



Canadian Council
of Ministers
of the Environment

Le Conseil canadien
des ministres
de l'environnement

GUIDANCE ON THE USE OF LABELS AND TERMS FOR PLASTIC PRODUCTS AND PACKAGING

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NOTE TO READER

This document is based on an unpublished report prepared under contract to CCME by JTL Squared Consulting Inc., in partnership with Policy Integrity and Peter Grecco Design & Illustration, and has been revised and edited by CCME's Waste Reduction and Recovery Committee. CCME would like to thank the individuals and organizations that contributed input and expertise during the development of this work.

EXECUTIVE SUMMARY

This document provides plain-language descriptions and guidance for the use of common environmental terms Canadians will find on plastic products and packaging labels, as well as guidance for their use by product and packaging designers. By publishing this document, the Canadian Council of Ministers of the Environment (CCME) aims to assist Canadians in making informed decisions about how they can support a circular economy¹ through their choices about what to buy and how to manage their items when they reach end-of-life. It addresses a commitment made in Phase 2 of the *Canada-wide Action Plan on Zero Plastic Waste* (CCME 2020) to develop guidance on the use of labels and terms, such as “recyclable” and “compostable,” to facilitate common understanding.

The plain-language descriptions provided are not legal or academic definitions. They are not intended to replace definitions established in laws, standards or certification systems. Instead, the plain language descriptions provide a non-technical explanation about the meaning of specific terms. Users should also take into consideration the rapid pace of industry change in packaging design, and future initiatives undertaken by jurisdictions to manage plastic waste.

This document provides the following guidance for each term:

- general guidance on factors consumers should consider when purchasing or disposing of an item labelled with any of the terms
- general information about each term, including how the terms compare
- considerations for producers about designing items that might be labelled with one or more of the terms
- examples of applicable standards, certifications and labelling systems as they relate to that term
- sample communications to assist governments and businesses in communicating what each term means to their consumers or to the public.

This document does not provide legal advice. The guidance provided in this document does not inform or limit actions taken under the *Canadian Environmental Protection Act, 1999*, the Competition Bureau’s enforcement laws, such as the *Competition Act*, the *Consumer Packaging and Labelling Act* and the *Textile Labelling Act*, or any other acts or regulations adopted by jurisdictions. The inclusion of a term in this document does not constitute CCME’s endorsement for the use of that term on a label. Rather, the purpose of this document is to provide context and clarification about the common use of terms on packaging and product labels.

Table 1 provides a summary of the plain-language descriptions included in this guidance document. These were developed through an analysis of definitions published by Canadian and international organizations and supplementary feedback from stakeholders.

¹ CCME (2019) defines a circular economy as follows: “Circular economies keep materials and products in use as long as possible by recirculating them back into the economy through recycling, refurbishing or repurposing.”

Table I: Summary of plain-language descriptions provided in this guidance document

TERMS	PLAIN-LANGUAGE DESCRIPTION Note: Terms must be interpreted in the context described in Section 2
Biodegradable plastic	Plastic that is designed to degrade, in a defined period of time and under specific conditions as a result of natural biological activity (e.g., bacteria, fungi and algae), into carbon dioxide or methane, mineral salts, water and biomass.
Bioplastic	Term used to describe items that are: • bio-based (partly or fully) or • biodegradable (including, but not necessarily, compostable) or • both bio-based (partly or fully) and biodegradable. For example, the term bioplastic can be used to describe: • fossil-based plastics that biodegrade (e.g., polycaprolactone) • bio-based plastics that do not biodegrade (e.g., bio-based polyethylene terephthalate, bio-based polyethylene) • bio-based plastics that biodegrade (e.g., polylactic acid or starch blends). The term “bioplastic” excludes conventional plastics, meaning fossil-based plastics that do not biodegrade.
Bio-based plastic	Plastic that is partly or fully made from renewable materials such as plants, animals or microbes. This does not necessarily mean the item is biodegradable.
Bio-sourced plastic	See the description of bio-based plastic.
Compostable plastic	Biodegradable plastic that: • is designed to break down in the controlled conditions and under the processing timeline of an industrial compost facility; and • leaves no visible, distinguishable or toxic residue in the final compost.
Degradable plastic	Term used for types of plastics that are designed to break down more quickly than conventional plastics under specific conditions. Types of degradable plastics include: • biodegradable • compostable • photodegradable • oxo-degradable • oxo-biodegradable

Disposable plastic	See the description of single-use and disposable plastic.
Flushable	Non-plastic item that can be safely flushed down a toilet without causing damage to municipal wastewater systems and without polluting the environment. Items are <u>not</u> flushable if they: • do not easily break into small pieces upon contact with water • are buoyant • contain plastic
Oxo-degradable plastic (also referred to as oxo-fragmentable plastic, oxo-plastic, oxy-plastic, oxy-degradable plastic, photo- or thermal-degradable plastic, and pro-oxidant additive containing plastic)	Plastic that is designed to fragment into smaller pieces of plastic when exposed to oxygen and ultraviolet light or heat.
Oxo-biodegradable plastic	Plastic that is designed to fragment into smaller pieces of plastic when exposed to ultraviolet light or heat and then biodegrade.
Photodegradable plastic	Plastic designed to accelerate its fragmentation into smaller pieces when exposed to ultraviolet light.
Plant-based plastic	Plastic that is partly or fully made from plants. This does not necessarily mean the item is biodegradable.
Post-consumer plastic (also referred to as post-consumer resins)	Plastic recovered from a waste stream generated by a consumer, whether residential or non-residential.
Pre-consumer plastic (also referred to as post-industrial plastic)	Plastic waste diverted from an industrial waste stream during a manufacturing process. Examples of pre-consumer plastic waste include: • faulty products • manufacturing by-products, which cannot be directly fed back into the manufacturing process. Pre-consumer plastic does not include materials generated during manufacturing that are captured and re-fed, unmodified, back into the <u>same</u> manufacturing process as part of normal business practices (e.g., production scrap, rework or regrind).

Reclaimed plastic	Plastic recovered from a waste stream or from the environment.
Recyclable plastic	Plastic that can be recycled in places where there are effective systems to: • collect it for recycling² • sort and process it and • use the reprocessed material as a manufacturing input in the production of new items.
Recycled content	Proportion of an item that is made from materials recovered from a waste stream or from the environment. Types of recovered materials that can be used include: • pre-consumer • post-consumer • other plastics reclaimed from the environment (e.g., plastic pollution of unknown source).
Refillable	Designed to be used multiple times for the same purpose without losing its original functionality, physical capacity or quality <u>and</u> for which a commercial system is in place that allows for the item's refill (e.g., bulk refill facilities in store or commercial take-back, cleaning and refilling).
Reusable	Designed to be used multiple times for the same purpose without losing its original functionality, physical capacity or quality.
Single-use and disposable plastic (also referred to as short-used plastic)	Plastic item that was designed with the intent to be used only once or for a short period of time for its original purpose before it loses its original functionality, physical capacity or quality or before it is discarded.

² According to the EU (2008), "recycling means any recovery operation by which waste materials are reprocessed into products, materials or substances whether for the original or other purposes. It includes the reprocessing of organic material but does not include energy recovery and the reprocessing into materials that are to be used as fuels or for backfilling operations.".

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LIST OF ABBREVIATIONS

ABBREVIATION	MEANING
ACC	American Chemistry Council
APR	Association of Plastic Recyclers
ASTM	ASTM International (previously the American Society for Testing and Materials)
BNQ	Bureau de normalisation du Québec
BPI	Biodegradable Products Institute
CCME	Canadian Council of Ministers of the Environment
CEN	European Committee for Standardization
CSA	CSA Group (previously the Canadian Standards Association)
CWWA	Canadian Water and Wastewater Association
ÉEQ	Éco Entreprises Québec
EDANA	European Disposables and Nonwovens Association
EPR	extended producer responsibility
EU	European Union
GHG	greenhouse gas
INDA	Association of the Nonwoven Fabrics Industry (previously the International Nonwovens and Disposables Association)
ISO	International Organization for Standardization
IWSFG	International Water Services Flushability Group
MRF	materials recovery facility
MESUG	Municipal Enforcement Sewer Use Group
PBAT	polybutylene adipate terephthalate

PBS	polybutylene succinate
PCL	polycaprolactone
PCR	post-consumer resin post-consumer recycled content
PE	polyethylene
PET rPET	polyethylene terephthalate recycled polyethylene terephthalate
PHA	polyhydroxyalkanoates
PLA	polylactic acid
PP	polypropylene
RIC	resin identification code
SCC	Standards Council of Canada
SDO	Standards Development Organization
UNEP	United Nations Environment Programme
UK	United Kingdom

1. INTRODUCTION

Canadians use plastics every day. According to the Chemical Industry Association of Canada (2020), plastics are used to make more than 95 per cent of all manufactured products, including items that:

- are used one time, such as single-use grocery bags, cups and cutlery
- are used for a short period of time, such as multi-laminate packaging, toothbrushes or fast fashion
- are more durable, such as carpet, electronics, solar panels, car parts, water pipes and children's toys.

While the uses for plastics are endless, the disposal and leakage of plastic waste into the environment is a lost economic opportunity and a source of plastic pollution. It has been estimated that three million tonnes of plastics are discarded annually in Canada and that only nine per cent of plastic waste is collected and recycled (Statistics Canada 2022). If this discarded plastic were to be captured and subsequently recovered (e.g., through reuse or recycling), it is estimated that Canada could add \$11.1 billion in value to its economy by 2030 (Deloitte and Cheminfo Services Inc. 2019). In addition, reducing the need to extract and process new resources can play an important role in reducing greenhouse gas (GHG) emissions and biodiversity loss (United Nations Environment Program [UNEP] 2019).

1.1 Purpose

The Canadian Council of Ministers of the Environment (CCME) is the primary minister-led intergovernmental forum for collective action on environmental issues of national concern. In 2018, CCME released the *Strategy on Zero Plastic Waste* (the Strategy), which sets the overall vision for zero plastic waste in Canada and is rooted in a circular economy approach. To implement the Strategy, ministers approved:

- the *Canada-Wide Action Plan on Zero Plastic Waste, Phase 1* (CCME 2019)
- the *Canada-Wide Action Plan on Zero Plastic Waste, Phase 2* (CCME 2020).

This document addresses a commitment made in Phase 2 of the *Canada-wide Action Plan on Zero Plastic Waste* to develop guidance on the use of labels and terms, such as “recyclable” and “compostable,” to facilitate common understanding.

This document provides Canadians with plain-language descriptions for common environmental terms (outlined in Section 1.3) they might find on plastic product and packaging labels, as well as valuable information about the factors to consider when purchasing items with these labels and managing them at end-of-life.

This document does not provide legal advice. The guidance provided in this document does not inform or limit actions taken under the *Canadian Environmental Protection Act, 1999*, the Competition Bureau's enforcement laws, such as the *Competition Act*, the *Consumer Packaging and Labelling Act* and the *Textile Labelling Act*, or any other acts and regulations

adopted by jurisdictions. The inclusion of a term in this document does not constitute CCME’s endorsement for the use of that term on a label. Rather, the purpose of this document is to provide context and clarification about the common use of terms on packaging and product labels in order to help Canadians make more informed decisions about the items they buy and the ways they dispose of items at end-of-life.

This document also provides a summary of considerations that designers may wish to take into account when designing plastic packaging and products. However, the user should also take into consideration the rapid pace of industry change in packaging design, and future initiatives undertaken by jurisdictions to manage plastic waste.

1.2 What is a plain-language description?

Plain-language descriptions are not legal or academic definitions. They are not intended to replace definitions established in law, standards or certification systems. The phrase “plain-language description” in this document is used intentionally. Instead of providing technical definitions, the descriptions provide non-technical explanations about the meaning of specific terms. The purpose of providing these descriptions is to better equip Canadians to make informed decisions about the ways they can support a circular economy³ through their choices of what items to buy and how to manage their items when they reach end-of-life, including by properly sorting items into the recycling, composting and disposal streams.

1.3 Which terms are reviewed in this document?

Table 1 summarizes the terms described in this document. To make it easier to compare closely related and often confused terms, these terms have been grouped into sections.

³ CCME (2019) defines a circular economy as follows: “Circular economies keep materials and products in use as long as possible by recirculating them back into the economy through recycling, refurbishing or repurposing.”

Table 1: Plastic-related terms described in this document

Term	Plain-language descriptions provided	Section
Recyclable	• recyclable	2.2
Recycled content, recovered and reclaimed plastics	• recycled content • pre-consumer plastics or post-industrial plastics • post-consumer plastics • post-consumer resins • reclaimed plastics	2.3
Single-use and disposable plastic	• single-use and disposable plastic	2.4
Reusable	• reusable • refillable	2.5
Flushable	• flushable	2.6
Degradable	• degradable • biodegradable • oxo-degradable • oxo-biodegradable • photodegradable	2.7
Compostable	• compostable	2.8
Bioplastics	• bioplastics • bio-based or bio-sourced plastic • plant-based plastic	2.9

1.4 Who should use this document?

This document is aimed at anyone who makes, uses, disposes or reprocesses plastic products and packaging. Each stakeholder along the plastics value chain might use this document differently, therefore the potential audiences and uses of this document are described in Figure 1.

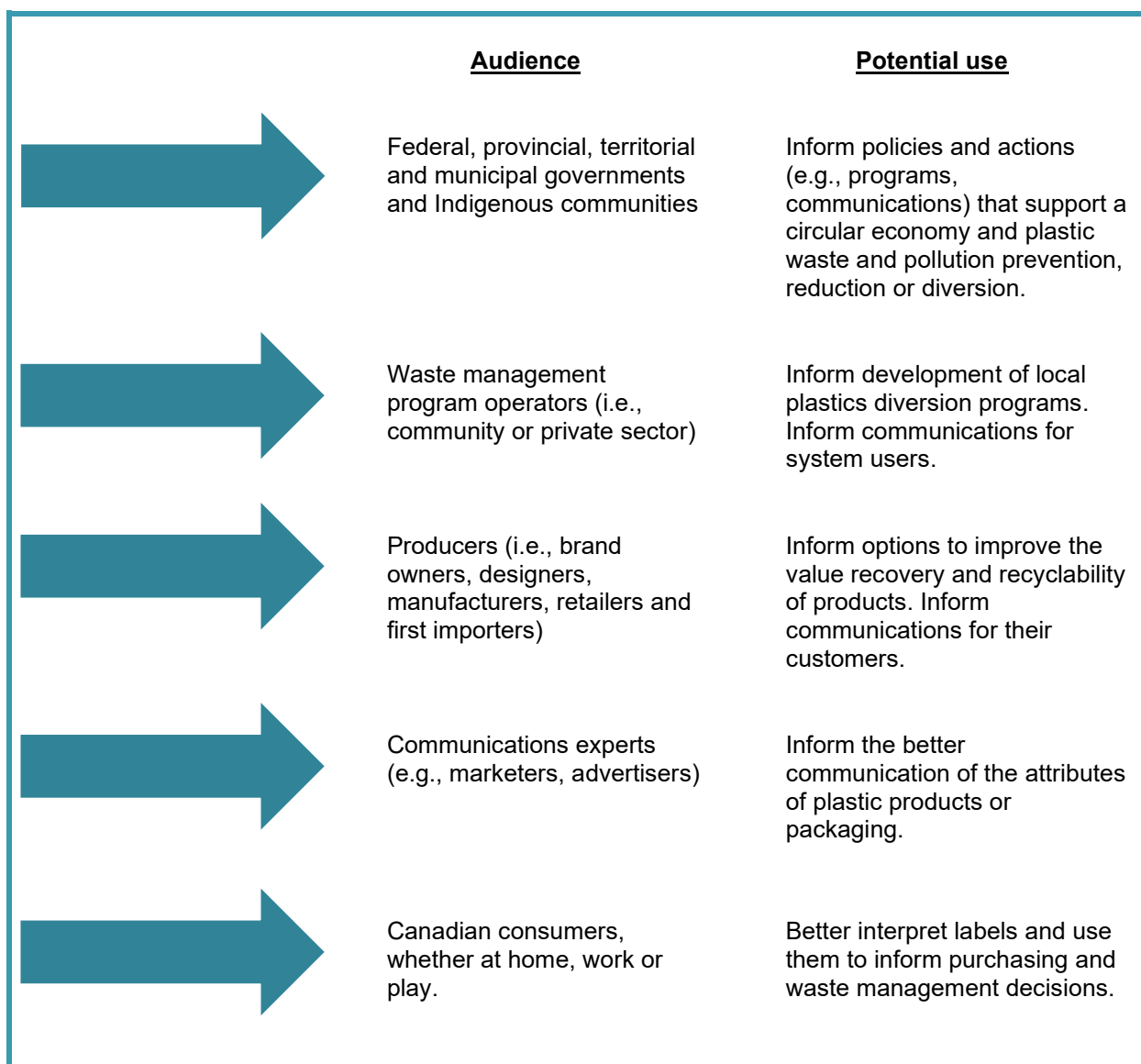


Figure 1: Ways that different audiences might use this document

1.5 How was the information in this document gathered?

The plain-language descriptions provided in Section 2 were developed through:

- a literature review and analysis of existing definitions adopted by governments, institutions, industry associations and not-for-profit entities around the world
- follow-up emails and interviews with key stakeholders where clarification about the information gathered from the literature was required.

