere on packaging

Product	Images
Cleaning spray	
Cleaning wipes	

Example of consumer confusion

As it can be seen from the cleaning spray example above, there are a number of options available to the consumer to intervene to ensure that the correct packaging is recycled, and non-recyclable components are appropriately disposed of to landfill.

If the consumer was to remove the sleeve (plastic film) from the cleaning spray and assume that it is recyclable (due to the use of the mobius loop) and place it into the kerbside recycling bin, it wouldn't be recycled but rather would cause contamination.

If the consumer were to follow the instructions in accordance with the ARL, remove the sleeve, and dispose of it to landfill then there is a lost opportunity to recycle it through REDcycle or a similar scheme.

4.3 Other labelling and claims

The audit reviewed not only recyclability logos and claims, but also other labels on packaging in order to analyse the placement and visibility of environmental labels in general.

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The table below outlines the range of additional labels and claims reviewed as part of the audit.

Table 2. Range of additional labels and claims

Other labels/claims audited	Examples
Sustainability claims	FSC sustainable wood products Recycled content claims Organic Sustainable Seafood Biobased Non GMO
Nutritional claims	Health star rating No artificial colours or flavours No preservatives Sugar free Reduced salt
Diet/allergen claims	Vegan friendly Suitable for vegetarians Lactose free Gluten free Low fodmap
Religious claims	Halal Kosher
Country of origin/manufacture	100% Australian made Product of China
Chemical/health claims	Flammable Paraben free Dermatologically tested Chlorine free
Community and charity claims	Bright Smiles Bright Futures Surfrider Foundation Australia MJF Charitable Foundation

It was found that nutritional, diet and chemical claims take priority on product packaging over the other categories. The Health Star Rating particularly is commonly placed on the front of the packaging and of a reasonable size. Of the 20 products in the lunchbox/confectionary category, 14 have a health/allergen claim on the front while only 2 have a sustainability claim (both of which refer to the organic/certified product rather than the recyclability of packaging.)

Recyclability claims only occurred on the front of food products when there was no back label at all. This was mostly seen on fruit packaging. Interestingly, recyclability claims appeared on the front of 3 of the 11 household items. Sustainability claims given priority are often those associated with healthiness of the product, such as organic or non-GMO.

The country of origin claim is commonly placed on the front of packaging when from Australia, however, is not usually over-emphasised when the product is derived from another country. Considering there are seven other types of claims that were reviewed within the audit, it is common that packaging is overcrowded, and recyclability claims are not prioritised.

5 Overall assessment findings

In summary, the findings of this review were that there was a wide range of recycling and environmental claims on packaging in Australia which can be viewed in three separate categories being the mobius loop, ARL and other which in some instances are complementary (i.e. REDcycle) or contradict the recyclability of the product packaging (e.g. Resin Identification Codes).

It was found that the majority (61%) of packaging audited had a recycling logo or claim on pack, but they were often small and placed on the back or underside of packaging. In other words, there was no consistent placement of recycling labels on the products and packaging that was sampled as part of this project.

Although the majority of products had a recycling claim, the logos were commonly only on outer packaging rather than on each packaging component. Furthermore, it was identified that some labelling is incorrect or non-existent (some claim to be recyclable when not, some have no claim despite being recyclable) and the terminology used to explain the recyclability of the packaging is not consumer friendly (e.g. “this packaging is recyclable” when only the one component is actually recyclable).

Other incorrect statements included liquid paper board packaging that claimed to be recyclable and soft plastic packaging that contained a recycling logo with no explanation or guidance on separating from other recyclables and where to recycle it.

The Tidyman logo appeared on a number of products sampled accompanied by statements that included dispose of thoughtfully or responsibly. It was found to appear on both recyclable and non-recyclable products and offers no instructions or information on the correct waste stream for the type of packaging it appeared on, further adding to what can only be described as consumer confusion.

6 Recommendations

The assessment concluded that ambiguity is influencing consumers’ ability to effectively recycle household packaging through recycling programs and that recyclability labels need to be specific about the management methods of all components, and also include instructions to avoid contamination.

