

Malus guide

To accelerate the use of recyclable materials that are compatible with the modernizing curbside recycling system.

2024 SCHEDULE OF CONTRIBUTIONS

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Ecodesign at the heart of a modernizing curbside recycling system

ÉEQ has introduced a malus to accelerate the use of recyclable materials that are compatible with the modernizing curbside recycling system.

Based on an extended producer responsibility (EPR) approach, the modernization of curbside recycling programs will enable the companies that market containers, packaging and printed matter (CP&PM) in Québec (producers) to play a leading role in the system and its management by becoming responsible for the CP&PM they put on the market, from their design to their end-of-life management through recycling. The introduction of a malus is part of Éco Entreprises Québec's (ÉEQ) initiative for the eco-modulation of its Schedule of Contributions (SoC) to support the shift to a fee structure that better reflects each material's performance and impact along the value chain.

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Applicable to a payable contribution, the **malus** is a financial measure meant to **discourage** the use of materials for which there are **no recycling streams** or that **disrupt** the collection, sorting, conditioning or recycling of other materials.

The objective is to make producers accountable for the environmental and financial consequences of placing certain materials on the market.

CP&PM follow a path from the time they are marketed up to their recycling. Materials at the end of their service life are recycled when there is a well-established stream: when they are accepted under curbside recycling programs, put in recycling bins by citizens and then collected, sorted and conditioned to be recycled into new CP&PM or other products.

The penalties that are collected will support initiatives to accelerate the use of recyclable materials that are compatible with the modernizing curbside recycling system.

This guide details how the malus is applied, the issues related to the materials that are subject to the penalty and also provides examples of substitutions for reference.

A malus of 20% applicable from the 2024 Schedule of Contributions

Announced as part of the consultations on the 2022 SoC, the following materials will be subject to a malus from the 2024 SoC:

- Polyvinyl chloride (PVC)
- Polylactic acid (PLA) and other degradable plastics

The financial penalty for the 2024 SoC is equivalent to 20% of the amount of the payable contribution for these materials. It is important to note that the malus rate will evolve and may be revised upwards by ÉEQ over the next few years. The approach is meant to give producers the opportunity to make the necessary changes to the CP&PM they place on the market.

For more information, refer to the 2021–2025 ecomodulation roadmap.

TIMELINE OF THE INTRODUCTION OF THE MALUS

2021 Schedule	2022 Schedule of Contributions	2023 Schedule	2024 Schedule
of Contributions		of Contributions	of Contributions
Adoption of the ecomodulation roadmap	 Announcement on the malus PVC Biodegradable and compostable plastics 	Reminder of the malus	Enforcement of the malus

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Terms of the malus

The **amount of the malus** is determined based on the quantity of material placed on the market during the reference year and the current material rate. The penalty will be applied automatically on the first contribution invoice for the 2024 SoC, on a separate line*. No additional action is required at the time of reporting.

ÉEQ will add the amounts collected from the malus to a fund to support initiatives to accelerate the use of recyclable materials that are compatible with the modernizing curbside recycling system. The initiatives could take the form of support programs for material substitution, ecodesign bonuses or other research and development activities. ÉEQ is working to put in place additional resources to help producers in their initiatives to reduce the use of these materials.

ÉEQ reserves the right to modify the terms and conditions of the measure at any time and without notice.

For example, while the malus does not currently apply to low-volume producers or those exempt from payment, that may change over the next few years.

*Under the 2024 SoC and until the end of the compensation plan, the penalty is automatically applied on the first contribution invoice for the 2024 SoC, on a separate line. It is important to note that the malus will then be integrated into EPR. The malus will therefore not be applied to the special producer financial participation (PFP) payable by producers. Click here for more information on the PFP.

The measure applies to:

- All targeted producers that file a detailed report.
- All designated containers and packaging whose predominant material is subject to a penalty, regardless of format (rigid or flexible).

Exclusions:

 Quantities of materials used in the form of non-detachable components (e.g., window on a box) or elements intrinsically associated with another material that is not subject to a penalty (e.g., coating or lamination).