2. PLAIN-LANGUAGE DESCRIPTIONS AND GUIDANCE

This section provides plain-language descriptions and supporting information for plastics-related environmental terms that Canadians might commonly see in the marketplace. These terms were outlined in Section 1.3.

In this section, the following is provided for each term:

- a plain-language description
- background to assist with understanding how to use the term, including common misuses and misconceptions
- an overview of other terms it might be confused with
- an overview of design considerations for items that use the type of plastic described
- an overview of the applicable standards, certifications and labels associated with it.

For explanations of the terms “standard,” “certification” and “label,” see Appendix 1.

In addition to the information provided in this section, for sample communications for each term to assist with communicating the meaning of the terms to the general public, see Appendix 2.

Remember that these plain-language descriptions are not intended to be technical or scientific or to replace definitions established in law, standards or certification systems.

2.1 General guidance on all terms

In Canada, the Competition Bureau oversees and enforces rules that companies must adhere to when making environmental claims about their products or packaging. These rules are outlined in the *Competition Act*, the *Consumer Packaging and Labelling Act* and the *Textile Labelling Act*.

The Competition Bureau and the Canadian Standards Association (now CSA Group) co-published *Environmental Claims: A Guide for Industry and Advertisers* (Canadian Standards Association 2008) (the Guide) to inform brand owners and advertisers on the proper use of several of the terms included in this guidance document. These include:

- recyclable
- recycled content
- post-consumer material
- reusable
- refillable
- degradable (including all types of degradability)
- compostable.

The Guide is based on definitions in CAN/CSA-ISO 14021-00 (R2009) (Environmental labels and declarations—Type II Environmental Labelling—Self-declared environmental claims, first edition), a National Standard of Canada.^{4,5} The first edition of that standard has since been withdrawn and replaced with CAN ISO 14021:20, which is equivalent to the International Organization for Standardization (ISO) ISO 14021:2016 (Standards Council of Canada, n.d.). As a result, the Guide does not reflect the updates to the National Standard.

The Competition Bureau has published a webpage on environmental claims and greenwashing (Competition Bureau 2021). The Guide remains available on the website, but is for reference, research and recordkeeping purposes only as it may not reflect the Competition Bureau's current policies or practices, the latest standards or evolving environmental concerns.

2.1.1 Questions to consider when purchasing new items and managing items at end-of-life

For any of the terms described in this document, consumers⁶ can consider several general questions to better support the management of plastics in a circular economy.

Questions to ask when purchasing

- About the choice of an item: Is the item necessary? Is there a better alternative or can a reusable, refillable or recyclable option be used instead?

⁴ The Guide was published in 2008 and therefore does not reflect any updates to labelling standards made after this date. For example, the *Standard Practice for Coding Plastic Manufactured Articles for Resin Identification* (ASTM D7611) was updated in 2013 and now requires a solid triangle be placed around resin numbers, rather than the chasing arrows, to avoid confusion with the use of the Möbius Loop, which is also used to indicate an item is recyclable or made from recycled content.

⁵ CAN/CSA-ISO 14021-00 (R2009), a National Standard of Canada, is equivalent to International Standard 14021:1999.

⁶ The term "consumer" in this document means any buyer of an item, including individuals and businesses.

- About the environmental claim: Can this claim be trusted? Is there an unbiased, third-party standard, certification system or label that provides accreditation for the claim?
 - Resource: See the “Applicable standards, certification and labelling schemes” section of this document.
- About the item’s⁷ lifespan and durability: To maintain items in a circular economy for longer, can a reusable or refillable item be chosen instead? Is it easily repairable?
 - Resource: Reuse: Rethinking Packaging (Ellen MacArthur Foundation, 2019a)
- About biodegradable items: If the item claims to be biodegradable, will the item be used in the ideal situation to allow biodegradation to occur (e.g., not disposed of in the natural environment)?
 - Resources: See Section 2.7.2 for standards relating to biodegradability.
- About how to best manage the item at end-of-life: Is the item locally recyclable, compostable or flushable, or should it be disposed of in the garbage? For example, is it accepted in a local diversion program? If not, could an alternative item be purchased?
 - Resource: Check with your local waste management service provider.

Questions to ask when recycling, composting or discarding

- Is the item locally recyclable or compostable, or is it flushable or should it be disposed of in the garbage? For example, is it accepted in a local diversion program?
- For flushable items: Does your municipal system allow anything other than the “3Ps” (i.e., pee, poo and toilet paper) to be flushed? If not, dispose of the item as per your local waste management service provider’s or local municipality’s directions even if the item is labelled as recyclable, compostable or flushable. Putting items into the wrong end-of-life management system can cause contamination of diversion streams, hinder recycling or damage wastewater systems.
 - Resource: Check with your local waste management service provider.
- Does anything need to be done to make sure the item is ready for recycling (e.g., wash it, remove labels or caps, dismantle it, or take it somewhere specific for disposal)?
 - Resource: Check the label for instructions and check with your local waste management service provider.

Please don’t litter

Regardless of the label, littered plastics can cause environmental harm. This includes:

- causing harm to wildlife through ingestion and entanglement
- breaking down into microplastics that can enter the food chain.

When littered, plastic items that are labelled as degradable, biodegradable and compostable can take months, years or longer to fully degrade in the natural environment, if they are not exposed to specific conditions. As a result, they act like conventional plastics and can cause environmental harm.

⁷ The term “item” in this document means a product, packaging, or a product or packaging component.

2.2 Recyclable plastic

Recyclable plastic means a type of plastic that can be recycled in places where there are effective systems to:

- collect it for recycling⁸
- sort and process it and
- use the reprocessed material as a manufacturing input in the production of new items.

Items labelled as recyclable may not be locally recyclable

Plastic items could be technically recyclable (i.e., possible to recycle where there are systems in place to collect, sort, process and market the material) but not locally recyclable if those local systems are not in place (Figure 2). The best practice standard across North America for labelling an item “recyclable” is that the item must be locally recyclable in 60 per cent of the communities across a jurisdiction (Federal Trade Commission 2012, CalRecycle 2020).

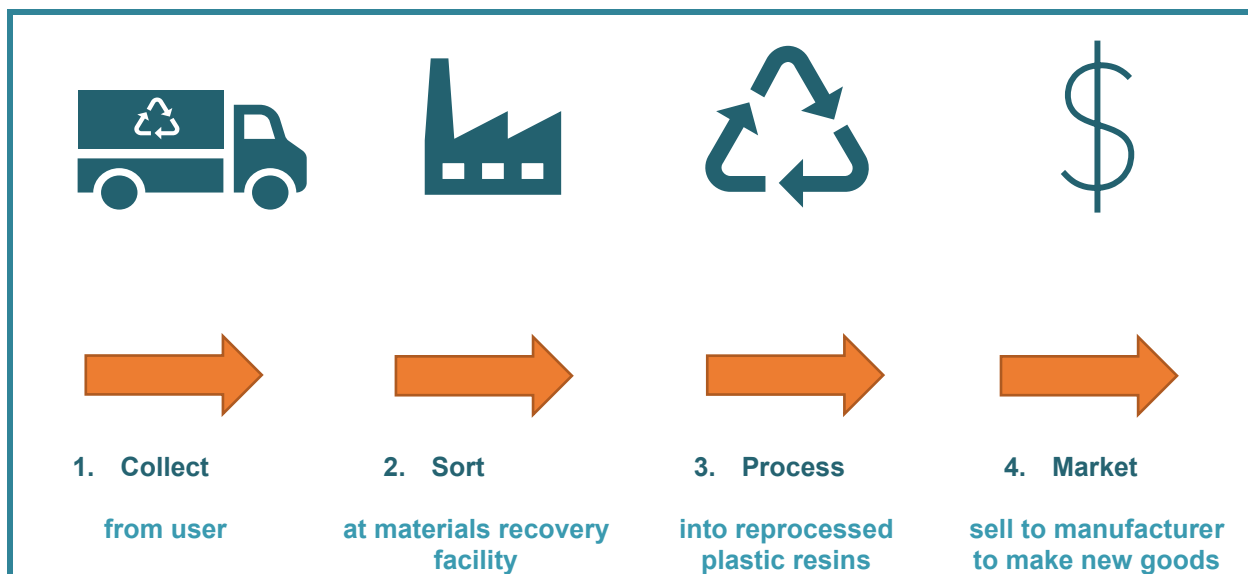


Figure 2: The four steps required to recycle an item

Items labelled with a Möbius loop may not be locally recyclable

In Canada, a Möbius loop (also known as the “chasing arrows” symbol) (Figure 3) can indicate a manufacturer’s claim that an item is recyclable or that it contains recycled content (Canadian Standards Association 2008). Items marked as recyclable (e.g., with a Möbius loop) might be recyclable in the majority of communities across Canada but not locally recyclable for the

⁸ According to the EU (2008), “recycling means any recovery operation by which waste materials are reprocessed into products, materials or substances whether for the original or other purposes. It includes the reprocessing of organic material but does not include energy recovery and the reprocessing into materials that are to be used as fuels or for backfilling operations.”

consumer. Canadians need to confirm what is recyclable according to their local waste management programs.



Figure 3: The Möbius loop or “chasing arrows” symbol

Resin numbers

Resin identification numbers are not indicators of recyclability. Also called resin identification codes (RICs), the RIC labelling system was designed to help sort plastic waste into resin categories and enable their recycling. The RIC labelling system is underpinned by ASTM International’s (ASTM) standard *Coding Plastic Manufactured Articles for Resin Identification (D611)* (ASTM 2020) and is outlined in Figure 4.

Prior to 2013, RIC labelling required the display of a number inside of a Möbius loop (see Figure 3) and was often misunderstood as an indicator of recyclability (ASTM 2022). To reduce confusion, ASTM changed its RIC labelling system to decouple the RIC from the chasing arrows. RIC labelling now includes the display of a solid equilateral triangle with a number inside, as depicted in Figure 4 (ASTM 2013a, 2013b, ASTM 2020). However, both versions of the RICs can still be found on store shelves.

Resin identification number	Resin	Resin identification code—Option A	Resin identification code—Option B
1	Polyethylene terephthalate	 PETE	 PET
2	High-density polyethylene	 HDPE	 PE-HD
3	Polyvinyl chloride	 V	 PVC
4	Low-density polyethylene	 LDPE	 PE-LD

5	Polypropylene		
6	Polystyrene		
7	Other resins		

Figure 4: ASTM resin identification codes⁹

Table 2: Comparing the terms “recyclable,” “recycled content” and “compostable” as they relate to plastic items

	Recyclable	Recycled content	Compostable
What does the term mean in plain language?	The item might be able to be collected, sorted and processed and ultimately re-used in the manufacture of a new item.	The item was made from some portion of reprocessed plastic resins.	The item will break down in the controlled conditions and processing timeline of an industrial compost facility into compost.
Additional notes	Does not mean an item can be locally recycled. Recyclable does not mean it contains recycled content.	Does not mean an item can be recycled.	Does not mean an item can be composted in all composting facilities or will compost in the natural environment. Compostable materials are a source of contamination in recycling systems.

2.2.1 Considerations for designing recyclable plastic items

Design for a circular economy

Ask: Is the item needed? Can the item instead be redesigned to be durable/recoverable (e.g., refilled, reused, repaired)?

Ask: Will the item be widely accepted for recycling when it reaches end-of-life so that it can be managed in a circular economy? If not, can this product be re-designed to ensure it can be more

⁹ Source: ASTM International. Reproduced with permission from D7611/D7611M-20 Standard Practice for Coding Plastic Manufactured Articles for Resin Identification, copyright ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428. A copy of the complete standard may be obtained from ASTM International, www.astm.org.

easily collected, sorted and processed into valuable reprocessed plastic resins or materials that can be used in the manufacture of other products?

The recyclability of an item can be affected by its:

- shape (e.g., is it a flexible film or container? Can the container be easily cleaned? Does it use different plastics to close, dispense or offer other functions?)
- size (e.g., is it too small or too big to make it through the belts, screens and sorters at a materials recovery facility?)
- weight
- colour (e.g., some dyes make plastic difficult to recycle and sort)
- plastic additives (e.g., plastic additives can affect the melting point of the plastic)
- labels or other external elements that contaminate recycled resins
- other factors such as multi-layer resins, inks, colourants and adhesives.

Resources

- CCME's Compendium of Recyclability Guidelines (CCME 2025)
- Association of Plastic Recyclers' APR Design Guide® (Association of Plastic Recyclers 2021)
- The Consumer Goods Forum's Golden Design Rules for designing packaging for recyclability (The Consumer Goods Forum 2021)
- The Golden Design Rules for Plastic Packaging – Canadian Guidance (Canada Plastics Pact, 2022).

Label

Ask: Can a third-party accredited label be used to identify whether the plastic item is recyclable?

Resource: How2Recycle (How2Recycle n.d.)

2.2.2 Applicable standards, certifications and labelling schemes

Standards

- There are no current standards operating in North America that establish a test for recyclability.
- CAN ISO 14021:20 and its equivalent ISO 14021: 2016 define the term “recyclable” (Standards Council of Canada n.d.).

Certification and associated labelling programs

- None are available for North America.

Labelling programs (standalone)

- How2Recycle recyclability label (Figure 5)

It's a smarter label system.

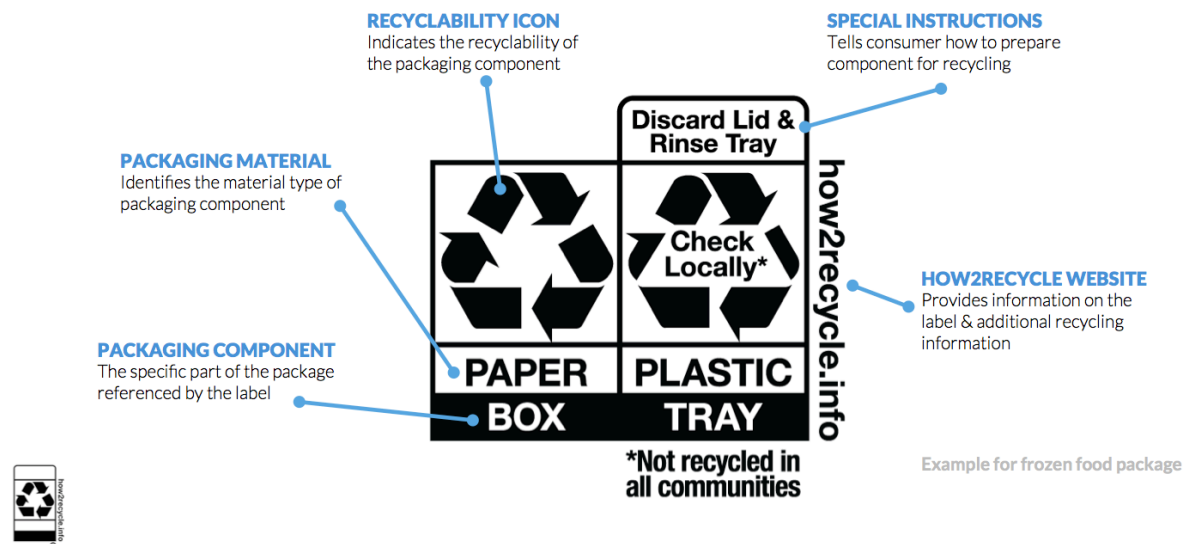


Figure 5: How2Recycle Recyclability Label¹⁰

Canadians might see the United Kingdom's On-Pack Recycling Label (OPRL) on items in the marketplace. The OPRL operates a recyclability certification and labelling system to show that an item is recyclable in that country (see Figure 6). The presence of the OPRL "certified as recyclable" label does not mean the item is recyclable in Canada.



Figure 6: OPRL "certified as recyclable" label¹¹

¹⁰ Source: How2Recycle (2021), reproduced with permission (copyright How2Recycle).

¹¹ Source: OPRL (2021), reproduced with permission (copyright OPRL).

2.3 Recycled content, recovered and reclaimed plastics

Recycled content is the proportion of an item that is made from materials recovered from a waste stream or from the environment.

Types of recovered materials that can be used include:

- pre-consumer
- post-consumer
- other plastics reclaimed from the environment (e.g., plastic pollution of unknown source).

Pre-consumer plastic is plastic waste diverted from an industrial waste stream during a manufacturing process. The term “post-industrial plastic” is used interchangeably with “pre-consumer plastic.”

Examples of pre-consumer waste plastic include:

- faulty products
- manufacturing by-products, which cannot be directly fed back into the manufacturing process.

Pre-consumer plastic does not include materials generated during manufacturing that are captured and re-fed, unmodified, back into the **same** manufacturing process as part of normal business practices (e.g., production scrap, rework or regrind).

Post-consumer plastic means plastic recovered from a waste stream generated by a consumer, whether residential or non-residential. The term “post-consumer resin” is used interchangeably with “post-consumer plastic.”

Post-consumer plastic does not include pre-consumer plastic. When post-consumer plastic is used in the manufacture of new items, those new items could be advertised as having recycled content or post-consumer recycled content.

Reclaimed plastic means plastic recovered from a waste stream or from the environment.

While the term “reclaimed plastic” could be used to describe any recovered plastic, in recent years the term is most often associated with plastic pollution¹² recovered from the ocean, freshwater ecosystems or shorelines or from litter collected on land. When reclaimed plastic is used in the manufacture of new items, those new items could be advertised as having reclaimed plastic content or recycled content or, if the plastic is reclaimed from the ocean, as containing ocean plastic.