In order to help consumers make the right choices, there needs to be a clear, concise and evidenced based label placed on every product and packaging type sold into the Australian market.

A short cut to achieving greater clarity and consistency is that the use of mobius loop and Resin Identification Code symbols should be removed to further stop the confusion that the particular packaging product bearing them is recyclable. The use of the Resin Identification Code, in particular, is no longer required due to the use of technology to sort particular polymer types from each other during the sorting process. This will enable less cluttered messaging that clearly differentiates between actual recyclability and what can be recycled based on recycling or

collection capabilities. Packaging should also be clear of other confusing messaging such as the Tidyman symbol.

To further support clarity and consistency, a preferred label should be mandatory and be flexible enough to incorporate new technologies and systems as they come online to recycle more products. It should be engaging and able to raise awareness to help consumers understand how to recycle all packaging from products sold into, and used within, the Australian market.

Finally, there is a role for authorities in driving and ensuring clarity and consistency in environmental claims and labels pertaining to recycling. There is merit in the ACCC, in particular considering the findings, especially confusion in practices identified by this research.

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Appendix A: Australian and international disposal, recycling and compostability labels and claims

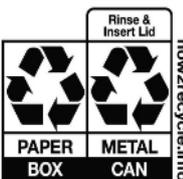
Used in Australia

Logo	Name and description	Region of use
	<p>Australasian Recycling Label – on-pack labelling scheme that helps consumers understand how to recycle products correctly and assists brand owners to design packaging that is recyclable at end-of-life. Developed by APCO, in conjunction with Planet Ark, the label is powered by the Packaging Recyclability Evaluation Portal (PREP) online tool that assesses packaging recyclability in the Australian and New Zealand recovery systems.</p>	Australia and New Zealand
	<p>Mobius Loop – the mobius loop is often seen as the universal symbol for recycling. It is used on various recyclable materials globally to indicate the capability to be recycled. However, it does not mean the product will be accepted at all recycling facilities. The symbol is not trademarked and is part of the public domain, therefore it can be found in various colours and styles. The symbol can also be used to denote recyclable content, and therefore is sometimes accompanied with a claim such as “recyclable” or “please recycle me” to clarify the label.</p>	Global
	<p>Australasian Bioplastics Association Home Compostable Logo – The Home Compostable Verification logo is a symbol that the product’s claims of biodegradability and compostability as per AS 5810-2010 has been verified.</p>	Australia and New Zealand
	<p>The Seedling Logo – a registered trademark owned by European Bioplastics. It proves that a product is certified industrially compostable according to the European standard EN 13432. On a product, the Seedling always has to be shown together with the valid registration number printed below the logo.</p>	EU and global
	<p>Australasian Bioplastics Association Seedling Logo – The seedling logo is a symbol that the product’s claims of biodegradability and compostability as per AS4736 has been verified. AS4736, as with EN 13432 provides a basis to allow labelling of materials or products made from plastics as ‘compostable’, for use in such facilities as municipal or industrial composters.</p>	Australia and New Zealand
	<p>TerraCycle – offers recycling programs funded by brands, manufacturers, and retailers around the world to help consumers collect and recycle hard-to-recycle waste. Some programmes are free to consumers, while others have a cost.</p>	Various countries including Australia

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Logo	Name and description	Region of use
	REDcycle – the REDcycle program, developed by Melbourne-based consulting and recycling organisation RED Group, is a recovery initiative for post-consumer soft plastic. Plastic bags and soft plastic packaging can be returned to collection points at Coles and Woolworths to be recycled.	Australia
	Tidyman – The ‘Tidyman’ symbol is used in various forms around the world to encourage consumers to dispose of their packaging in a public place rubbish bin, rather than littering. The symbol is in the public domain (not licensed) and its use is entirely voluntary. It is often accompanied with advice, such as ‘please dispose of thoughtfully’. While recommended for use on non-recyclable packaging that is likely to be disposed of in a public place, it often appears on packaging that is recyclable.	Global
	Australian Recycled Cartonboard – Australian Recycled Cartonboard was the first widely available recycled packaging material. It indicated that the packaging was made from recycled inputs, is recyclable and made in Australia. The use of this logo has decreased in the past 5-7 years.	Australia
	BioPak – BioPak is an Australian packaging company that specialises in compostable packaging. While this is a brand label, All BioPak's compostable products have been certified to EN 13432 or EN 14995 standard for composting in industrial composting plants.	Australia