FOR EACH MATERIAL SUBJECT TO A MALUS



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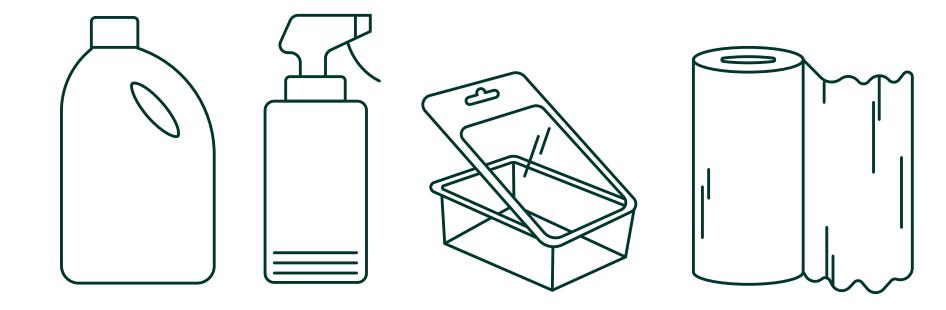
Polyvinyl chloride (PVC)

Polyvinyl chloride (PVC) is a plastic material (resin identification code no.3) that has been used in the container and packaging (CP) industry for many years owing to its low cost, ease of moulding and barrier properties. It is also used in the construction sector and a wide range of consumer products and durable goods.

While PVC used in CP is accepted under curbside recycling programs, they have **no recycling streams** and **interfere with the conditioning and recycling of other materials**.

The issues associated with PVC in CP specifically relate to the presence of **chlorine** in the material's composition, as well as to the additives (stabilizers and plasticizers) that give PVC some of its properties (e.g. flexibility, viscosity).

Polyvinylidene chloride (PVDC) is a vinylidene chloride-based polymerized material that raises similar issues. PVDC is often used as a barrier layer in some types of flexible packaging.



Issues

PVC and PVDC are linked to **operational issues** during recycling and to **environmental and health issues** during their life cycles. ÉEQ raised these concerns in a <u>brief</u> submitted to the House of Common's Standing Committee on Environment and Sustainable Development as part of a 2019 study on plastic pollution.

These issues have led several international organizations, including the Canada Plastics Pact (CPP)¹, the Canadian Produce Marketing Association (CPMA)² and other Producer Responsibility Organisations (PRO) such as CITEO (France)³ and Verpact (Netherlands)⁴, to identify PVC and PVDC as materials to be eliminated or whose use should be reduced.

In Canada, the province of British Columbia is in the process of banning the materials' use in food containers⁵.

1 Canada Plastics Pact. The golden design rules for plastics packaging. Online.

ISSUES ASSOCIATED WITH PVC AND PVDC

Resin production and CP shaping	Use	Recycling	Other end-of-life processes
Potential exposure of workers to hazardous emissions. Potential environmental emissions ⁶ .	Potential risk of migration of certain additives into food (when used as a food container) ⁷ .	Contamination of other plastic streams in material recovery facilities owing to the difficulty differentiating it from other plastics. Recycling incompatibility with most plastic resins given their different melting points, reducing the quality of the recycled material ⁸ . Lack of end markets.	Potential emissions of hydrogen chloride (HCl), dioxins and furans: by-products with adverse effects on health, the environment and industrial equipment during combustion (e.g., energy recovery or chemical recycling). Potential environmental contamination additive leaching when buried ⁹ .

² Canadian Produce Marketing Association (2023). Golden design rules for produce plastic packaging. Online.

³ CITEO (2021). Le tarif 2022 pour le recyclage des emballages ménagers.

⁴ KIDV (2024). KIDV Recyclecheck. Moulded plastics. Packaging. 2024. Online.

⁵ Province of British Columbia (2023). Single-use and Plastic Waste Prevention Regulation. O.C. 642/2023. Online.

⁶ Agency for Toxic Substances and Disease Registry (2006), public health statement. Vinyl chloride. CAS #: 75-01-4. Online.

⁷ Health Canada (2022). Canadian Total Diet Study – DEHA, DEHP and other Phtalates 2011, 2013, 2014 (2015A). Online.

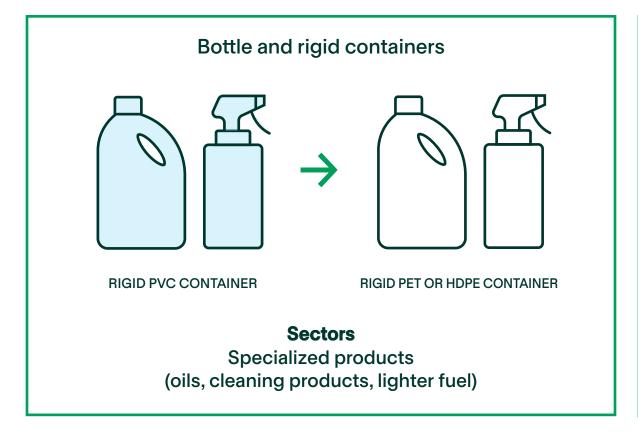
⁸ The Association of Plastic Recyclers (2024). *PVC (Polyvinyl chloride, resin identification code #3)*. Online.