¹² Plastic pollution can be pre-production waste (e.g., plastic nurdles, which are the raw material for plastics manufacturing, lost at sea during transport to a manufacturer), pre-consumer waste (plastic waste generated as part of a manufacturing process) or post-consumer waste (waste generated by a consumer).

Across North America, several jurisdictions encourage or require a claim of recycled content to include verified disclosures of:

- the source of the reprocessed plastic resin in the recycled content (i.e., pre-consumer or post-consumer)
- the proportion of recycled plastic content used in the item (i.e., the amount of reprocessed plastic resin used as a percentage of total material used)
- the part of the product or package to which the claim applies (e.g., if it applies only to the beverage bottle but not the cap) (Canadian Standards Association 2008, Federal Trade Commission 2012, ISO 2016).

Items that display the Möbius loop may not contain recycled content

Recyclable materials are not necessarily made from recycled content. Items that contain recycled content often display the Möbius loop or “chasing arrows” symbol (Figure 3). However, this symbol does not mean that the item is locally recyclable or that it contains recycled content.

Items labelled as containing recycled content may not contain 100 per cent recycled content

When a plastic item is labelled as containing recycled content, unless the label says otherwise, the item could be made with only a small percentage of pre-consumer, post-consumer or reclaimed plastic. Look for labelling that identifies the proportion of recycled content in an item.

Table 3: Comparing the terms “recycled content,” “pre-consumer plastic,” “post-consumer plastic,” “reclaimed plastic” and “recyclable” as they relate to plastic items

	Recycled content	Pre-consumer, post-consumer and reclaimed plastic	Recyclable
What does the term mean in plain language?	The item was made from some portion of reprocessed plastic resin.	The plastic material was recovered from a specific waste stream.	The item might be able to be collected, sorted and processed and ultimately re-used in the manufacture of a new item.
Additional notes	Does not mean an item can be recycled.	Does not mean an item can be recycled.	Does not mean an item can be locally recycled.

A manufacturer could use post-consumer, pre-consumer or reclaimed plastic or a combination of these to make a new item that includes recycled content (Figure 7). An item labelled as containing recycled content does not necessarily contain post-consumer material.

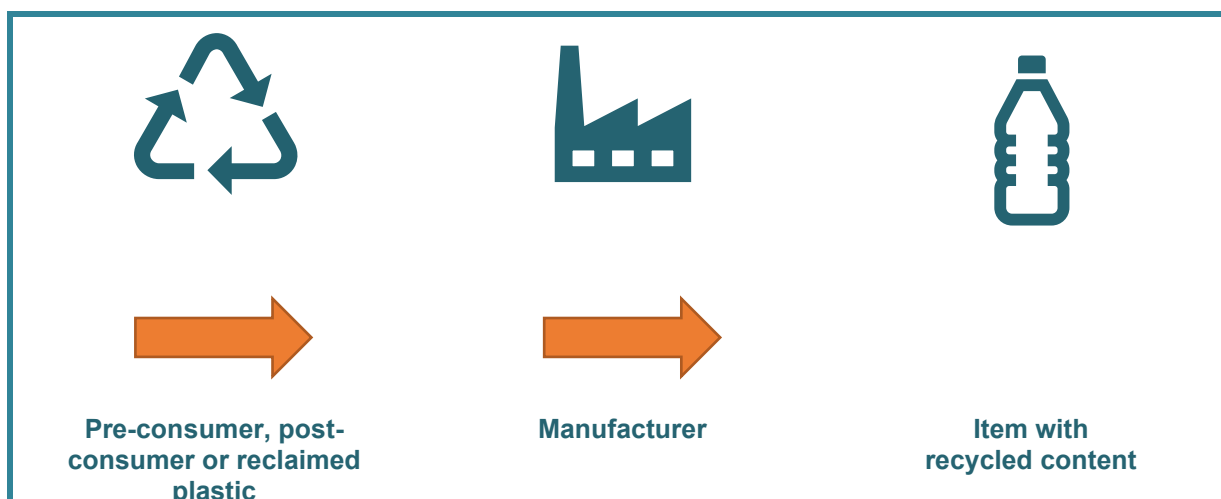


Figure 7: Using pre-consumer, post-consumer or reclaimed plastic to make products with recycled content

2.3.1 Considerations for designing plastic items with recycled content

Recognize an opportunity to drive a market for reprocessed plastic resins

Ask: Can the item be made from a reprocessed plastic resin? If so, can it be made from post-consumer recycled plastics or other reclaimed plastics to drive demand for these harder-to-recycle materials?

Resource: The Design for Recycled Content Guide (Sustainable Packaging Coalition 2019)

Substantiate claims

Ask: Does the item contain recycled content, and is it labelled as such?

Resource: The Association of Plastic Recyclers' Postconsumer Resin Certification Program and Recycling Demand Champion Program (APR n.d.a and n.d.b)

Check for issues

Ask: Are there any concerns that might prevent including recycled content in food packaging?

Resource: Health Canada's Guidelines for Determining the Acceptability and Use of Recycled Plastics in Food Packaging Applications (Health Canada 2011)

Design for a circular economy

Ask: Is the item needed? Can the item instead be redesigned to be durable/recoverable (e.g., refilled, reused, repaired)?

Ask: Will the item be widely accepted for recycling when it reaches end-of-life so that it can be managed in a circular economy? If not, can this product be re-designed to ensure it can be more easily collected, sorted and processed into valuable reprocessed plastic resins or materials that can be used in the manufacture of other products? (See **Section 2.2** for factors that affect recyclability).

Resources

- The Association of Plastic Recyclers' APR Design Guide® (APR 2021)
- The Consumer Goods Forum's Golden Design Rules (The Consumer Goods Forum 2021)
- The Golden Design Rules for Plastic Packaging – Canadian Guidance (Canada Plastics Pact, 2022)

Label

Ask: Can a third-party accredited label be used to identify the percentage of recycled content and whether the source of the plastic is pre-consumer, post-consumer or reclaimed plastics?

2.3.2 Applicable standards, certifications and labelling schemes

As part of the *Canada-wide Action Plan on Zero Plastic Waste* (CCME 2019), work is ongoing to update standards for measuring and reporting on recycled content. This is a complex area of research that goes beyond the scope of this guidance document.

Standards, certification and associated labelling programs

- CAN-BNQ standard 3840-100 – Recycled Plastic Content Products
- Recycled Material Standard (GreenBlue and NSF International 2021)
- SCS Recycled Content Standard (SCS Global Services 2014)
- Global Recycling Standard (Textile Exchange 2017, Textile Exchange 2019)
- UL 2809 Environmental Claim Validation Procedure (ECVP) for Recycled Content Standard (UL 2020)
- Cradle to Cradle Certified® Product Standard (version 4.0) (Cradle to Cradle Products Innovation Institute, n.d.)
- APR Postconsumer Resin (PCR) Certification Program (APR n.d.b)
- Ocean Bound Plastic Certification (Zero Plastic Oceans n.d.)
- OceanCycle Certification (OceanCycle n.d.)
- Cradle to Cradle Certified® (Cradle to Cradle Products Innovation Institute, n.d.)

2.4 Single-use and disposable plastics

Single-use and disposable plastic is designed with the intent to be used only once or for a short period of time for its original purpose before it loses its original functionality, physical capacity or quality, or before it is discarded.

The term “short-used plastic” is used interchangeably with “single-use and disposable plastic.”

Even if a single-use and disposable plastic item can be reused, that does not make it reusable by definition

Consumers can be confused about the concept of single-use, especially when a single-use and disposable item can be reused for another single-use purpose. For example:

- Disposable grocery bags are frequently reused as garbage bags (one additional single use).
- Disposable plastic cutlery, straws, dishware and take-out food packaging can be washed and reused.

Reusing an item for an additional single-use or for a short time does not make the item reusable by definition (see Figure 8). Reusable and refillable items are designed and intended to be used multiple times for the same use without losing their original functionality. Many jurisdictions define the number of uses (also called trips or rotations) an item must be able to withstand to be considered reusable (see Section 2.5).

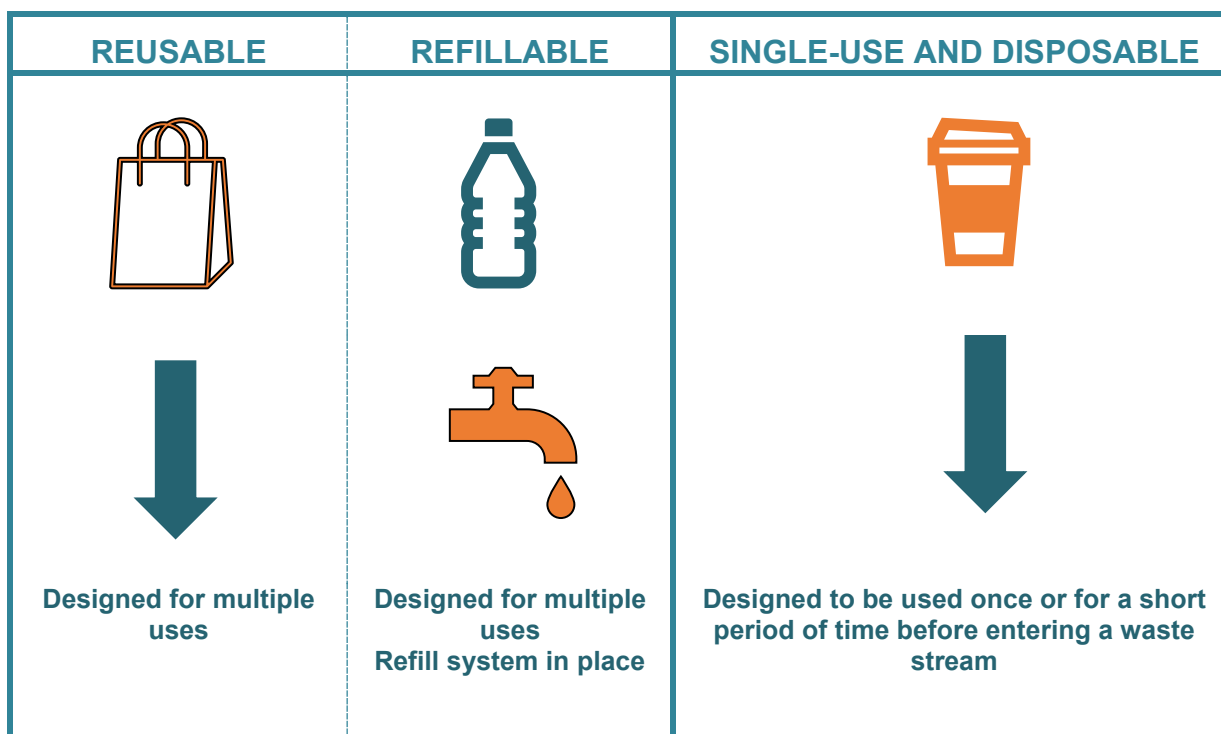


Figure 8: Comparing reusable, refillable and single-use and disposable items

Table 4: Comparing terms single-use and disposable with reusable and refillable as they relate to plastic items

	Single-use and disposable	Reusable Refillable
What does the term mean in plain language?	The item was designed to be used for a short period of time before being recycled, composted or disposed of.	The item was designed to be used multiple times over a lengthy period before being recycled, composted or discarded.
Additional notes	An item used multiple times over a short period of time for its original purpose is not necessarily considered reusable. For example, a disposable toothpaste tube will be opened and closed by the consumer multiple times before the toothpaste tube is empty. The tube is a single-use and disposable item because it is not meant to be refilled with toothpaste and then reused for the same purpose.	Some jurisdictions have set legal standards for labelling items as reusable or refillable, such as requiring that items: • be reusable for a minimum number of trips or rotations • be refillable in a commercial setting. Items that do not meet these criteria would be considered single-use.

2.4.1 Considerations for designing single-use and disposable plastic items

Design for a circular economy

Ask: Is the item needed? Can the item instead be redesigned to be durable/recoverable (e.g., refilled, reused, repaired)?

Ask: Could the item be re-designed to reduce the amount of waste it will generate throughout its lifecycle, including when it reaches end-of-life? Could it be designed with fewer materials or to be reused, refilled, repaired, remanufactured or refurbished before it becomes waste?

Ask: Will the item be widely accepted for recycling or composting when it reaches end-of-life so that it can be managed in a circular economy? If not, can this product be re-designed to ensure it can be more easily collected, sorted and processed into valuable plastic resins, materials that can be used in the manufacture of other products or composted without risk of environmental harm? See Section 2.2 for factors that affect recyclability and Section 2.8 for factors that affect compostability.

If the item cannot be redesigned as reusable or refillable, could it be redesigned as a recyclable or compostable single-use item?

Resources

- Compendium of Recyclability Guidelines (CCME 2025)
- A Roadmap to Strengthen the Management of Single-use and Disposable Plastics (CCME 2022)
- Reuse: Rethinking Packaging (Ellen MacArthur Foundation 2019a)
- Designing for Reuse and Circulation of Products and Materials (Ellen MacArthur Foundation 2024)
- APR Design Guide® (Association of Plastic Recyclers 2021)
- Golden Design Rules for designing packaging for recyclability (The Consumer Goods Forum, 2021)
- The Golden Design Rules for Plastic Packaging – Canadian Guidance (Canada Plastics Pact, 2022)
- [Single-use Plastics Prohibition Regulations](#)
- [Single-use Plastics Prohibition Regulations - Technical guidelines](#)
- [Single-use Plastics Prohibition Regulations – Guidance for selecting alternatives](#)

Substantiate claims and label

Ask: Can a third-party accredited label be used to identify whether the plastic item is recyclable or compostable? If so, then label items with clear directions for consumer management of the item at end-of-life (recycle or compost).

Resources

- [CAN-BNQ standard 3840-100 – Recycled Plastic Content Products](#)

- How2Recycle (How2Recycle n.d.)
- The Biodegradable Products Institute (BPI) and Bureau de normalisation du Québec (BNQ) certify products against accredited standards for compostable products (see Section 2.8.2).

2.4.2 Applicable standards, certifications and labelling schemes

At the time of this document's publication, there are no standards, certifications or labelling schemes to relay a message of single-use and disposable.

2.5 Reusable and refillable items

Reusable means an item has been designed to be used multiple times for the same purpose without losing its original functionality, physical capacity or quality.

Refillable means an item has been designed to be used multiple times for the same purpose without losing its original functionality, physical capacity or quality **and** there is a commercial system in place that allows for the item's refill (e.g., bulk refill facilities in-store or commercial take-back, cleaning and refilling).

Local laws may limit which items can be labelled reusable or refillable

Some municipal, provincial and territorial jurisdictions in Canada have established legal definitions for using the terms “reusable” and “refillable” on specific items (e.g., shopping bags). This can include identifying a minimum number of uses (often called trips, rotations or cycles) that an item must be able to withstand in order to qualify to advertise the label. For example, Newfoundland and Labrador, Prince Edward Island and the City of Vancouver require that a shopping bag be usable for 100 trips to qualify as a reusable bag (Government of Newfoundland and Labrador 2020; Government of Prince Edward Island 2019; City of Vancouver 2020).

Items that need cleaning, repair and reconditioning can still be considered reusable

The term “reusable” can be used to describe an item that undergoes cleaning, repair or reconditioning (cleaning and testing) to restore it to a safe or functional state so that it can be reused for its original purpose (Figure 9).

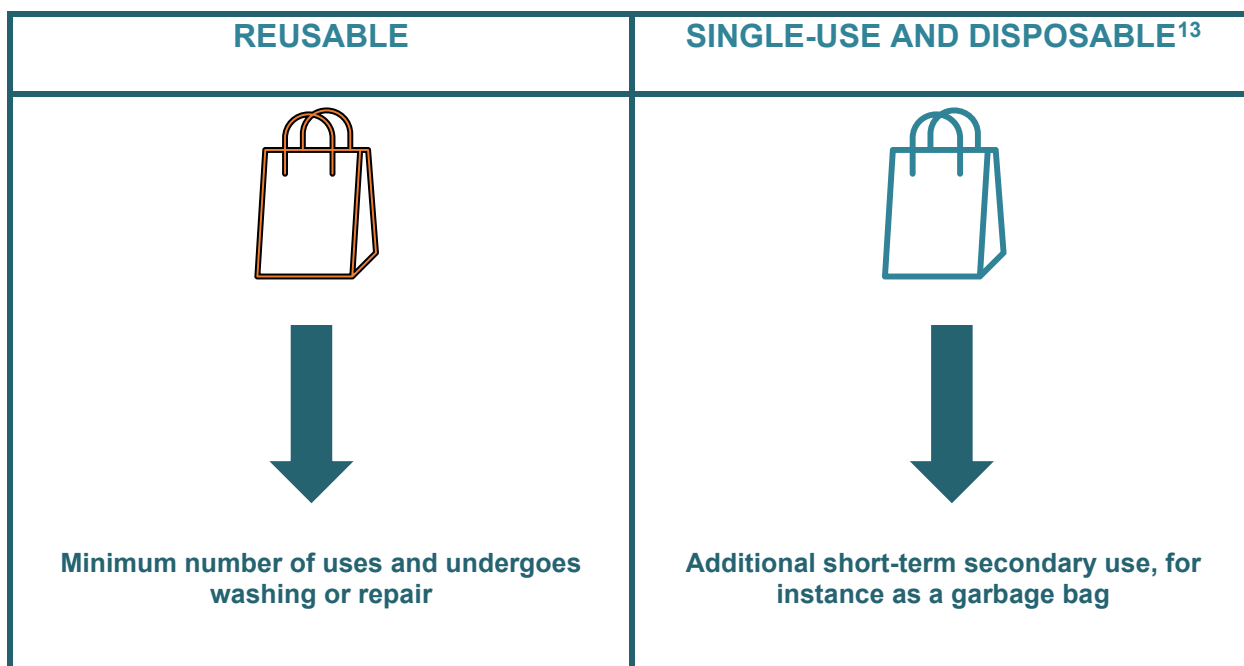


Figure 9: Comparing reusable and disposable bags

Even if a single-use and disposable item can be reused, that does not make it reusable by definition

Reusable and refillable items keep their original value and functionality for a lengthy period of time, whereas single-use and disposable items lose their original value and enter the waste stream (garbage, recycling or composting) shortly after they are first used. A key indicator of whether an item is reusable or refillable is whether there is a system for reuse in place that enables the user of the item to reuse or refill the item for the same purpose for which it was designed (e.g., bulk dispensers, cleaning systems or existing processes that enable reuse or refill).