International logos and claims

Logo	Name and description	Region of use
	How2Recycle Label – created by the Sustainable Packaging Coalition, How2Recycle is a standardised labelling system that clearly communicates recycling instructions to the public in North America. The label provides instructions on preparing the material for recycling, where to recycle or dispose of the materials, type of material, and the components that are recyclable.	North America
	Japanese recycling symbols – a series of identification marks used to distinguish various types of recyclable items. These relate to various bins for separate collection.	Japan

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Logo	Name and description	Region of use
	On-Pack Recycling Label (OPRL) – the scheme delivers a simple, consistent and UK-wide recycling message on retailer and brand packaging. While it previously featured three categories – widely recycled, check locally, and not yet recycled – OPRL announced in January 2020 that it would remove the check locally label and have only recycle or don't recycle. Specialist labels remain available for items such as coffee cups, and plastic wrap to return to store.	UK
	EuCertPlast – created by Plastics Recyclers Europe, the scheme focuses on traceability of plastic materials (throughout the entire recycling process and supply chain), and on the quality of recycled content in the end-product. The scheme creates standards according to European Standard EN 15343:2007.	EU
	The Compostable Logo by the Biodegradable Products Institute – The BPI's Compostable Logo identifies products that meet ASTM D6400 (for plastics) or ASTM D6868 (for fibre based applications) and will compost satisfactorily in large scale composting facilities.	North America
	How2Compost Label – created by the same organisation that created the How2Recycle label to clarify composting instructions to the public.	North America
	GreenPla – Japan Bioplastics Association verification of biodegradable plastics. GreenPla must contain at least 50 per cent organic material and must not exceed specific upper limits for certain heavy metals such as cadmium, lead, arsenic, and mercury. ISO 18606 compliant.	Japan
	OK Compost label by TÜV AUSTRIA – Packaging or products bearing the OK compost INDUSTRIAL label are guaranteed to be biodegradable in an industrial composting plant. Compliant with EN 13432: 2000 the EU Packaging Directive (94/62/EEC). The OK compost HOME certification system guarantees complete biodegradability in the light of specific requirements, even in your garden compost heap.	EU
	OK Biodegradable (Soil, Water & Marine) label by TÜV AUSTRIA. – Verifies biodegradability in various conditions – soil, fresh water and marine waters – without adversely affecting the environment	EU

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Logo	Name and description	Region of use
		

Appendix B: Product and packaging content labels

Logo	Name and description	Region of use
	Global Recycle Standard (GRS) – The GRS is an international, voluntary, full product standard that sets requirements for third-party certification of recycled content, chain of custody, social and environmental practices and chemical restrictions. It is owned by Textile Exchange, and while the leading standard for the apparel industry, they ensure continued growth in other industries such as packaging.	Global
	The Recycled Claim Standard (RCS) – an international, voluntary standard that sets requirements for third-party certification of Recycled input and chain of custody. The goal of the RCS is to increase the use of Recycled materials. It is owned by Textile Exchange, and while the leading standard for the apparel industry, they ensure continued growth in other industries such as packaging.	Global
	GreenCircle Recycled Content Certified – Certifies products for total recycled content based on pre- and post-consumer recycled content definitions. Compliant with ISO 14021 and FTC Green Guides requirements	Global
	Intertek’s Recycled Content Verification Program – helps suppliers and manufacturers validate and communicate the pre-consumer and/or post-consumer recycled content in their product. ISO 14021 compliant	Global
	SCS Global Recycled Content Certification – evaluates products made from pre-consumer or post-consumer material diverted from the waste stream. Certification measures the percentage of recycled content for the purpose of making an accurate claim in the marketplace. Compliant with ISO 14021 and FTC Green Guides requirements.	Global
	UL Environmental Claim Validation Mark / UL Recycled Content Validation – The Environmental Claim Validation Program validates the postconsumer, preconsumer (postindustrial) or total recycled content of a product. ISO 9001, UL 746C & 746D compliant.	Global