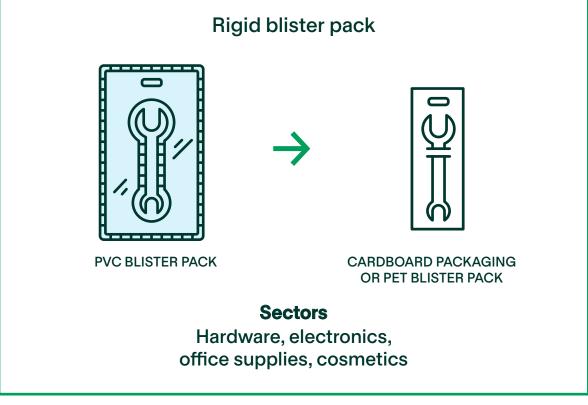
⁹ European Commission (2022). The use of PVC (Poly Vinyl Chloride) in the context of a non-toxic environment. Final report. Online.

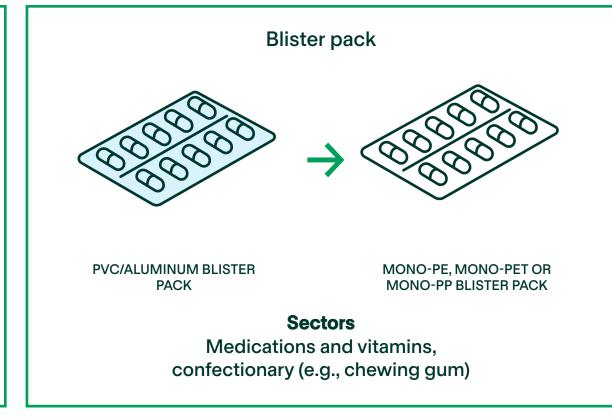
Uses and possible substitutions

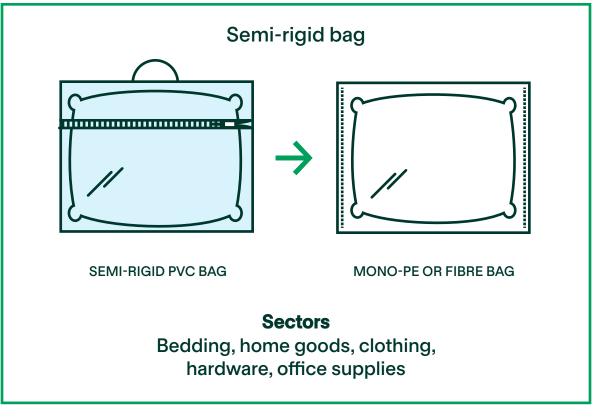
PVC and PVDC are used in a range of applications in many sectors. Potential substitutions are listed here for reference.

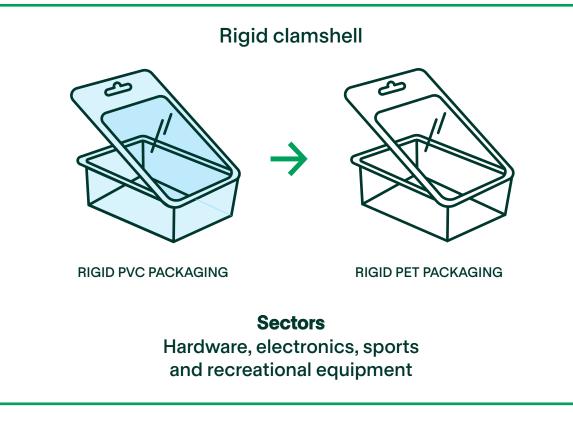
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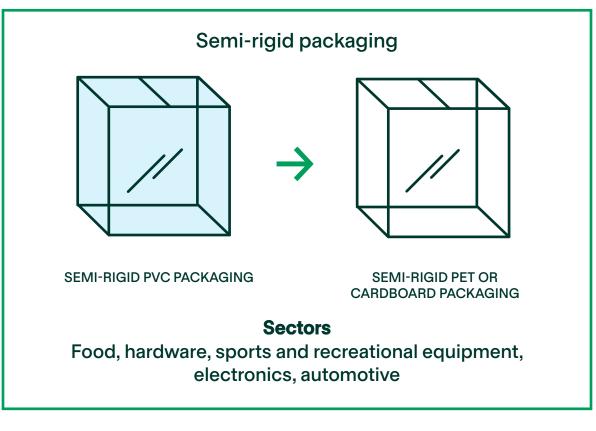