Reusable and refillable items may not be recyclable

Currently, reusable and refillable items are often made from more durable materials that are not widely collected for recycling. For example, consider the end-of-life management of cloth bags. Limited options exist for textile-to-textile recycling and where they exist, they are still considered niche (Nordic Council of Ministers 2017).

Reusable and refillable items can be alternatives to single-use and disposable plastic items

Reusable and refillable items are durable and able to withstand multiple uses, and can be cleaned, repaired and updated to keep them at full functionality.

¹³ Note that the manufacture, sale, import and export of single-use plastic checkout bags will be prohibited under the [Single-use Plastics Prohibition Regulations](#)

Examples include:

- reusable shopping bags that replace single-use and disposable shopping bags
- reusable dishware and cutlery that replace single-use and disposable dishware and cutlery
- reusable straws that replace single-use and disposable straws
- refillable bottles or kegs that can be collected, cleaned and refilled at breweries, cideries or wineries and that replace single-use containers
- refillable jars or other containers that can be cleaned and refilled at a bulk foods store and that replace single-use and disposable plastic bags
- gas cylinders for home carbonation of water and drinks that can be collected, tested for safety and refilled, and that replace single-use and disposable water bottles.

Table 5: Comparing the terms “reusable,” “refillable” and “single-use and disposable” as they relate to plastic items

	Reusable	Refillable	Single-use and disposable
What does the term mean in plain language?	The item was designed to be used multiple times for the same purpose over a lengthy period before being recycled, composted or discarded.	The item was designed to be refilled multiple times over a lengthy period before being recycled, composted or discarded.	The item was designed to be used for a short period of time before being recycled, composted or discarded.
Additional notes	Some jurisdictions have set legal standards for labelling items as “reusable,” such as requiring that the items be reusable for a minimum number of trips or rotations. Items that do not meet these legal criteria would be considered single-use.	Some jurisdictions have set legal standards for labelling items as “refillable,” such as requiring that the items be cleanable and refillable in a commercial setting. Items that do not meet these legal criteria would be considered single-use.	As single-use and disposable items are only used for a short period of time, their use can have a higher environmental impact over their lifecycle compared to refillable and reusable options.

2.5.1 Considerations for designing plastic items that are refillable or reusable

Design for a circular economy

Ask: How many uses (trips or rotations) will this item be able to be used before it loses functionality? Can this product be designed to be more durable and/or repairable in order to enable more uses?

Resources

- Reuse: Rethinking Packaging (Ellen MacArthur Foundation 2019a)
- Designing for Reuse and Circulation of Products and Materials (Ellen MacArthur Foundation 2024)

- A Guide to Opening and Running a Bulk-Reuse Refillery in Canada (Scout Environmental 2021)

Ask: When this item reaches end-of-life, will it be recyclable? If not, could it be designed to be recyclable so that the plastics can be managed in a circular economy?

Resources

- APR Design Guide® (APR 2021)
- Golden Design Rules (The Consumer Goods Forum, 2021)
- The Golden Design Rules for Plastic Packaging – Canadian Guidance (Canada Plastics Pact, 2022)

Label

Ask: What will the consumer need to know in order to maximize the useful life of the item? Provide directions for the consumer on how to use the item properly for maximum reuses or refills and on how to manage it at end-of-life.

Example questions

- Is any special handling required?
- If the item is refillable, where can it be refilled?
- If the item becomes dirty, how can it be cleaned?
- If the item breaks, where can it be repaired, reconditioned or remanufactured?

2.5.2 Applicable standards, certifications and labelling schemes

At the time of this document’s publication, there are no North American standards, certifications or labelling schemes to relay the message that an item is reusable or refillable.

Canadians might see the United Kingdom’s On-Pack Recycling Label (OPRL) on items in store. The OPRL operates a refill labelling system that includes a label for refillables and aims to provide UK consumers with assurance that an item has been designed for and is supported by a system to be refilled in that country (Figure 10). The presence of the OPRL label on an item does not mean the item is refillable in Canada.



Figure 10: OPRL refillable certification labels¹⁴

¹⁴ Source: OPRL (2021), reproduced with permission (copyright OPRL).

2.6 Flushable items

Flushable is used to describe a non-plastic item that can be safely flushed down a toilet without causing damage to municipal wastewater systems and without polluting the environment.

Items are **not** flushable if they:

- do not easily break into small pieces upon contact with water
- are buoyant
- contain plastic.

Municipalities across Canada ask residents to only flush the 3Ps

Many Canadian municipalities currently request that residents only flush “the 3Ps”: pee, poop and (toilet) paper. No manufactured items sold in Canada, other than toilet paper, have met a municipality-endorsed flushability specification (Canadian Water and Wastewater Association (CWWA) (pers. comm. Robert Haller); however, this could change.

Items labelled as flushable are often not actually flushable

The CWWA and the International Waste Services Flushability Group (IWSFG), of which the CWWA is a leading member, currently indicate that all products that do not meet the IWSFG specification should be disposed of in the garbage (IWSFG, pers. comm. Barry Orr). No certification processes for flushables are currently recognized by governments in Canada.

Inappropriately labelled “flushables”, including wipes, cause damage to wastewater systems that cost Canadian municipalities and their ratepayers over \$250 million each year (CWWA 2019). Damage can include “clogged pumps, drain line and sewer blockages, and untreated discharge to lakes and rivers due to combined sewer overflows and backups” (Khan *et al.* 2019). Removal of fatbergs (i.e., rock-like masses of waste matter in sewer systems formed by the combination of flushed non-biodegradable solids, such as wet wipes, and fat, oil and grease deposits) and repairing sewer damage also puts the health of wastewater professionals at risk (CWWA, pers. comm. Robert Haller).

As well, some products labelled as flushable contain plastics (Munoz *et al.* 2018); these products can release microplastics into wastewater and as a result can end up in sewage biosolids that are spread on land (Crossman *et al.* 2020) or enter waterways via the release of treated wastewater (Lee *et al.* 2021).

Table 6: Comparing the terms “flushable” and “biodegradable” as they relate to plastic items

	Flushable	Biodegradable
What does the term mean in plain language?	The item was designed to be safely flushed in the toilet.	The item was designed to break down over time and under specific conditions into carbon dioxide or methane, water and biomass.
Additional notes	According to the directions provided by Canadian municipalities, all items labelled as flushable, other than toilet paper, are not safe to flush and should be disposed of in the garbage.	Without further qualification, this term is not informative. More information is needed about the conditions necessary for biodegradation to occur. Plastic items labelled as biodegradable should not be flushed. These items will not biodegrade in wastewater systems.

2.6.1 Considerations for designing flushable items

Design for a circular economy

Ask: Is the item needed? Can the item instead be redesigned to be durable/recoverable (e.g., refilled, reused, repaired)?

Ask: How can this item be designed for a circular economy following existing standards recognized by Canadian municipalities?

Resource: IWSFG Publicly Available Specification 1: 2020 Criteria for Recognition as a Flushable Product (IWSFG 2020)

Substantiate claims

Ask: Can a third-party certification or accredited label be used to confirm that an item is flushable?

Resource: Publicly Available Specification 1: 2020 Criteria for Recognition as a Flushable Product (IWSFG 2020)

Label

Ask: If consumers might mistake a non-flushable item as flushable, can it be labelled with a “do not flush” or similar label (see Figure 11)?

Resource: Labelling Code of Practice: Communicating Appropriate Disposal Pathways for Nonwoven Wipes to Protect Wastewater Systems, Second Edition (INDA and EDANA 2017)

Avoid: When labelling items that are commonly mistaken as flushable, avoid the following terms:

- biodegradable—because the conditions in a wastewater system are not adequate to enable biodegradation
- natural or organic—because consumers often misunderstand this term as meaning biodegradable or flushable
- disposable—because consumers often assume that disposable items can be flushed.

2.6.2 Applicable standards, certifications and labelling schemes

Standards

- IWSFG Publicly Available Specification 1: Criteria for Recognition as a Flushable Product (IWSFG 2020)
- Guidance Document: Guidelines for assessing the flushability of disposable non-woven products, Edition 4 (INDAs and EDANA 2018)

Certification and associated labelling programs

- IWSFG (label associated with IWSFG standard above) (IWSFG 2020) (See the label in Figure 11).

Labelling programs (standalone)

- Municipal Enforcement Sewer Use Group (MESUG) is a Canadian organization that consists of municipal environmental officers, by-law officers, wastewater operators, environmental technicians, managers and administrators from across Canada (MESUG n.d.). (See the label in Figure 11).
- Labelling Code of Practice: Communicating Appropriate Disposal Pathways for Nonwoven Wipes to Protect Wastewater Systems, Second Edition (INDA and EDANA 2017). (See the label in Figure 11).

			
1. IWSFG “flushable” label	2. MESUG “do not flush” labels		3. “Do not flush” label (INDA and EDANA 2017)

Figure 11: Flushability labels¹⁵

¹⁵ Sources:

1. IWSFG. Image reproduced with permission. Copyright IWSFG.
2. Municipal Enforcement Sewer Use Group. Image reproduced with permission. Copyright: Municipal Enforcement Sewer Use Group
3. INDA. INDA provides these images for free downloading and use in the public domain. https://imisw.inda.org/WCommerce/Do_Not_Flush_Logo.aspx.

2.7 Degradable plastic, including biodegradable, oxo-degradable and photodegradable

Degradable plastic is an umbrella term used for types of plastics that are **designed** to break down more quickly than conventional plastics under specific conditions.

Types of degradable plastics

- **Biodegradable plastic:** Plastic that is designed to degrade, in a defined period of time and under specific conditions as a result of natural biological activity (e.g., bacteria, fungi and algae), into carbon dioxide or methane, mineral salts, water and biomass.
- **Compostable plastic:** Because compostable plastics are the only type of degradable plastics that are designed to undergo enhanced degradation under controlled conditions in a compost facility, they are dealt with separately in **Section 2.8**.
- **Photodegradable plastic:** Plastic designed so that its fragmentation into smaller pieces accelerates when it is exposed to ultraviolet light.
- **Oxo-degradable plastic:** Plastic that is designed to fragment into smaller pieces of plastic when exposed to oxygen and ultraviolet light or heat. Terms used interchangeably with “oxo-degradable plastic” include “oxo-fragmentable plastic,” “oxy-degradable plastic,” “photo- or thermal-degradable plastic,” “pro-oxidant additive containing plastic” and “oxo-plastic” or “oxy-plastic.”
- **Oxo-biodegradable plastic:** Plastic that is designed to first fragment into smaller pieces of plastic when exposed to ultraviolet light or heat **and** then biodegrade.

Important clarifications

1. Most guidance for the terms degradable, biodegradable, photodegradable and oxo-(bio)degradable call for producers to refrain from using these terms on labels for their items unless those items can break down in a manner that does not cause environmental harm.
2. The description of degradable reflects the growing agreement in the scientific community that all degradable items currently on the market **have the potential to cause harm to wildlife or the environment** if they are disposed of inappropriately. For example, there is growing consensus that when littered:
 - most degradable plastics will be present in the environment for long periods of time (months, years, decades or longer) and are a source of plastic pollution that can entangle or be ingested by wildlife
 - photodegradable, oxo-degradable and oxo-biodegradable plastics are designed for accelerated fragmentation and are a source of microplastic pollution
 - biodegradable plastics continue to be plastic pollution that has the potential to cause harm until placed in specific conditions for biodegradation that are not present in the natural environment, which could take months, years or longer.

Figure 12 depicts the categorization of different types of degradable plastics.

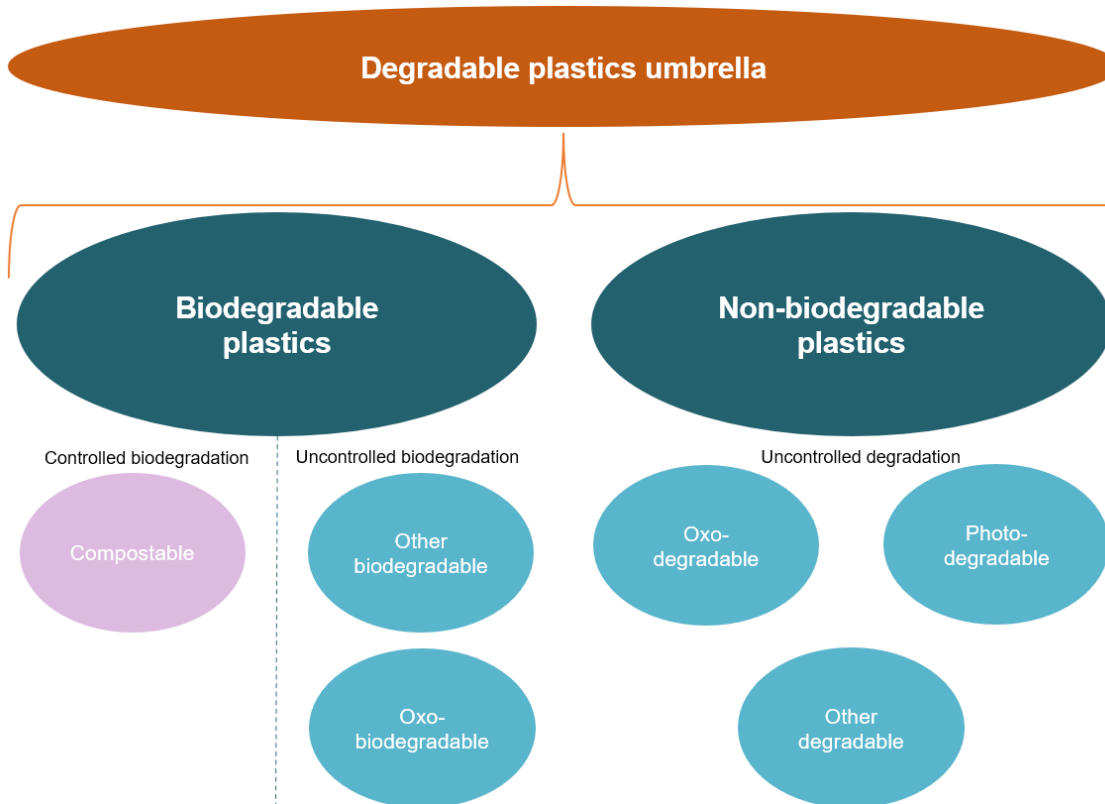


Figure 12: The different types of degradable plastics under the degradable plastics umbrella

The guidance in this section does not apply to compostable plastic

This section of the document provides guidance on degradable plastics designed to break down at an enhanced rate in the uncontrolled conditions that exist in specific natural environments (e.g., in water, soil or full sunlight). Compostable plastics are designed to break down in the controlled conditions of a compost facility. The breakdown of compostable plastics in uncontrolled versus controlled environments varies significantly. As a result, while compostable plastics come under the degradable plastics umbrella, the guidance for compostable plastics is provided separately, in Section 2.8.

Labelling an item as degradable means it was designed for enhanced degradability. However, this label provides little information without further explanation.

Discussions about the degradability of plastics can be confusing. Most conventional plastics are designed to be highly stable, durable and resistant to degradation. This durability often lasts long after the lifecycle of a plastic item is complete. But all conventional plastics will slowly break down (or degrade) into smaller pieces when exposed for a sufficient amount of time to specific

conditions, such as weather, abrasion, impact, ultraviolet light or heat, whether during use or at end-of-life. Conventional plastic exposed to the right conditions will begin to become brittle and fragment into smaller pieces. This is how some microplastic pollution is formed: larger plastic items break down into smaller and smaller pieces until they reach the size of microplastic pollution, i.e., 5 mm in size or less. The length of time it takes (years, decades or longer) for a conventional plastic item to first fragment and then fully break down varies by the type of plastic resin and the conditions to which the plastic is exposed.

When a manufacturer labels a plastic item as degradable (including biodegradable, oxo-degradable, oxo-biodegradable and photodegradable), this generally indicates that the manufacturer is making a claim that its plastic has been designed to break down more quickly than its conventional plastic equivalent under specific circumstances. However, even plastics designed for enhanced degradation could still take months, years, decades or longer to fully degrade; the length of time required will depend on whether the item is placed in the ideal conditions for its enhanced degradation to occur.