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Logo	Name and description	Region of use
	<p>Roundtable on Sustainable Biomaterials (RSB) Excellence in Biomass and Biofuel Certification – verifies that any bio-based feedstock, biomass-derived material and any advanced fuel, as well as complete supply-chains and novel technologies are socially responsible, environmentally sustainable and credibly sourced</p>	Global
	<p>Forest Stewardship Council logo – verifies that the product is FSC certified. The logo on wood or wood based products is assurance that it is made with, or contains, wood that comes from FSC certified forests or from post-consumer waste. There are three types of FSC label: 100%, FSC Mix or FSC Recycled.</p>	Global
	<p>Programme for the Endorsement of Forest Certification (PEFC) labels – the PEFC Certified Label indicates that the product or packaging is from sustainable managed forests, recycled and controlled sources. The PEFC Recycled Label indicates that the product or packaging is from recycled sources.</p>	Global
	<p>Green Dot – The Green Dot is the financing symbol for the organisation of recovery, sorting and recycling of sales packaging. When you see the Green Dot on packaging it means that for such packaging, a financial contribution has been paid to a qualified national packaging recovery organisation. The Green Dot™ logo merely indicates that a company has joined the Green Dot scheme, and not necessarily that the package is fully recyclable</p>	Global
	<p>USDA Certified Biobased – the label provides information to consumers about the biobased content of the product, and assures the customer that the product contains a USDA-verified amount of renewable biological ingredients. It does not certify whether the biobased content was sustainably sourced. ASTM D6866 compliant.</p>	North America
	<p>Japan BioPlastics Association's BiomassPla Label – the BiomassPla Identification and Labelling System to help consumers identify biomass-based plastics defined by the JBPA as “high-polymer” materials with a mean molecular weight of at least 1,000 that can be obtained through chemical or biological synthesis from raw materials that contain substances derived from renewable organic resources. ASTM D6866 tested.</p>	Japan
	<p>OK biobased by TÜV Austria – certifies products on the basis of the determined percentage of renewable raw materials (percentage Biobased) On this basis, the product is</p>	EU

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Logo	Name and description	Region of use
	then rated between 1 star to 4 star bio-based.	
	NEN Biobased Content – This certification system is based on the European standard EN 16785-1 which enables independent assessment of claims on the bio-based content of products.	EU

Appendix C: Definitions (UN, 2020) and standards

Term	Definition and Context
Standard	Refers to specific criteria or norms of material goods or services, including packaging, which may also serve as benchmarks.
Certification	Refers to a formal accreditation process, in which it is confirmed that the certified entity or product/package meets a given set of (minimum) standards
Label	Describes a logo or stamp highlighting a product or service's specific characteristic(s), which may also be used as a form of trademark. A label may or may not represent a certification.
Claim	Refers to assertions made by companies about beneficial qualities or characteristics of their goods and services