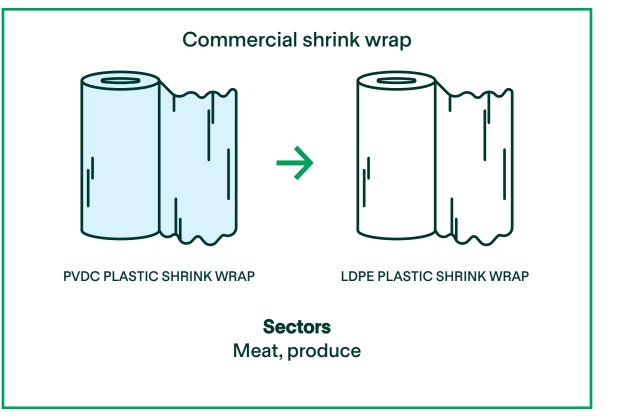




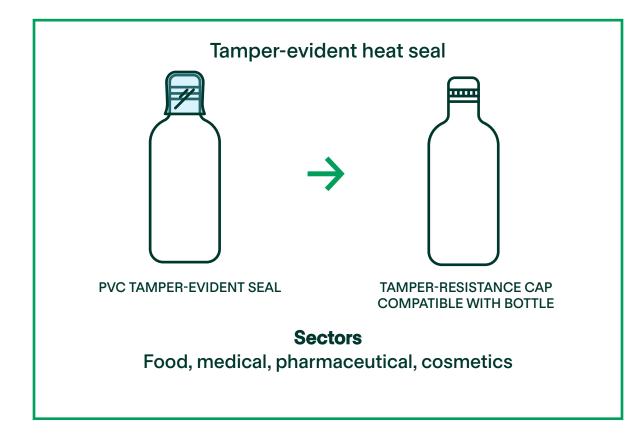




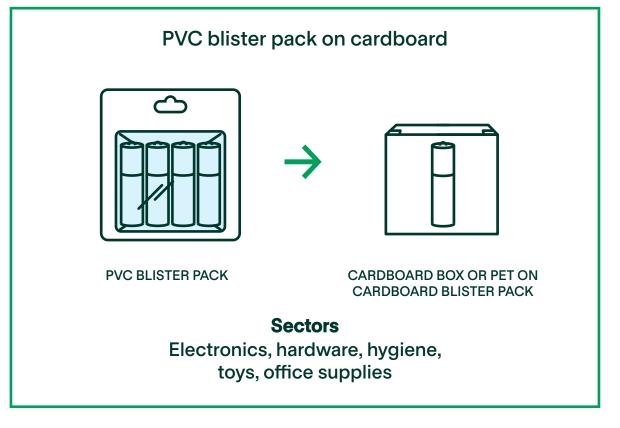


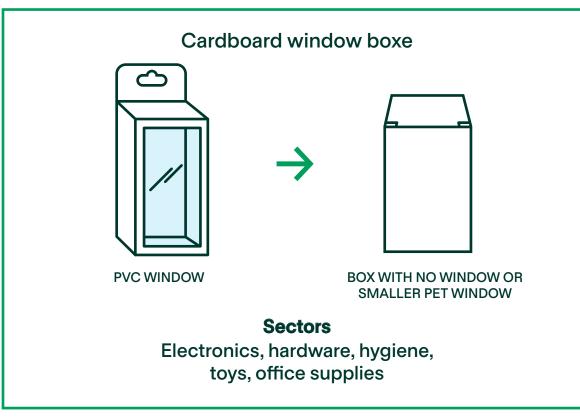


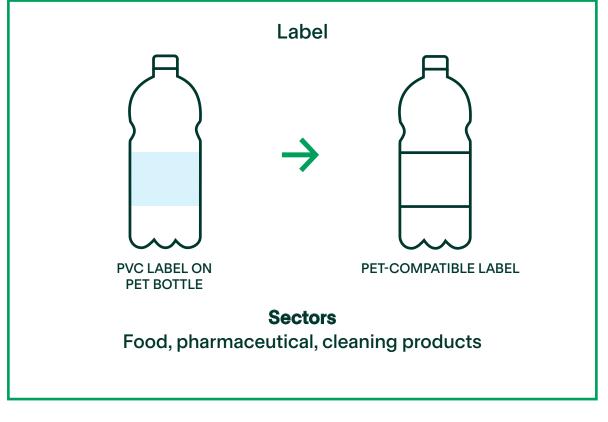
PACKAGING ELEMENTS

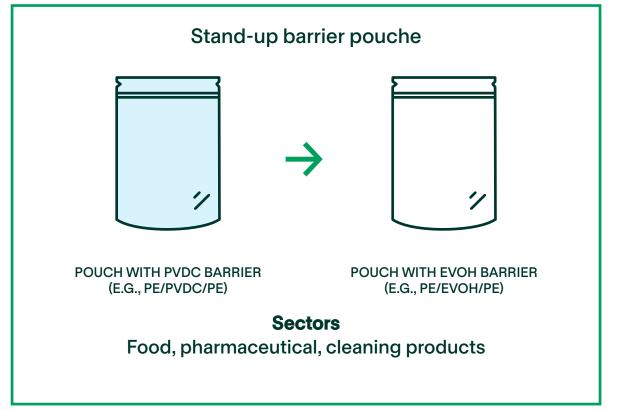












PVC substitution success story

Recognizing the current environmental challenges, the **Chocolats Favoris** team decided to rethink its packaging approach and stop using PVC in favour of cardboard for better recyclability. The transition to cardboard packaging in no way affects the quality of their delicious chocolates. What's more, an image of the product was added on the front of the packaging to encourage purchase choices. This initiative marks another step towards greater materials circularity.





To find out more

- → APR Design® Guide for Plastics Recyclability. Online.
- → Canada Plastics Pact. The golden design rules for plastics packaging.
 Online.
- → Canadian Produce Marketing Association (2023). Golden design rules for produce plastic packaging. Online.
- → WRAP & The UK Plastics Pact (2022). Eliminating problem plastics. Version 4. Online.

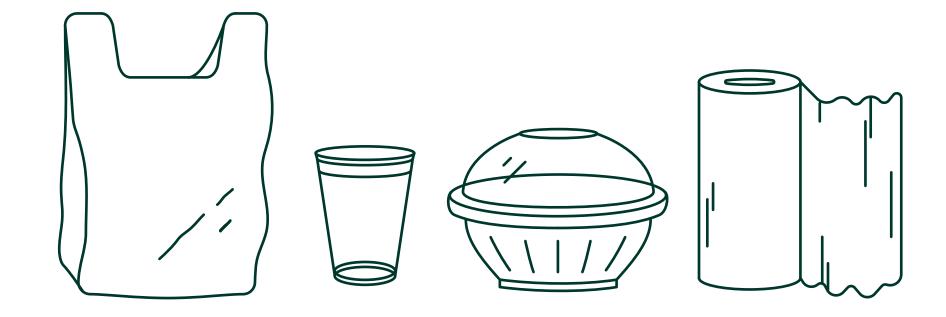
Polylactic acid (PLA) and other degradable plastics

Polylactic acid (PLA) is a biobased plastic material often made from corn starch or sugarcane whose use in the food container and packaging industry has grown significantly in the past few years. Produced from biomass, PLA is often referred to as compostable, like other emerging plastics such as polyhydroxyalacanoate (PHA) and polybutylene succinate (PBS).

There are also conventional (petrochemical-based) plastics on the market designated as **degradable**. One example is oxo-degradable plastic: a standard plastic made with additives to accelerate its fragmentation into small pieces, contributing to the **microplastics**¹⁰ problem.

PLA and other degradable or compostable plastics are not accepted under current curbside recycling programs because they have **no recycling stream** and **interfere with the conditioning and recycling of other materials**.

In 2021, ÉEQ released a <u>report</u> that provides an objective overview of biodegradable and compostable packaging in Québec.



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ÉCO ENTREPRISES QUÉBEC MALUS GUIDE POLYLACTIC ACID (PLA) AND OTHER DEGRADABLE PLASTICS

¹⁰ Ellen MacArthur Foundation (2019). Oxo-degradable plastic packaging is not a solution to plastic pollution and does not fit in a circular economy. Online.

Issues

Degradable and compostable plastics end up in the three municipal collection channels (recycling, composting and landfill) and sometimes even in nature.