When used on a label, the term “degradable” is an umbrella term that encompasses all forms of plastics that have been designed for enhanced degradability (see Figure 12). Each resin within each category of degradable plastics (e.g., biodegradable, oxo-biodegradable and photodegradable) is designed to break down under specific conditions (e.g., heat, temperature, exposure to ultraviolet light) in a specific amount of time. As a result, labelling an item as degradable is considered unclear and misleading.

A degradability label does not necessarily indicate that an item will degrade before it causes harm to wildlife or the environment

At present, there are no standards or certification systems available in North America to test claims of enhanced degradability for plastics (except for compostable plastics; see Section 2.8), nor are there tests to assess the likelihood of those plastics causing harm in the environment as they degrade.

In the case of oxo-degradable, oxo-biodegradable and photodegradable plastics, these plastics have been designed with an additive that speeds up their fragmentation into microplastics and other chemicals, but they do not fully degrade in an acceptable amount of time under any conditions and cause harm to the environment. Biodegradable plastics are designed to biodegrade in specific conditions (e.g., a composter). Biodegradation in uncontrolled conditions (such as litter in the open environment) or in unsuitable conditions for a specific plastic, can take a significant amount of time (i.e., months, years, decades or centuries). Biodegradable plastics that are littered or leaked into the environment can cause environmental harm (e.g., wildlife may become entangled, or the plastic may break down into microplastics that, when ingested, can carry toxins and bioaccumulate over the lifetime of an animal) (see Figure 13).

Likewise, oxo-biodegradable plastics lying on shorelines will be exposed to ultraviolet light and fragmentation will occur. But, according to UNEP (2015), once fragmentation occurs, those plastics often become buried in sediment or enter the water column and degradation slows

dramatically; once in the water, these fragmented plastics become available to interact with wildlife and cause harm.

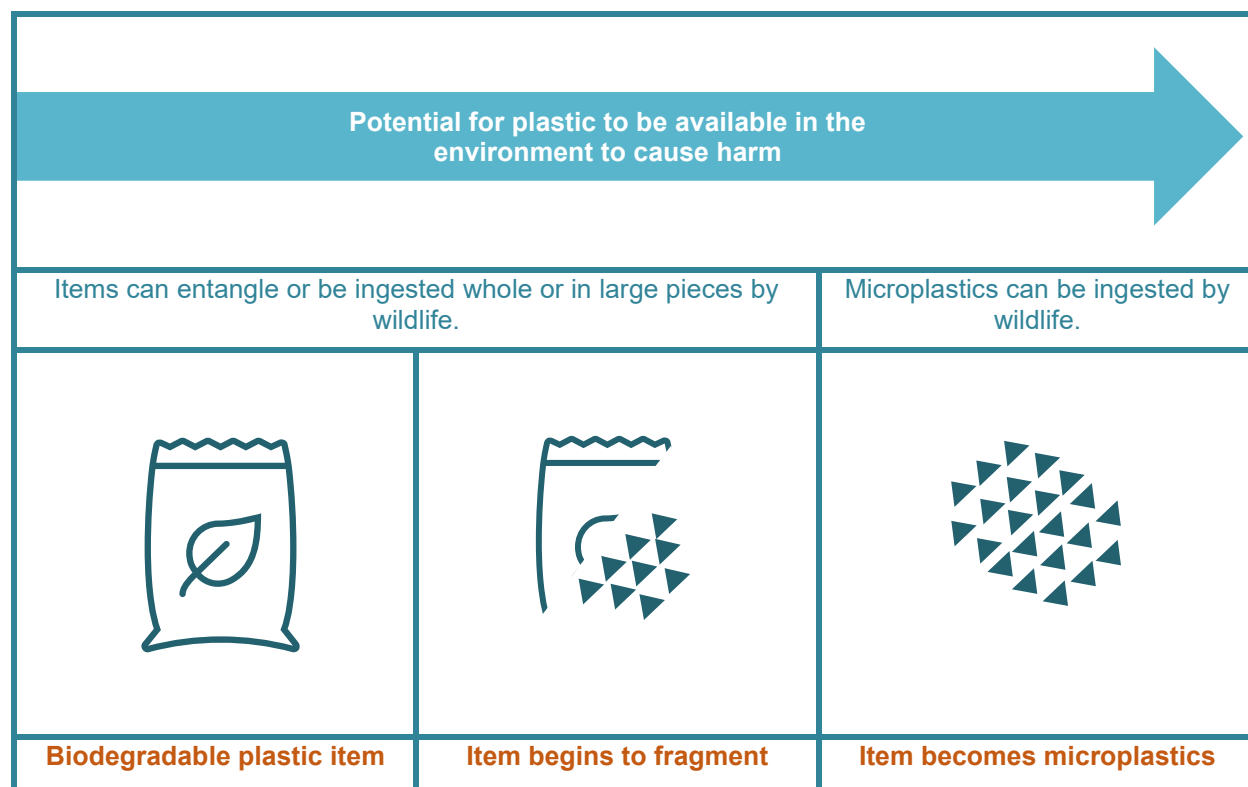


Figure 13: Potential issues associated with biodegradable plastic items

As a result, in Canada these types of plastic are considered a source of microplastic pollution that has the potential to harm wildlife and natural ecosystems (Environment and Climate Change Canada and Health Canada 2020, Ellen MacArthur Foundation 2019b, Eunomia 2016, European Commission 2018).

Plastics can be designed to degrade in four main ways (Webb *et al* 2013):

1. Photodegradation: These plastics are designed to degrade under ultraviolet light, which causes changes to the surface of the plastics (e.g., discolouration, brittle surfaces, surface hardening and decreased mechanical properties).
2. Thermal degradation (also called thermo-oxidative degradation): These plastics are designed to degrade when exposed to heat along with oxygen. This form of degradation causes oxygen atoms to be incorporated into the plastic and this causes the plastic to turn brittle and fragment.
3. Hydrolytic degradation: These plastics are designed to degrade in water. This form of degradation causes the bonds in the plastic to break down when exposed to water.

4. Biodegradation: These plastics are designed to be consumed by microorganisms, which convert the carbon in the plastic into gases (e.g., carbon dioxide or methane) or cause it to be incorporated into biomolecules. One way plastic can be designed is to biodegrade through composting.

Items can be designed to be biodegradable in three ways:

- Composting: These plastics (e.g., certified compostable plastic bin liners) are designed to degrade in an industrial compost facility. For more information on the term “compostable,” see Section 2.8.
- Biodegradation in soil: These plastics (e.g., biodegradable mulch film) are designed to degrade when buried and exposed to the natural biological activity that exists in soil (Hayes and Flurry 2018).
- Biodegradation in the marine environment: These plastics (e.g., some thermoplastic starches) are designed to degrade when exposed to the natural biological activity that exists in a marine environment (Barron and Sparks 2020). Items marketed as biodegradable may not compost.

All compostable items are biodegradable, but not all biodegradable items are compostable. Compostable plastics are a sub-category of biodegradable plastics. Only items labelled as compostable have the potential to be composted. For more information on compostable plastics, see Section 2.8.

Items marketed as biodegradable or compostable may not break down in other types of organics processing facilities

Across Canada, municipalities are investing in anaerobic digestion facilities, sometimes also called biogas facilities. These facilities process organic materials in the absence of oxygen to produce biogas and digestate. The digestate can be used for various purposes, including land spreading and as a feedstock to compost. Anaerobic digestion breaks down organic materials relatively quickly and can be effective at lower temperatures when compared to composting facilities, but these conditions are often inadequate for processing biodegradable and compostable plastics. Because biodegradable and compostable plastics cannot be practically differentiated from conventional plastics, they are often screened out prior to the composting process and disposed of (European Bioplastics Association 2015; City of Toronto n.d.).

Degradable plastics cannot usually be recycled

Degradable plastics (in all forms) are considered a contaminant in most recycling systems. Most mechanical sorters are unable to easily separate these from conventional plastics, and degradable plastic polymers negatively affect the quality of the recycled material (i.e., recyclate or reprocessed plastic resins) (Eunomia 2016; Recycle BC 2019).

Biodegradable plastics may not be bio-based

Biodegradable plastics can be made in part or in whole from fossil fuels. This is discussed in more detail in Section 2.9.

Table 7: Comparing the terms “degradable,” “biodegradable and “compostable” as they relate to plastic items

	Degradable	Biodegradable	Compostable
What does the term mean in plain language?	The item has the potential to break down into smaller pieces over time if specific conditions are met (e.g., exposure to a minimum temperature, ultraviolet light, access to oxygen).	The item has the potential to break down over time into carbon dioxide or methane, water and biomass if specific conditions are met (e.g., exposure to a minimum temperature, ultraviolet light, access to oxygen).	The item might be able to be collected and processed into compost through a local organics diversion system.
Additional notes	Does not provide information about how to manage the item at end-of-life (i.e., the conditions necessary for degradation to occur).	Does not provide information about how to manage the item at end-of-life (i.e., the conditions necessary for biodegradation to occur). Does not mean an item can be locally composted.	Does not mean an item can be locally composted or that an item can be accepted for processing in all types of organics processing technologies (e.g., in-vessel or anaerobic digestion).
	Does not provide information about the risks littering the item will pose to wildlife or the natural environment.		

2.7.1 Considerations for designing degradable plastic items

Design for a circular economy

Municipalities across Canada direct that items labelled as biodegradable, oxo-biodegradable or photodegradable should be disposed of in the garbage. These items are not accepted in composting, anaerobic digestion or recycling systems because they are known contaminants in these systems.

Ask: Is the item needed? Can the item instead be redesigned to be durable/recoverable (e.g., refilled, reused, repaired)?

Ask: Is the intent for the plastic item to be processed at organic processing facilities (e.g., composting systems or anaerobic digestion facilities) or recycling facilities when it reaches end-

of-life? If so, can the item be redesigned to be recoverable (e.g., reused, repaired, recyclable or compostable)?

Resources

- APR Design Guide® (APR 2021)
- Golden Design Rules (The Consumer Goods Forum, 2021)
- The Golden Design Rules for Plastic Packaging – Canadian Guidance (Canada Plastics Pact, 2022)
- Several active standards relating to degradable (including compostable) plastics (ASTM 2019)

Substantiate claims

Ask: Can a third-party certification or accredited label be used to confirm that an item is compostable under controlled conditions?

Resource: The Biodegradable Products Institute (BPI) and Bureau de normalisation du Quebec (BNQ) certify products against accredited standards for compostable products (see Section 2.8.2).

2.7.2 *Applicable standards, certifications and labelling schemes*

Standards

- ASTM has not developed standards for degradable, oxo-degradable or photodegradable plastics (in general).
- ASTM has developed the following standards (ASTM; 2019) for biodegradability of plastics, including:
 - ASTM D6691-17 Standard Test Method for Determining Aerobic Biodegradation of Plastic Materials in the Marine Environment by a Defined Microbial Consortium or Natural Sea Water Inoculum
 - ASTM D5998-18 Standard Test Method for Determining Aerobic Biodegradation of Plastic Materials in Soil
 - ASTM D7991-21 Standard Test Method for Determining Aerobic Biodegradation of Plastics Buried in Sandy Marine Sediment under Controlled Laboratory Conditions
 - ASTM D5526-18 Standard Test Method for Determining Anaerobic Biodegradation of Plastic Materials Under Accelerated Landfill Conditions
 - ASTM D5511-18 Standard Test Method for Determining Anaerobic Biodegradation of Plastic Materials Under High-Solids Anaerobic-Digestion Conditions
- ASTM has also developed two standards for the subset of biodegradable plastics that are compostable (see Section 2.8).

- The ASTM Committee D20.96 on Environmentally Degradable Plastics and Biobased Products is currently developing several new standards (ASTM n.d.b; 2019), including:
 - WK75797 Non-Floating Biodegradable Products in the Marine Aqueous Environment
 - EN 17033:2018 Plastics—Biodegradable Mulch Films for Use in Agriculture and Horticulture—Requirements and Test Methods (European Standard 2018). (This standard was adopted in California.)

Certification and associated labelling programs

None exist.

2.8 Compostable plastics

Compostable plastic means a biodegradable plastic that:

- is designed to break down in the controlled conditions and processing timeline of an industrial compost facility **and**
- leaves no visible, distinguishable or toxic residue in the final compost

See **Section 2.7** for a plain-language description of biodegradable plastic.

Composting is also considered organics recycling

A plastic item with a certification mark means the item meets minimum standards for composting facilities. The BNQ (Bureau de normalisation du Québec) and BPI (Biodegradable Products Institute) are two North American organizations that certify to accredited standards for compostable products (see Section 2.8.2 for more information on certified compostables).

Items labelled as compostable may not be accepted in all local organics processing systems

Plastic items could technically be compostable but not be locally compostable because local systems are not in place or are not designed to accept and process these items.

Very few municipally or commercially operated organics processing systems in Canada accept and process compostable plastics, regardless of whether those plastics are certified as compostable. There are several reasons for this, for example (NZWC 2018):

- Compostable plastics could be screened out before being processed at compost or anaerobic digestion (also called biogas) facilities. Facilities' screening protocols often pull conventional plastic packaging out of the compost or biogas stream, and as compostable packaging is difficult to distinguish from conventional plastic packaging, it is removed as well.
- Most industrial organic waste facilities are optimized to process food and yard waste, which can be processed rapidly. If compostable plastics do not effectively disintegrate (or degrade) in the facility's conditions in this time period, they will be screened out of the finished product and disposed.

Compostable items are often not recyclable

Compostable plastics made from bioplastics (see Section 2.9) can be labelled with an ASTM resin identification code (or RIC) of "7-Other" or "7-PLA," where PLA stands for polylactic acid (a plastic that is made from starch or sugar cane). As discussed in Section 2.2, RICs are not an indicator of recyclability, though many consumers believe that they are.

Compostable plastics are a known contaminant in conventional plastics recycling streams and they are difficult to sort out at material recovery facilities (MRFs) (Recycle BC 2019). As such, they should not be put into the recycling system.

Éco Entreprises Québec (ÉEQ) (2021) and Recycle BC (2019) explain that compostable plastics are very difficult to separate from conventional plastics at MRFs. If they are sorted out at these facilities, the material is sent to landfill for disposal. If they are not sorted out, then they become a source of contamination in the conventional plastics recycling stream.

“Certified compostable” does not mean you can add these items to your backyard compost bin

Some compostable plastics may claim to be “home compostable.” This claim should not be confused with “industrial compostable,” and products labelled as “home compostable” are not intended to be managed in industrial composting facilities. Likewise, products designed to break down in an industrial facility may not break down in a home backyard compost system. While there is no certification program in North America for home composting, labels from other jurisdictions may appear on products in Canada.

2.8.1 Considerations for designing compostable plastic items

Design for a circular economy

Currently, very few municipalities across Canada accept compostable plastics as feedstock into their composting systems. Of those that do allow some compostable plastics, most only accept certified compostable plastic bags.

Ask

- Is the item needed? Can the item instead be redesigned to be durable/recoverable (e.g., refilled, reused, repaired)?
- Is the consumer likely to have access to a local organics diversion program that will accept the item? For example, if they are using the plastic item away from home, will they have a place to deposit the material so that it will make it into an organics diversion program? If not, can the item be redesigned to recover its value or be recyclable instead of compostable?
- Will the consumer be likely to mistake the compostable plastic item as being recyclable and put it into the wrong disposal stream? If so, can the item be redesigned to be recyclable instead of compostable? Or can the item be labelled clearly to prevent consumer confusion?

Resources

- ASTM has published two active standards relating to compostable plastics (see Section 2.8.2).
- The Biodegradable Products Institute (BPI) and Bureau de normalisation du Québec (BNQ) certify products against accredited standards for compostable products (see Section 2.8.2).
- Compost Manufacturing Alliance operates a field-testing system to test and confirm whether certified compostable items will compost in operating composting systems (Compost Manufacturing Alliance, n.d.).

Use

Ask

- Will the way in which the compostable item be used enable it to be compatible with the end goal of producing a high-quality compost?
- Will the contents of the packaging or the use of the item place it in contact with materials that might contaminate the final compost?
- Will its use allow it to be easily separated and distinguishable from recyclable items?

Substantiate claims

Ask: Can a third-party certification or accredited label be used to confirm that an item is compostable?

Resources

The Biodegradable Products Institute (BPI) and Bureau de normalisation du Quebec (BNQ) certify products against accredited standards for compostable products (see Section 2.8.2).

Label

Ask: Can the item be labelled with clear instructions to identify the conditions needed for composting to occur so that the consumer will understand how to properly use and manage the item when it reaches end-of-life?

Resource: BNQ and BPI operate labelling systems for certified compostable plastics (see Section 2.8.2).

2.8.2 Applicable standards, certifications and labelling schemes

Standards for the industrial composting of compostable plastics

- ASTM Standards (ASTM n.d.b; 2019)
 - D6400 Standard for the Specification for Compostable Plastics
 - D6868 for Biodegradable Plastics Used as Coatings on Paper and Other Compostable Substrates
- ISO Standards (global standard)
 - ISO 17088:2021 Plastics—Organics recycling—Specifications for compostable plastics (ISO 2021)
 - 18606:2013 Packaging and the Environment—Organic Recycling (ISO 2013)
- CAN-BNQ standard 9011-911 – Compostable Plastic Bags - Certification Program

Certification and associated labelling programs for the industrial composting of compostable plastics

- BNQ certifies compostable products against accredited standards for compostable products. Readers can learn more about the certification and view the certification mark at the BNQ website: bnq.qc.ca/en/standardization/environment/compostable-plastics.html.
- Biodegradable Products Institute certifies compostable products against ASTM standards (BPI 2021a). Readers can learn more about the certification and view the certification mark at the BPI website: <https://products.bpiworld.org/>
- The Compost Manufacturing Alliance field tests certified compostable items for practical compostability in North American compost facilities (windrow and in-vessel)(Compost Manufacturing Alliance, n.d.).