Term	Definition and Context
Biobased plastics (also called bioplastics or plant-based plastics)	Plastics produced from renewable feedstocks such as corn, potatoes, and sugarcane, or other biomass, rather than fossil fuels. The feedstock used to produce plastic is independent of its ability to be biodegraded or composted.
Biodegradable plastic	Biodegradable plastics are plastics that can be broken down by living organisms into elements that are found in nature, such as CO ₂ or methane, water, and biomass. When true biodegradation is complete, no microplastics should remain. Biodegradable plastics can be manufactured from renewable feedstocks or fossil fuels. Soil biodegradable plastics can be broken down by organisms found in soil. Marine biodegradable plastics can be broken down by organisms found in seawater.
Compostable plastic	Compostable plastic is designed to biodegrade in a certain period of time under managed conditions, predominantly characterised by forced aeration and natural heat production resulting from the biological activity taking place inside the material. Compostable plastic will biodegrade during composting but does not contribute to the value of the compost product, since it does not contain nutrients in its composition. Industrially compostable plastic is plastic that requires conditions only achieved in industrial composting facilities (i.e. temperatures over 50°C) in order to biodegrade. Standards exist to specify the conditions and time required in order for a material to be labelled as compostable. Home, or backyard, compostable plastic is plastic that is capable of breaking down at the soil temperature and conditions found in home compost piles.

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Term	Definition and Context
Oxo-degradable (also called oxo-biodegradable or oxo-plastics)	Oxo-degradable plastics are created with the addition of additives that cause them to break down under favourable conditions, most often UV radiation or heat. Oxo-degradable plastic fragments into smaller and smaller plastic particles but has not yet been shown to truly biodegrade, raising concerns that oxo-degradable plastics are a source of microplastics.
Recyclable	The definition for recyclable used in this report is the definition developed by the Ellen MacArthur Foundation: “A packaging or packaging component is recyclable if its successful post-consumer collection, sorting, and recycling is proven to work in practice and at scale” (Ellen MacArthur Foundation 2018, p. 12).

Environmental labelling standards

Standard	Description
<p>ISO 14020 series on Environmental Labelling, including</p> <ul style="list-style-type: none"> • ISO 14020 Environment Labeling: General Principles • AS/NZS ISO 14021 Environmental labels and declarations — Self-declared environmental claims (Type II environmental labelling) • ISO 14022 Environmental Labels and Declarations — Self-Declaration Environmental Claims, Symbols • ISO 14023 Environmental Labels and Declarations — Self-Declaration Environmental Claims, Testing and Verification • ISO 14024 Environmental Labels and Declarations — Environmental Labeling Type I, Guiding Principles and Procedures 	<p>The ISO 14020 series governs environmental labelling and declarations.</p> <p>ISO 14021 specifies requirements for self-declared environmental claims, including statements, symbols and graphics. It provides definitions for common terms such as “Recycled Content” and “Recycled Material” and gives qualifications for their use.</p> <p>ISO 14024 establishes the principles and procedures for developing Type I programs. This encompasses the selection of product categories, product environmental criteria and product function characteristics. Type I is a multi-attribute label developed by a third party.</p>
<p>ISO 18600 series on packaging and the environment</p> <ul style="list-style-type: none"> • ISO 18601 Packaging and the environment — General requirements for the use of ISO standards in the field of packaging and the environment • ISO 18602 Packaging and the environment — Optimisation of the packaging system • ISO 18603 Packaging and the environment — Reuse 	<p>The ISO 18600 series govern the standardisation of packaging and provide guidelines to integrate environmental consideration in the development of the packaging system.</p> <p>ISO 18604 covers the requirements for packaging to be classified as recoverable in the form of material recycling.</p> <p>ISO 18606 specifies procedures and requirements for packaging to be considered recoverable by organic recycling.</p>

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Standard	Description
<ul style="list-style-type: none"> • ISO 18604 Packaging and the environment — Material recycling • ISO 18605 Packaging and the environment — Energy recovery • ISO 18606 Packaging and the environment — Organic recycling 	
<p>ASTM D6400 Standard Specification for Labelling of Plastics Designed to be Aerobically Composted in Municipal or Industrial Facilities</p> <p>ASTM D6868 Standard Specification for Labelling of End Items that Incorporate Plastics and Polymers as Coatings or Additives with Paper and Other Substrates Designed to be Aerobically Composted in Municipal or Industrial Facilities.</p> <p>EN 13432 Packaging. Requirements for packaging recoverable through composting and biodegradation.</p> <p>AS 4736 Biodegradable plastics suitable for composting and other microbial treatment</p> <p>AS 5810 Biodegradable plastics suitable for home composting</p>	<p>In addition to ISO 18606 above, these standards provide specifications for items that are compostable or biodegradable in either home or industrial facilities.</p>
<p>EN 16760 Bio-based products - Life Cycle Assessment</p> <p>EN 16785-1 Bio-based products - Bio-based content - Part 1: Determination of the bio-based content using the radiocarbon analysis and elemental analysis</p> <p>EN 16785-2 Bio-based products - Bio-based content - Part 2: Determination of the bio-based content using the material balance method</p> <p>EN 16640 Bio-based products - Bio-based carbon content - Determination of the bio-based carbon content using the radiocarbon method</p>	<p>These European Standards detail the requirements for determining the bio-based content in products, based on different testing methods.</p>
<p>AS/NZS 3831-1998 Waste Management Glossary of Terms</p> <p>AS 4082-1992: Recycled paper - Glossary of terms</p> <p>AS 1886, Glossary of terms relating to plastics</p>	<p>These Australian and New Zealand standards provide definitions for common waste management terms, in particular recycling terms, in order to promote consistency.</p>
<p>EN 15343 Plastics. Recycled plastics. Plastics recycling traceability and</p>	<p>EN 15343 Outlines the procedures for the traceability of recycled plastics. This gives the</p>

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Standard	Description
assessment of conformity and recycled content	basis for the calculation procedure for the recycled content of a product.
ISO 15270:2008: Plastics - Guidelines for the recovery and recycling of plastics waste ISO/TR 17098:2013 Packaging material recycling — Report on substances and materials which may impede recycling	ISO 15270 details options for the recovery of plastics waste. It establishes the quality requirements to be considered in the recovery process, and provides general recommendations for inclusion in material standards, test standards and product specifications. ISO/TR 17098 outlines the substances that can cause obstruction in recycling activities and is intended to assist in the assessment requirements set out in ISO 18604.
ISO 38200:2018 Chain of custody of wood and wood-based products	ISO 38200 outlines the requirements for a chain of custody (CoC) of wood and wood-based products, cork and lignified materials other than wood, such as bamboo, and their products. This standard can be certified against by the Forestry Stewardship Council for paper and cardboard packaging.
AS 2400 Packaging	The Australian Packaging Standards set the specifications for packaging, including various material types and packaging components.
The Global Recycle Standard (GRS) Content Claim Standard (CCS) Recycled Claim Standard (RCS) Organic Content Standard (OCS)	These standards, owned by the Textile Exchange are designed to ensure chain of custody for preferred materials, and to provide labelling tools for final product claims. They are international, voluntary, full product standards.
Recycled Content Standard, V7.0	This voluntary standard describes the requirements for third-party substantiation of the recycled content claims asserted by companies with regard to specific products.

Appendix D: Product category items and type

Product Category	Product Type
Fruit and Vegetable	Raspberries
Fruit and Vegetable	Cucumbers
Fruit and Vegetable	Tomatoes
Fruit and Vegetable	Potatoes
Fruit and Vegetable	Mushrooms
Fruit and Vegetable	Corn
Fruit and Vegetable	Avocados
Fruit and Vegetable	Grapes
Dairy	Yogurt tub
Dairy	Yogurt pouch
Dairy	Feta cheese
Dairy	Milk
Dairy	Butter
Dairy	Brie Cheese
Eggs and Fridge	Eggs
Eggs and Fridge	Pre-packaged sliced meat
Eggs and Fridge	Tofu
Eggs and Fridge	Dip
Eggs and Fridge	Pasta 2
Health and Beauty	Hand Sanitiser
Health and Beauty	Deodorant 2
Health and Beauty	Skin care
Health and Beauty	Soothers
Health and Beauty	Razors
Health and Beauty	Toothpaste
Health and Beauty	Sanitary
Health and Beauty	Toothbrush
Health and Beauty	Tissues
Health and Beauty	Vitamins
Health and Beauty	Panadol
Pantry	Baked beans
Pantry	Rice
Pantry	Pasta sauce
Pantry	Stock
Pantry	Spice
Pantry	Cereal
Pantry	Condiment 1
Pantry	Condiment 2
Pantry	Spread
Pantry	Tin salmon