Standards for the home composting of compostable plastics

No current standards establish a test for home composting operating in Canada.

Certification and associated labelling programs for the home composting of compostable plastics

While there is no certification program in North America for home composting, labels from other jurisdictions may appear on products in Canada, including TÜV Austria which certifies compostable plastics against its OK compost HOME certification program (TUV Austria n.d.a).

2.9 Bioplastics, including bio-based, bio-sourced and plant-based plastics

Bioplastic is an umbrella term used to describe items that are:

- bio-based (partly or fully) **or**
- biodegradable (including, but not necessarily, compostable) **or**
- **both bio-based (partly or fully) and biodegradable (Section 2.7).**

For example, the term “bioplastic” can be used to describe:

- fossil-based plastics that biodegrade (e.g., polycaprolactone)
- bio-based plastics that **do not** biodegrade (e.g., bio-based polyethylene terephthalate, bio-based polyethylene)
- bio-based plastics that biodegrade (e.g., polylactic acid or starch blends).

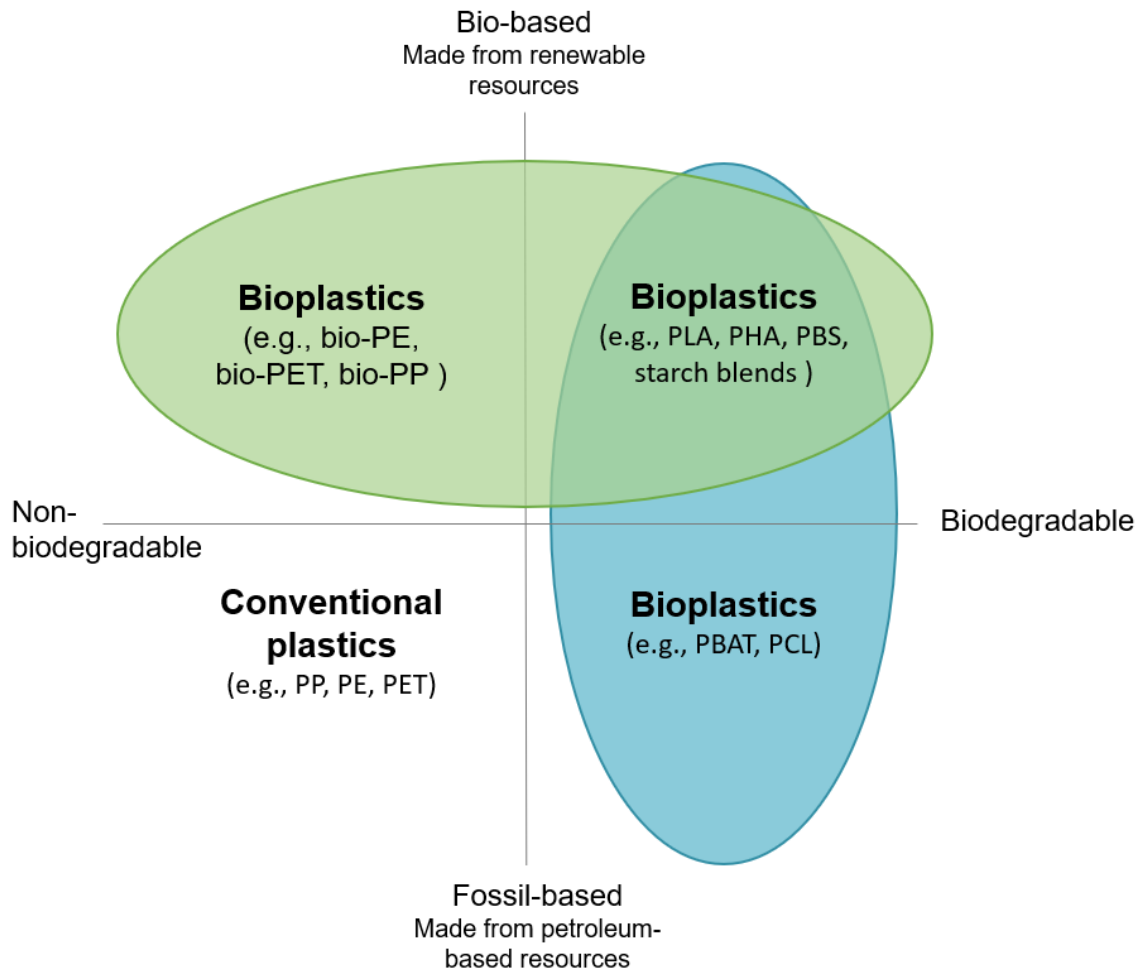
The term “bioplastic” excludes conventional plastics, meaning fossil-based plastics that do not biodegrade.

Bio-based or bio-sourced plastic is a type of plastic that is partly or fully made from renewable materials such as plants, animals or microbes, but this does not necessarily mean the item is biodegradable.

Plant-based plastic is a type of plastic that is partly or fully made from plants, but this does not necessarily mean the item is biodegradable.

Bioplastics, bio-based plastics and plant-based plastics may not be 100 per cent bio-based

Bioplastics can be wholly made from fossil fuels. Bio-based plastics must be made from some portion of renewable resources such as plants, animals and microbes, and plant-based plastics must be made from some portion of plant-based materials (Figure 14). In Canada, there is no minimum requirement for the amount of bio-based content that must be included in items that are labelled as bio-based or plant-based. However, other jurisdictions have set minimum requirements. For example, the United States requires a minimum 25 per cent bio-based content or higher (depending on the product) for an item to be labelled as bio-based (United States Department of Agriculture 2018). Where a claim of bio-based or plant-based plastic is made, the percentage of bio-based or plant-based material should be included, as well as an indication of what it applies to (e.g., whether it applies to the whole item or a single component of the item).



Biodegradable means designed to degrade in a defined period of time and under specific conditions. Do not assume bioplastics, bio-based plastics and plant-based plastics are recyclable, biodegradable or compostable.

Figure 14: Plastics within the bioplastics spectrum^{16,17}

Bioplastics, bio-based plastics and plant-based plastics may not be recyclable, biodegradable or compostable

The terms “bioplastic” and “bio-based plastic” provide little information about the plastic’s proper end-of-life management.

- Some bioplastics and bio-based plastics are chemically identical to conventional plastics (e.g., bio-polyethylene terephthalate or bio-PET). These are called “drop-in plastics” or “drop-in chemicals” because they can be “dropped into” existing manufacturing processes to replace a conventional plastic (European Bioplastics Association n.d.). These plastics could be recyclable, but they are not biodegradable or compostable.

¹⁶ Plastics acronyms are listed and defined in the table of acronyms.

¹⁷ Image content was adapted from the European Bioplastics Association, n.d. What are bioplastics? European Bioplastics Association, Berlin. <https://www.european-bioplastics.org/bioplastics/>.

- Some bioplastics are 100 per cent fossil-based plastics and are biodegradable or compostable (European Bioplastics Association n.d.). These plastics could be contaminants in the recycling stream.
- Some bioplastics and bio-based plastics could be biodegradable but might not be compostable. These could contaminate both the compost and recycling streams.
- Other bio-based plastics are compostable. These plastics could be contaminants in the recycling stream.

Table 8: Comparing the terms “bioplastic,” “bio-based plastic,” “bio-sourced plastic,” “plant-based plastic” and “biodegradable plastic” as they relate to plastic items.

	Bioplastic	Bio-based plastic Plant-based plastic	Biodegradable
What does the term mean in plain language?	The term indicates that the item was designed differently than conventional plastics and has at least one special characteristic that conventional plastics do not have. Bioplastic items could be: • Made partly or fully from renewable resources (e.g., plants, animals or microbes), or • designed to be biodegradable, or • both This term means the item might be biodegradable.	The term indicates information about the source of some or all of the materials the item was made from. Bio-based items are made partly or fully from renewable resources (e.g., plants, animals or microbes). Plant-based items are made partly or fully from plants. These terms do not mean the item is biodegradable.	The term means that an item has the potential to break down over time into carbon dioxide or methane, water and biomass if specific conditions are met (e.g., exposure to a minimum temperature, ultraviolet light, access to oxygen). Biodegradable items could be made from fossil-based or renewable resources (e.g., plants, animals or microbes) or both. This term does not mean the item can be locally composted.

	Bioplastic	Bio-based plastic Plant-based plastic	Biodegradable
Additional notes	Without further qualification, the term is not informative. It does not provide information about how to manage the item at end-of-life. It does not provide information about the risks that littering the item will pose to wildlife or the natural environment. It does not provide information about the ingredients the item was made from.	Bio-based and plant-based plastics could be made in part from fossil fuels. The term does not provide information about how to manage the item at end-of-life. It does not provide information about the risks that littering the item will pose to wildlife or the natural environment. It does not provide information about all of the ingredients the item was made from.	It does not provide information about how to manage the item at end-of-life (i.e., the conditions necessary for biodegradation to occur). It does not provide information about the risks that littering the item will pose to wildlife or the natural environment. It does not provide information about the ingredients the item was made from.

2.9.1 Considerations for designing bio-based, plant-based or bioplastic items

Design for a circular economy

Ask: Is the item needed? Can the item instead be redesigned to be durable/recoverable (e.g., refilled, reused, repaired)?

Ask: Will the item be widely accepted for recycling or composting? If not, can this product be redesigned to ensure it can be more easily collected, sorted and processed into by recycling or composting?

Resources

- Compendium of Recyclability Guidelines (CCME 2025)
- APR Design Guide® (Association of Plastic Recyclers 2021)
- Golden Design Rules (Consumer Goods Forum 2021)
- The Golden Design Rules for Plastic Packaging – Canadian Guidance (Canada Plastics Pact, 2022)
- The Biodegradable Products Institute (BPI) and Bureau de normalisation du Québec (BNQ) certify products against accredited standards for compostable products (see Section 2.8.2).
- Compost Manufacturing Alliance operates a field-testing system to test and confirm whether certified compostable items will compost in operating composting systems (Compost Manufacturing Alliance n.d.).

Substantiate claims

Ask: Can evidence be collected to substantiate claims about the amount of bio-based content and the source of the bio-based content (i.e., plant, animal or microbe) used and to communicate these claims to customers?

Resources

- ASTM D6866: Test Methods for Determining the Biobased Content of Solid, Liquid and Gaseous Samples Using Radiocarbon Analysis (ASTM n.d.a).
- OK biobased (TUV Austria n.d.b). In North America, TUV Austria tests against the ASTM standard.

Label

Ask: Can a third-party accredited label be used to identify the source and percentage of the bio-based content?

Resource: United States Department of Agriculture BioPreferred Program (n.d., 2017, 2018)

2.9.2 Applicable standards, certifications and labelling schemes

Standards

- ASTM D6866: Test Methods for Determining the Biobased Content of Solid, Liquid and Gaseous Samples Using Radiocarbon Analysis (ASTM n.d.a).

Certification programs

- OK biobased (TUV Austria n.d.b). In North America, TUV Austria tests against the ASTM D6866 standard.

Labelling programs (standalone)

- The USDA Certified Biobased Product Label, operated by the United States Department of Agriculture, is a labelling system for products made from a minimum of 25 per cent bio-based materials (United States Department of Agriculture n.d.). Canadians might see this label on their items in stores.

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APPENDIX 1: WHAT ARE STANDARDS, CERTIFICATIONS AND LABELS?

What is a standard?

According to the Standards Council of Canada (SCC), a standard is “a document that provides a set of agreed-upon rules, guidelines or characteristics for activities or their results” (2020). Standards define the criteria that should be met to make specific environmental claims (e.g., that an item is compostable). In Canada, the SCC has accredited several organizations, called standards development organizations (SDOs), to develop standards for Canada, including:

- CSA Group (formerly called the Canadian Standards Association)
- BNQ: Bureau de normalisation du Québec (BNQ)
- ASTM International (ASTM).

Relevant to this document, CSA Group has established the following ISO standard for Canada:

- CSA ISO 14021:20 Environmental labels and declarations—Self-declared environmental claims (Type II Environmental Labelling). This is equivalent to ISO 14021:2016, second edition.

What is a certification?

Certification is a process where an accredited third party verifies whether a claim meets the requirements of a standard. If the claim meets the standard, then the claim can be certified.

What is a label?

Environmental labels are a tool that enable brand owners to communicate an environmental attribute about their product, package or component to consumers. The use of a label can be self-declared or self-administered or can be administered by a third party.

Often, certification systems are associated with labels (i.e., items that are certified are permitted to carry the label). For example, the BNQ developed a standard called Specifications for Compostable Plastics, CAN/BNQ 0018-088 (2008). Producers can have their products tested against the standard at an accredited lab. If they pass the test and are certified as having met the specifications, then they are eligible to carry the BNQ “compostable” label.

APPENDIX 2: SAMPLE COMMUNICATIONS

Tackling Plastic Pollution

Recyclable

CCME

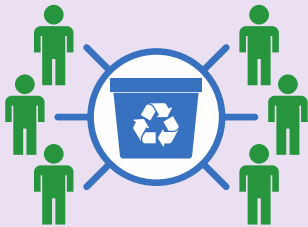
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What does "recyclable" mean?

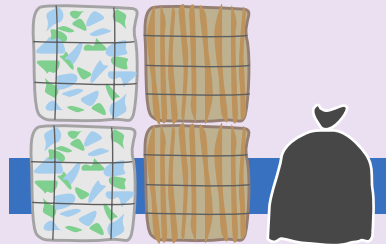
1

Consumers have reasonable access to a recycling program.



2

Local facilities can properly collect, sort and process the material.



3

A manufacturer can use the recycled materials to make new items



Canada's shared commitment

The Canada-wide Strategy on Zero Plastic Waste and associated Action Plan, adopted by federal, provincial and territorial governments, identifies priority actions to achieve the vision to stop plastic waste and pollution and to keep plastics in the economy and out of the environment.

The Ocean Plastics Charter championed by Canada during its G7 Presidency in 2018 includes the following commitments:

- working with industry to reach 100% reusable, recyclable, or, where viable alternatives do not exist, recoverable plastics by 2030
- working with industry and other orders of government to reach recycling and reuse of at least 55% of plastic packaging by 2030 and the recovery of 100% of all plastics by 2040



What to look for...

Check:

- ✓ Does your local waste service provider accept the specific type of item or packaging?
- ✓ Is the entire item recyclable, or only parts of it (e.g., do you need to remove caps, labels or pumps)?
- ✓ Are additional steps required (e.g., rinse) to properly recycle the item?

Did you know?



The chasing arrow symbol or an item that contains recycled content does not mean that an item is recyclable.

Resin identification numbers indicate the type of plastic an item is made of, not whether it is recyclable.



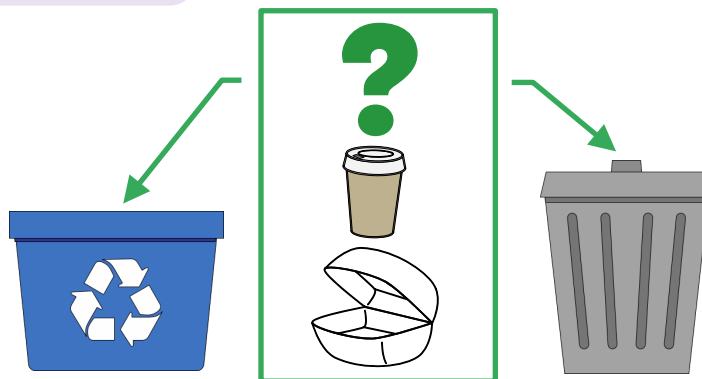
Tackling Plastic Pollution

Recyclable

Unsure about what can be recycled?

Waste management programs can be different at home, school, work, stores, recreation centres or the other places you visit.

Check out your local programs to learn more about what can be recycled near you.



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The design of a plastic package or product can impact its ability to be properly sorted and processed. Seemingly minor variations can make a big difference, such as:

shape	size	weight	adhesives and inks used	multi-resins (multi-types of plastic in one product)	colourants used*

*Some dyes make plastic difficult to recycle.

The ability for an item to be recyclable depends on local conditions:



Collection: If and how materials are collected can impact their ability to be effectively sorted and recycled.



Technology: Recycling facilities have different technologies for properly sorting and processing materials.



Markets: Demand for materials might not exist in certain locations, or it might be too cost-prohibitive to ship recyclables large distances to reach a market.

Why recycle properly?

Participating in local recycling and waste programs helps to:

- Reduce the need for new raw materials
- Retain the value of plastics in economy
- Keep plastics out of landfills and the environment

A snap shot of plastic waste in Canada



Pilot Physical Flow Account for Plastic Material (2019 Data). Statistics Canada, 2023

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Recyclable

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WHAT'S THE DIFFERENCE?



Recyclable

There is no universal standard to indicate a product is recyclable.

An item labelled recyclable may or may not be accepted by local recycling programs.

Check first with your local waste service provider to see if the item is actually recyclable locally.



Compostable

Compostable does not mean recyclable. Do not mix compostables and recyclables.

Check with your local waste service provider whether the compostable item is accepted in your organics collection program. If not, put it in the garbage.



Recycled content

Recycled content means that at least a portion of the item was made from recycled materials.

Even if an item includes recycled content, that does not necessarily mean it is recyclable. An item is only recyclable if local programs have the ability to properly collect, sort and process the item.

For more information:

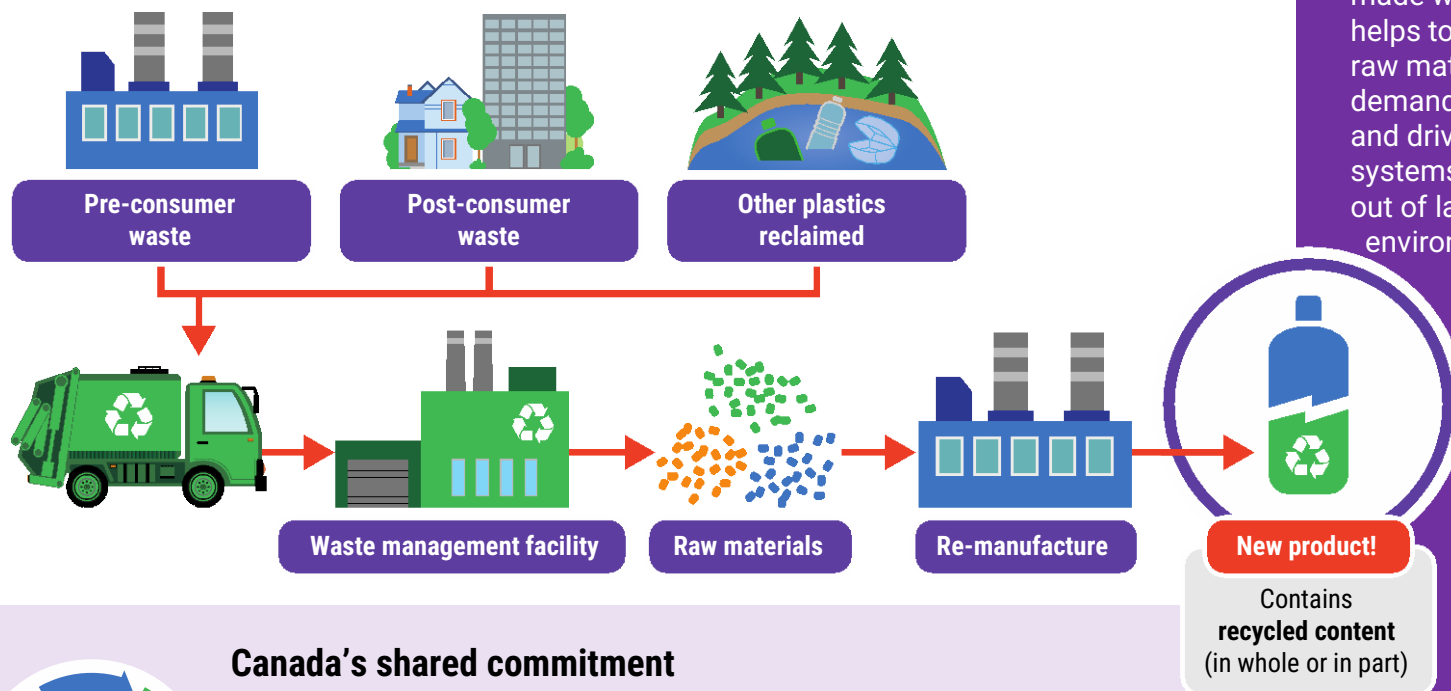
- CCME guidance on the use of labels and terms for plastic products and packaging
- [Competition Bureau Canada](#)
- [How2Recycle](#)
- [Association of Plastic Recyclers](#)

Tackling Plastic Pollution

Recycled Content

The term **recycled content** refers to the proportion of an item that is made from materials recovered from a waste stream or from the environment.

An item contains recycled content if it is made, in whole or in part, from reprocessed plastic resins.



Why is recycled content important?

Money is rarely found on the ground—because it has value. The more demand there is for products that contain recycled content, the more value there is in collecting and recycling materials.

When more products are made with recycled content, it helps to reduce the need for new raw materials, increase the demand for recycled products and drives coordinated collection systems that in turn keep plastic out of landfills and the environment.



Canada's shared commitment

The Canada-wide Strategy on Zero Plastic Waste and associated Action Plan, adopted by federal, provincial and territorial governments, identifies priority actions to achieve the vision to stop plastic waste and pollution and to keep plastics in the economy and out of the environment. The Ocean Plastics Charter commits to working with industry to reach at least 50% recycled content in plastic products, where applicable, by 2030.

Tackling Plastic Pollution

Recycled Content

CCME

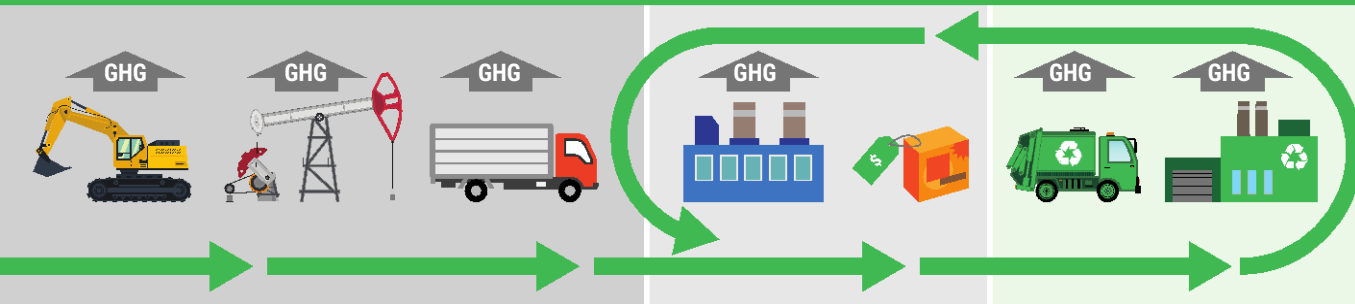
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For more information:

- CCME guidance on the use of labels and terms for plastic products and packaging
- [Competition Bureau Canada](#)
- [US Federal Trade Commission](#)
- [Association of Plastic Recyclers](#)

Recycling helps reduce the demand and amount of resource extraction, and related greenhouse gas (GHG) emissions.



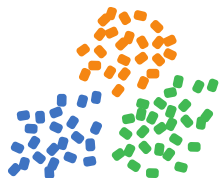
WHAT'S THE DIFFERENCE?



Recycled content

"Recycled content" means that the item includes plastic that would have otherwise been disposed of in landfill or become litter.

Just because an item has recycled content does not necessarily mean that it can be recycled. Check with your local waste service provider to see if they can accept it.



Post-consumer plastic or reclaimed plastic

This means plastic that has been recovered from a waste stream after a product's end use or from the environment. When it is used in a new item, it is considered recycled content.



Recyclable

An item labelled "recyclable" has the potential to be recycled in local recycling programs. Check first with your local waste service provider.

Tackling Plastic Pollution

Single-Use and Disposable Plastics

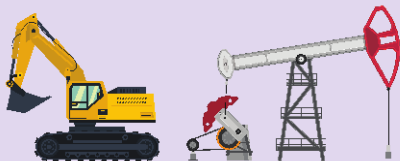
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What does "single-use plastic" mean?

The term **single-use and disposable plastic** refers to a plastic item that was designed with the intent to be used only once or for a short period of time for its original purpose before it loses its original functionality, physical capacity or quality before it is discarded. The term **short-used plastic** is used interchangeably with **single-use and disposable plastic**.



TAKE

Extract resources,
process raw materials



MAKE

Manufacture for
short-term use



USE

Use once or for a short
time, quickly diminishing
functionality or quality

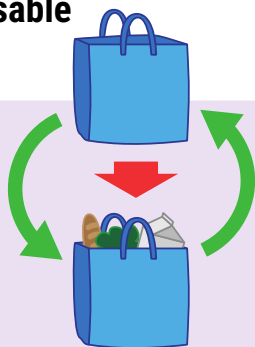


DISPOSE

Recycle or
dispose

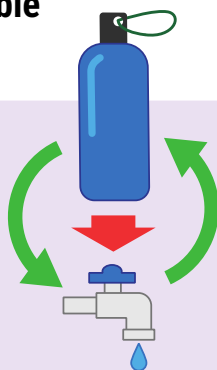
Reusable

Reusable bag



Refillable

Refillable bottle



Single-use

Disposable cup



How can I use less single-use and disposable plastic?

Check:

- ✓ Whether you need the plastic item in the first place.
- ✓ For reusable or refillable alternatives.
- ✓ Whether the plastic item is locally recyclable or compostable.
- ✓ If there are additional directions for recycling the item (e.g., rinse).
- ✓ How to recycle or dispose of the plastic items according to your local waste systems.

Tackling Plastic Pollution

Single-Use and Disposable Plastics

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Sustainable Alternatives to Single-Use and Disposable Plastic

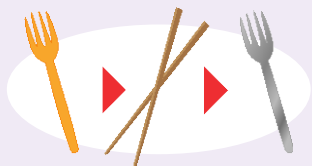
Here are some alternatives to help you reduce your single-use and disposable plastic usage.



thin plastic bag | reusable bag



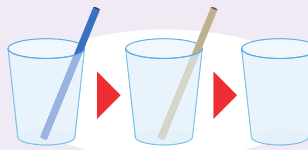
disposable bottle | reusable bottle



plastic cutlery | reusable cutlery



disposable cup | reusable mug



plastic straw | reusable or no straw

Did you know?

The ability to reuse a single-use or disposable item does not make it reusable by definition.

Reusable and refillable items are designed and intended to be used multiple times for the same purpose without losing their original functionality. For example, the following are NOT considered reusable:

- Disposable shopping bags used for a second time as a garbage bag
- Disposable cutlery, straws, dishware or take-out food containers washed and used again

Canada's shared commitment



The Canada-wide Strategy on Zero Plastic Waste and associated Action Plan, adopted by federal, provincial and territorial governments, identifies priority actions to achieve the vision to stop plastic waste and pollution and to keep plastics in the economy and out of the environment. This includes publishing *A Roadmap to Strengthen the Management of Single-Use and Disposable Plastics*. More information can be found at: <https://ccme.ca/en/resources/plastic-waste>.

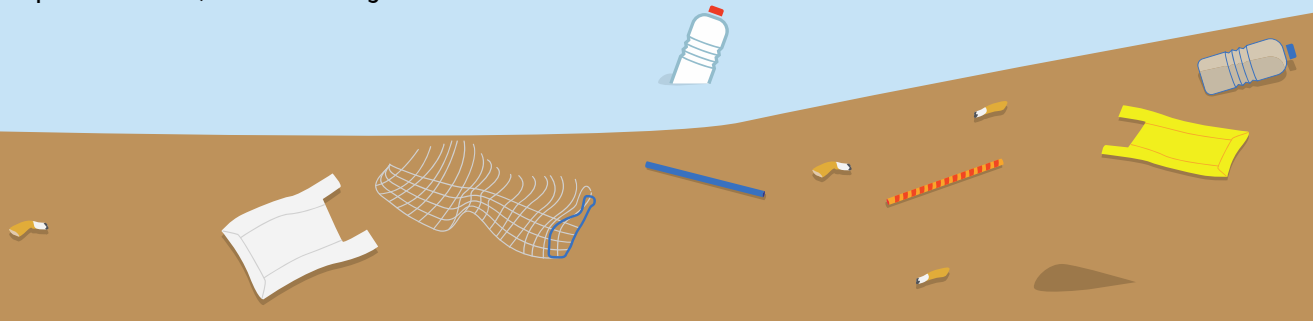
The Ocean Plastics Charter commits to working with industry to reach a significant reduction in the unnecessary use of single-use and disposable plastics.

Tackling Plastic Pollution

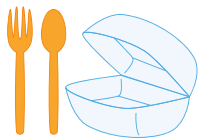
Single-Use and Disposable Plastics

Why are single-use and disposable items an important consideration?

Single-use and disposable plastics make up the bulk of plastic litter that is found across shorelines in Canada. The most common litter items collected on Canadian shorelines include bottle caps, plastic bags, plastic bottles, straws and cigarette butts.



WHAT'S THE DIFFERENCE?



Single-use or disposable

The item is intended for one use or for short-term use and is therefore not designed to be durable.



Reusable or refillable

Reusable and refillable items are designed and intended to be used multiple times for the same purpose without losing their original functionality.

Refillable items also require a system to be in place in order for them to be refilled.

Reusing an item for an additional single use or for a short time does not make the item reusable by definition.

For more information:

- CCME guidance on the use of labels and terms for plastic products and packaging
- [CCME Roadmap to Strengthen the Management of Single-Use and Disposable Plastics](#)
- [Association of Plastic Recyclers](#)

Federal Regulations on Single-Use Plastics

- The Government of Canada published the *Single-Use Plastics Prohibition Regulations* in June 2022. These Regulations prohibit the manufacture, import and sale of single-use plastic checkout bags, cutlery, foodservice ware made from or containing problematic plastics, ring carriers, stir sticks, and straws (with exceptions). Other jurisdictions may have additional requirements.
- The Government of Canada has developed a guidance document outlining important considerations to take into account when selecting alternative products or systems. More information can be found at canada.ca/single-use-plastic-ban.

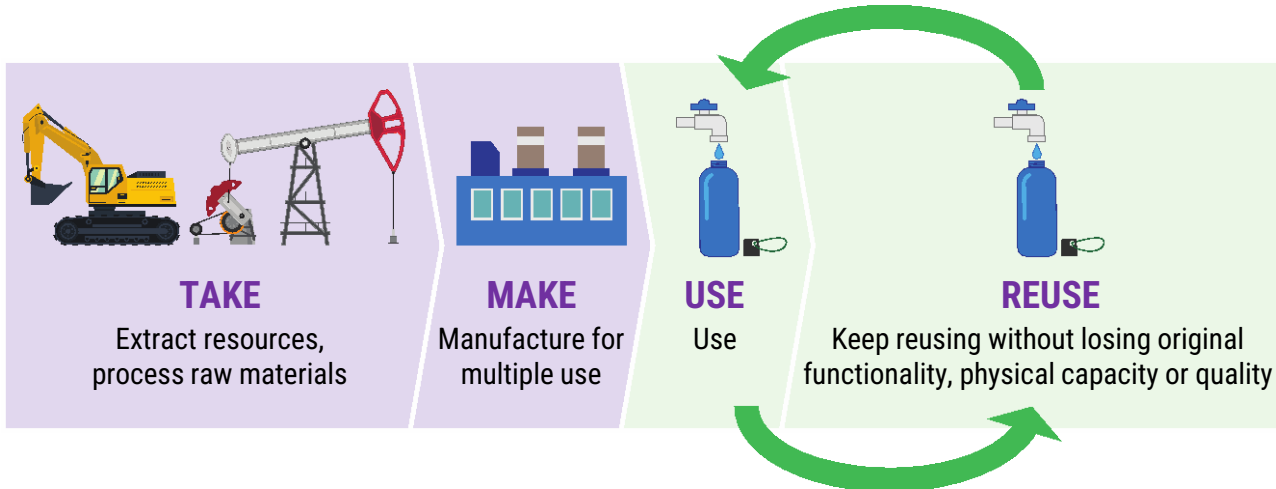
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Reusable or Refillable

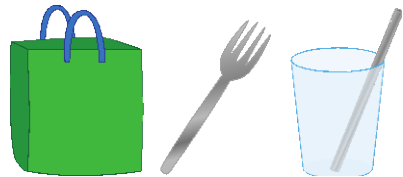
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WHAT'S THE DIFFERENCE?



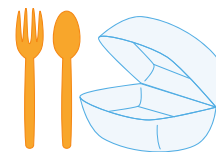
Reusable

Reusable items are designed to be used multiple times for the same purpose without losing their original functionality.



Refillable

Refillable items are designed to be refilled multiple times for the same use without losing their original functionality. Refillable items also require a system to be in place for these items to be refilled.



Single-use or disposable

These items are intended for short-term use. Reusing an item for an additional single use or for a short time does not make the item reusable by definition (for example, using a plastic shopping bag as a garbage bag in your kitchen).

Canada's shared commitment

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- 100% reusable, recyclable, or, where viable alternatives do not exist, recoverable plastics by 2030
- a significant reduction in the unnecessary use of single-use and disposable plastics



Tackling Plastic Pollution

Reusable or Refillable

Advantages

Saves you money



Conserves resources and minimizes landfilling



Reduces environmental impacts (litter and greenhouse gas emissions)



What should you consider about reusable or refillable items?

✓ Built to last	✓ Easy to clean	✓ Ages well	✓ Recyclable
			

What to look for...

Check:

- ✓ For reusable or refillable options and use them whenever possible.
- ✓ To see how many times you will be able to use a product.
- ✓ If the product is durable, easy to clean and repairable.
- ✓ To see if the item is recyclable in your local area.

For more information:

- CCME guidance on the use of labels and terms for plastic products and packaging
- [Competition Bureau Canada](#)
- [US Federal Trade Commission](#)

Tackling Plastic Pollution

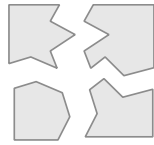
Flushable

What does “flushable” mean?

The term **flushable** refers to a manufactured item that can be safely flushed down a toilet without causing damage to municipal wastewater systems and without polluting the environment.



An item is flushable when:

1	It can break into small pieces quickly.	
2	It does not stay afloat (i.e., is not buoyant).	
3	It does not contain plastic.	