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Product Category	Product Type
Pantry	Dried fruit 2
Pantry	Flour
Pantry	Cake Mix
Pantry	Taco Kit
Pantry	Jelly
Pantry	Nuts 1
Non-Dairy Milk	Almond Milk
Non-Dairy Milk	Soy Milk
Non-Dairy Milk	Coconut milk
Bakery and Convenience	Cookies
Bakery and Convenience	Bread (sliced and packed)
Bakery and Convenience	Bread stick
Bakery and Convenience	Muffins
Bakery and Convenience	Croissants
Bakery and Convenience	Cake
Bakery and Convenience	Pita bread
Bakery and Convenience	Ready to Eat salad
Bakery and Convenience	Microwave curry
Bakery and Convenience	Oven Pie Crumble
Bakery and Convenience	Soup
Bakery and Convenience	Mac n Cheese
Bakery and Convenience	Curry Kit
Bakery and Convenience	Rotisserie Chicken
Bakery and Convenience	Sushi
Bakery and Convenience	Ready meal
Drinks	Tea
Drinks	Coffee pods
Drinks	Juice pouch
Drinks	Juice bottle
Drinks	Coconut water carton
Drinks	Juice boxes
Drinks	Water
Drinks	Kombucha
Drinks	Hot chocolate
Freezer	Frozen fish
Freezer	Frozen turkey
Freezer	Ice cream cake
Freezer	Ice cream sticks
Freezer	Frozen vegetables
Freezer	Frozen meal
Freezer	Puff pastry
Freezer	Pizza

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Product Category	Product Type
Lunch box	Chocolate block
Lunch box	Cracker chips
Lunch box	Cracker square
Lunch box	Crackers
Lunch box	Lollies
Lunch box	Muesli bars
Lunch box	Roll ups
Lunch box	Chips 1
Lunch box	Chips 2
Lunch box	Microwave popcorn
Lunch box	Corn thins
Lunch box	Biscuits 1
Lunch box	Biscuits 2
Lunch box	Muesli bites
Lunch box	Chocolate snacks
Lunch box	Dried fruit 1
Lunch box	Dipper
Lunch box	Gum
Baby	Baby food 1
Baby	Nappies
Baby	Infant cereal 1
Baby	Infant cereal 2
Baby	Custard
Baby	Dummy/soothers
Baby	Baby food 2
Baby	Baby food 3
Baby	Kids vitamins
Baby	Conditioning shampoo
Pet	Dry dog food
Pet	Tinned pet food
Pet	Dog treats
Household	Fire lighters
Household	Clean Wipes
Household	Toilet paper 1
Household	Surface Cleaner
Household	Drain Cleaner
Household	Window Cleaner
Household	Laundry Detergent Box
Household	Sponges
Household	Bug Spray
Meat Seafood Deli	Shaved ham/meat/bacon
Meat Seafood Deli	Deli Soup

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Product Category	Product Type
Meat Seafood Deli	Olives
Meat Seafood Deli	Single meat tray
Meat Seafood Deli	Smoked salmon
Meat Seafood Deli	Soft Cheese
Meat Seafood Deli	Chicken Drumsticks
Convenience	Coffee
Convenience	Sandwich
Convenience	Hot pie/hot food
Convenience	Slurpee
Take-away	Subway
Take-away	Hungry Jacks
Take-away	Local fish and chips
Take-away	Local pizza
Take-away	Noodle box
Convenience	Oil
Pantry	Jackfruit
Bakery and Convenience	Bakery bites
Lunch box	Nuts 2
Pantry	Pasta 1
Household	Toilet paper 2
Pantry	Pancake mix
Health and beauty	Deodorant 1
Lunch box	Chocolate
Household	Bin bags
Pantry	Oats
Pantry	Taco sauce