Do standards exist?

Canada has yet to establish a definition for “flushable” in regulation or policy at any level of government, and there is no agreed-upon definition or standard that sets out the criteria for a flushable item.

Keep it simple!

Municipalities across Canada ask that you only flush the 3Ps: pee, poop and toilet paper.

THE 3Ps

How do I know if an item is flushable?

Check:

- ✓ If the item can be flushed in your municipality. Most municipalities only allow the 3 Ps to be flushed—pee, poop and toilet paper.
- ✓ To ensure the item can quickly break down into small pieces, is not buoyant, and does not contain plastic. Otherwise, the item should be thrown in the garbage.

Did you know?

Many wipes contain plastic that can break down into tiny pieces of plastic called microplastics.

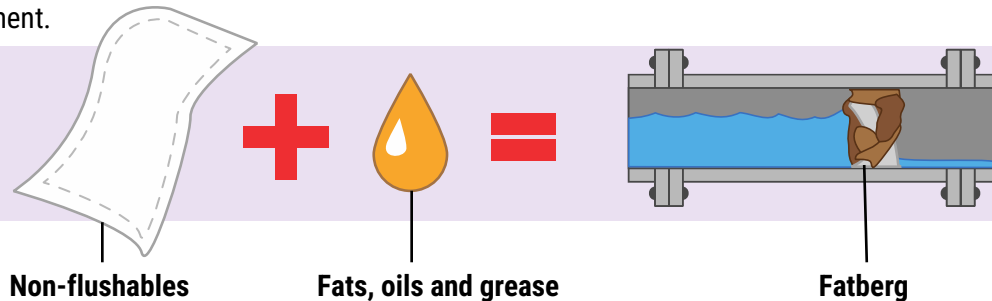
When wipes are inappropriately flushed down the toilet, they can block sewers, damage wastewater infrastructure and lead to sewage-related litter that can enter the environment as a form of pollution.

Tackling Plastic Pollution

Flushable

Why is flushability an important consideration?

Inappropriately flushed items can cause damage to wastewater systems that costs Canadian municipalities and their ratepayers over \$250 million each year. These materials can combine with what is commonly known as FOG (fats, oil and grease) creating “fatbergs” in sewer systems that cause major obstructions. Wipes that contain plastic and are inappropriately flushed can also result in the release of microplastics into our environment.



WHAT'S THE DIFFERENCE?



Flushable

This term indicates an item designed to be safely flushed down a toilet without causing damage to municipal wastewater systems or harm to the environment.

Wastewater systems across Canada ask that you only flush the 3Ps: pee, poop and toilet paper. Items that are not flushable should be disposed of according to local waste management and recycling programs.



Biodegradable

This term indicates an item that can degrade in a defined period of time and under specific conditions, not currently present in the natural environment, as a result of natural biological activity.

No plastic item should be discarded in the toilet.

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Canada's shared commitment

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For more information:

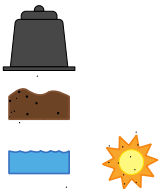
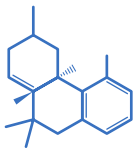
- CCME guidance on the use of labels and terms for plastic products and packaging
- Your local government's website

Tackling Plastic Pollution

Degradable

What does “degradable plastic” mean?

The term **degradable plastic** is an umbrella term used for types of plastics that are designed as follows:

1	It breaks down in a specific period of time.		The amount of time needed to degrade could range from weeks to months to years.
2	It breaks down under specific conditions.		Conditions could include: • degradation in a composter or in an anaerobic digestion facility • buried in soil or a landfill, or • exposed to heat or sunlight.
3	Its breakdown results in changes in its chemical structure.		Degradation is a chemical reaction that causes the bonds of the polymer chains in a plastic to split, irreversibly changing the properties of chain. If they are not exposed to ideal conditions, degradable items have the potential to cause environmental harm.

Types of degradable plastic*

Type of plastic	Necessary conditions	Time	Compatible with recycling, composting or flushing
Biodegradable	Natural biological activity (bacteria, fungi, algae)	Weeks, months, years	No
Oxo-biodegradable	Ultraviolet light, heat and natural biological activity	Weeks, months, years	No
Oxo-degradable	Ultraviolet light, heat	Weeks, months, years	No
Photodegradable	Ultraviolet light	Weeks, months, years	No

Beware!

When a manufacturer labels a plastic item as degradable, this generally indicates that the manufacturer is making a claim that the plastic has been designed to break down more quickly than conventional plastics under specific conditions.

This can be misleading! Items are actually only degradable if they are placed in specific conditions such as an industrial waste facility and have the necessary time to degrade.

These conditions are not found in the natural environment. Degradable plastics that are littered into the environment are a form of plastic pollution.



*Compostable plastics are dealt with separately

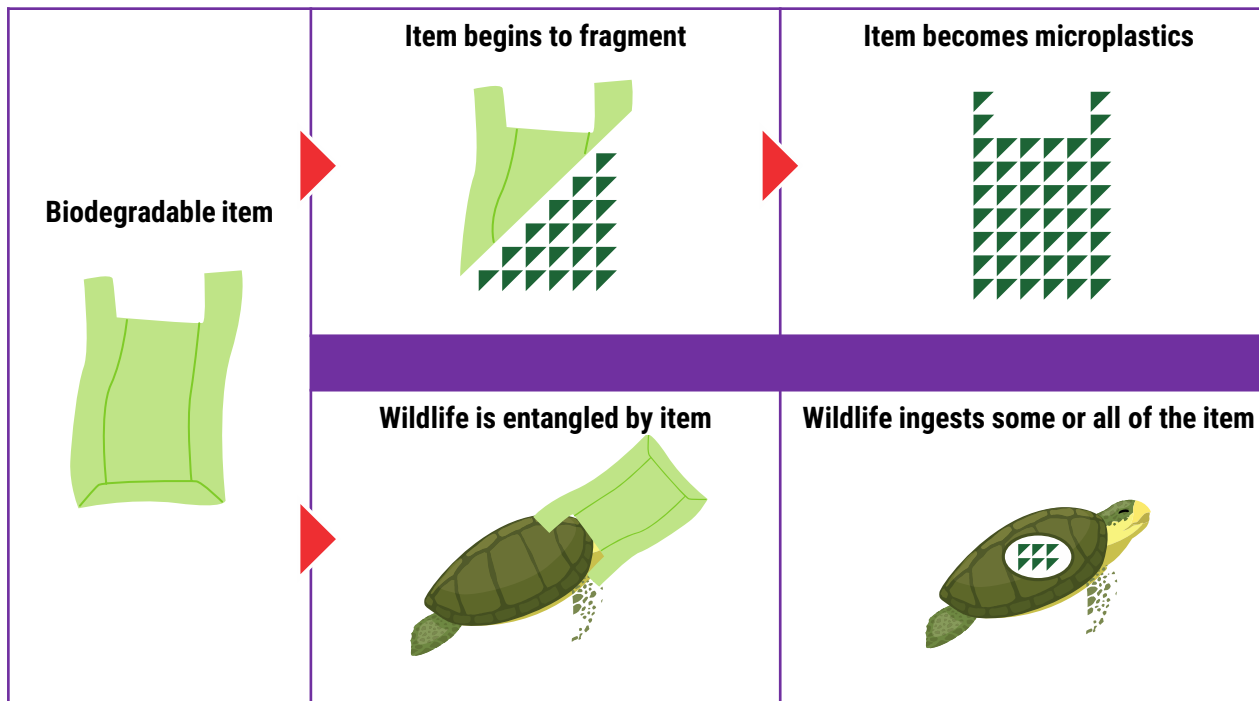
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Degradable

What does a “degradable” or “biodegradable” label on an item tell me about the item’s end-of-life management?

Without further direction about how the item should be disposed of, this label does not provide the consumer with much helpful information.

Potential issues with biodegradable items



Where do I discard a “degradable” plastic item?

Check:

- ✓ For guidance from your local waste service provider about how “degradable” or “biodegradable” plastics should be managed. Most waste service providers require “degradable” and “biodegradable” plastics to be discarded in the garbage.
- ✓ To join or lead a local clean-up in your community to remove plastic litter – including from both conventional and degradable plastics – from the environment.

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Degradable

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WHAT'S THE DIFFERENCE?



Degradable

Degradable plastics can break down over time, under specific conditions, and in a way that results in a significant change to their chemical structure.

These plastics will not break down if not disposed of in those specific environments.



Biodegradable

Biodegradable plastic can degrade in a defined period of time and under specific conditions, not currently present in the natural environment, as a result of natural biological activity.

Compostability is a form of biodegradability. However, not all biodegradable plastic will break down in the conditions of an industrial compost facility.



Compostable

Plastic that is designed to break down under specific conditions (e.g., industrial compost facility).

Canada's shared commitment

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For more information:

- CCME guidance on the use of labels and terms for plastic products and packaging
- [Competition Bureau Canada](#)
- [US Federal Trade Commission](#)
- [Biodegradable Products Institute](#)

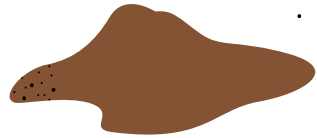
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Compostable

What does “compostable” mean?



A compostable plastic is a type of biodegradable plastic that:

1	Is designed to break down under specific conditions.	
2	Biodegrades within the processing timeframe of an industrial compost facility.	
3	Leaves no distinguishable or toxic residue in the final compost.	

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- a significant reduction in the unnecessary use of single-use plastics



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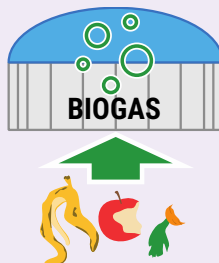
Compostable

Why are some compostable items accepted in local programs while others are not?



TIME

Municipal organic diversion systems are designed to process food and yard waste as quickly as possible (e.g., often 20 to 30 days or less). But compostable plastics can take longer than this to compost.



TECHNOLOGY

Compostable plastics might also be incompatible with the organic processing technology, such as anaerobic digestion technology (e.g., the breakdown of materials without oxygen which produces biogas like methane and carbon dioxide), which is often used in large urban areas.



CONTAMINATION

As part of their screening process, many compost and anaerobic digestion facilities remove plastic in advance of processing materials. It is difficult to distinguish conventional plastics from compostable plastics.

How will I know if my local program accepts a compostable plastic item?

Check:



If the item is accepted by your local organics collection program.



If the entire item is compostable or if some parts of the item can be composted while other parts should be recycled or placed in the trash.

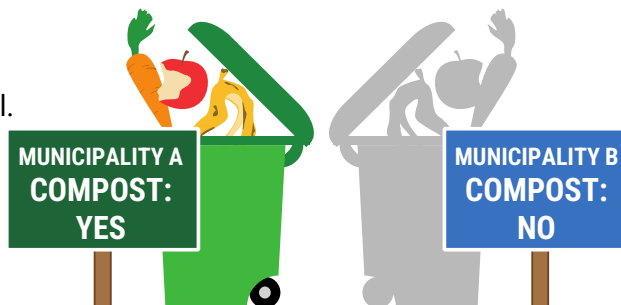
Even some certified compostable plastics might not be compostable in all municipal compost systems.

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Compostable

Why is compostability an important consideration?

It provides another way to keep materials out of landfill. However, like recyclables, not all programs will accept these materials. Check with your local waste service provider first to see if they are accepted.



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- [US Federal Trade Commission](#)
- [Biodegradable Products Institute](#)

WHAT'S THE DIFFERENCE?



Compostable

Items that are designed to break down under specific conditions (e.g., an industrial compost facility).



Biodegradable

Items that can degrade in a defined period of time and under specific conditions, not currently present in the natural environment, as a result of natural biological activity.

Compostability is a form of biodegradability. However, not all biodegradable plastic will break down in the conditions of an industrial compost facility.



Recyclable

An item labelled as recyclable has the potential to be recycled in local recycling programs. Check first with your local waste service provider.

Most compostable and biodegradable materials mess up recycling streams.

Tackling Plastic Pollution

Bioplastic

(including bio-based or bio-sourced plastic and plant-based plastic)

What does “bioplastic” mean?

An item is bioplastic when:

1	It is bio-based (in part or in whole) OR	
2	It is biodegradable (including, but not necessarily, compostable) OR	
3	It is both bio-based (in part or in whole) and biodegradable	



Conventional plastics are fossil-based plastics that do not biodegrade. The term “bioplastic” is not used to describe these types of plastics.



Bio-based or bio-sourced plastic is a type of plastic that is partly made from renewable materials such as plants, animals or microbes. These plastics may also include content from fossil-based plastics.



Plant-based plastic is a type of plastic that is partly made from plants. These plastics may also include content from fossil-based plastics.

Did you know?

In Canada there is no minimum requirement for the amount of bio-based content that must be included in items that are labelled bioplastic.

Biodegradable plastics require specific conditions to degrade properly that are not present in the natural environment.

When biodegradable plastics enter the environment, they are a form of plastic pollution, just like conventional plastics.



Tackling Plastic Pollution

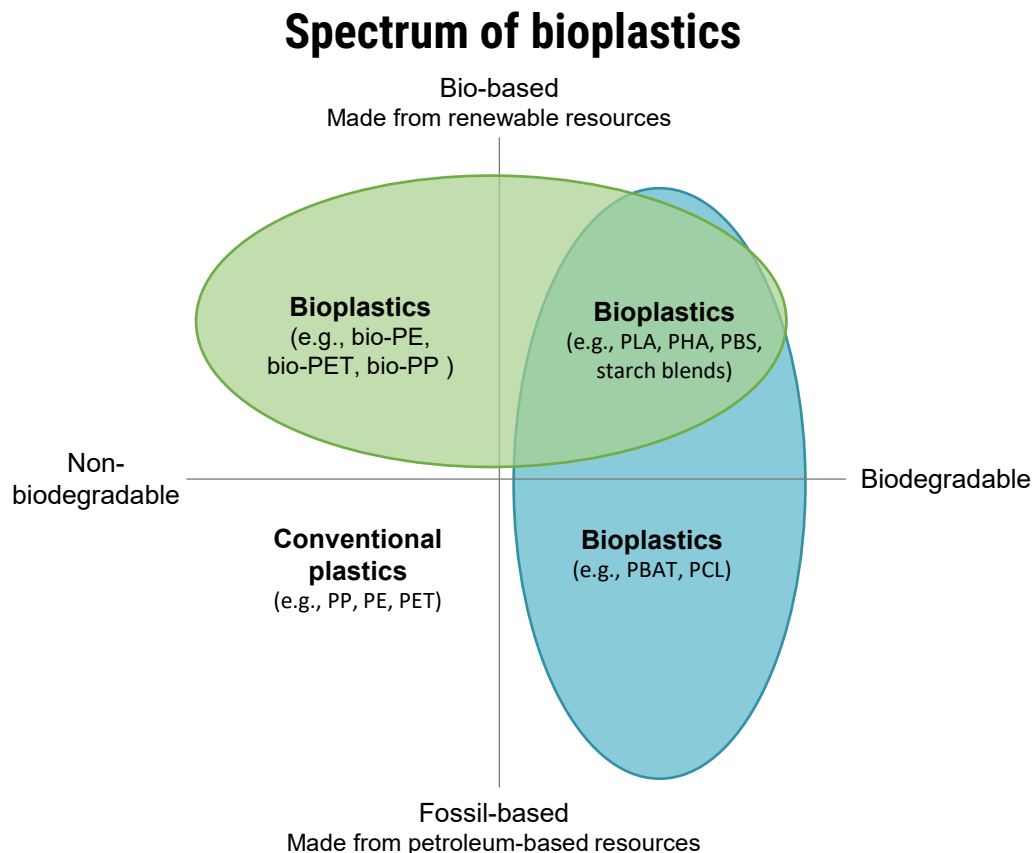
Bioplastic

(including bio-based or bio-sourced plastic and plant-based plastic)

The term “bioplastic” can be misleading.

When used on its own, the term “bioplastic” does not provide definitive information about the composition of the plastic (e.g., whether it is partly or wholly made of bio-based materials) or how to manage the plastic at end-of-life (e.g., whether it is recyclable, biodegradable or compostable).

The term “bioplastics” has a wide definition. Here is the range of plastics it can encompass:



Where do I discard a bioplastic item?

Check:



If your local recycling or composting program will accept the item or if it needs to be thrown in the garbage.

For more information:

- CCME guidance on the use of labels and terms for plastic products and packaging
- [Competition Bureau Canada](#)
- [US Federal Trade Commission](#)
- [Biodegradable Products Institute](#)

Tackling Plastic Pollution

Bioplastic

(including bio-based or bio-sourced plastic and plant-based plastic)

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WHAT'S THE DIFFERENCE?



Bioplastic

This umbrella term describes a wide category of plastics:

- bio-based (in part or in whole)
- biodegradable (including, but not necessarily, compostable)
- both bio-based (in part or in whole) and biodegradable.

Bioplastics might be biodegradable or might not be.



Biodegradable

This term describes items that can degrade in a defined period of time and under specific conditions as a result of natural biological activity. These specific conditions are not currently present in the natural environment.

Check with your local waste service provider on how they should be managed.



Bio-based plastic Bio-sourced plastic Plant-based plastic

This term describes items that are at least partially made from a renewable resource such as plants, animals or even microbes. All of these types of plastic could also be partially made from fossil fuels.

Check with your local waste service provider on how they should be managed.

Canada's shared commitment

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