Composting and anaerobic digestion aim to produce high-quality compost or digestate that may be returned to the soil. The duration and conditions of composting or anaerobic digestion may not be the same as those required for the decomposition of degradable and compostable plastics, which are generally removed and sent to landfill.

These issues led several national and international organizations, including the Ellen MacArthur Foundation¹¹, the Belgium PRO Fost Plus¹² and the Agence de l'environnement et de la maîtrise de l'énergie (ADEME, France)¹³, to designate degradable and compostable plastics such as PLA as materials to be avoided or whose use should be restricted to specific applications outside recycling streams.

In Canada, different levels of government, including the cities of Montréal¹⁴, Terrebonne and Mascouche¹⁵ and the province of British Columbia¹⁶, have **banned or are in the process of banning** the distribution of compostable plastic containers and packaging in the form of food containers or shopping bags on their territory.

As compostable plastics constitute a growing market, ÉEQ will monitor the industry's evolution and deepen its understanding of the specific applications for which these materials could divert food waste from recycling stream and landfills (e.g., produce labels and food packaging used in closed circuits ike events, fast food restaurants and canteens where the risk of contaminating the recycling stream is low). Degradable plastics should always be avoided.

POLYLACTIC ACID (PLA) AND OTHER DEGRADABLE PLASTICS

ISSUES ASSOCIATED WITH DEGRADABLE AND COMPOSTABLE PLASTICS END-OF-LIFE

Organic materials bin	Recyclable materials bin	Trash	Yard waste
Very difficult to differentiate from other platics that are removed in order not to affect the quality of the compost. It it does not break down fast enough, it will be removed and sent to landfill.	Very difficult to differentiate from other plastics. If sorted, it will be removed and sent to landfill. If not dorted, it is a source of contamination for conventional plastics.	At landfill, it is compacted and not exposed to the conditions requiered for composting, so it is treated as any other trash.	As it is not designed to turn into compost directly in nature, it becomes litter. It needs specific conditions and processing steps to be able to break down.

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¹¹ Ellen MacArthur Foundation (2022). Where compostable packaging fits in a circular economy. Online.

¹² Fost Plus (2023). Obstructive packaging - December 2023 update. Online.

¹³ Agence de la transition écologique (2023). AVIS de l'ADEME : Les limites des emballages en plastique compostables. Online.

¹⁴ Ville de Montréal (2021). Règlement interdisant la distribution de certains articles à usage unique. 21-040. Online.

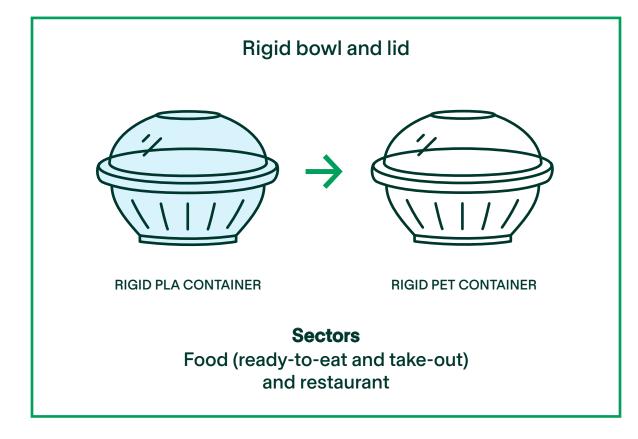
¹⁵ Terrebonne, Ville de Mascouche (2023). Non merci aux objets à usage unique. Liste des articles à usage unique soumis à l'interdiction de distribution. Online.

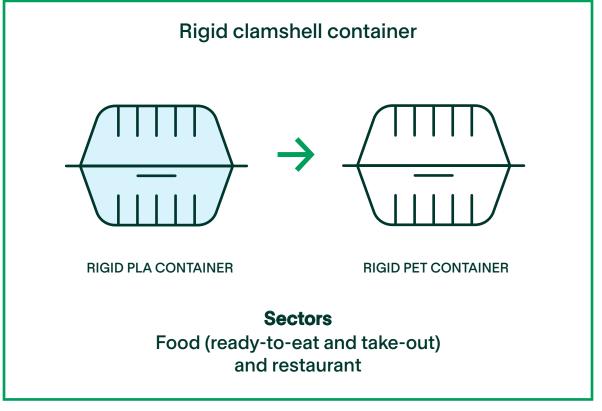
¹⁶ Province of British Columbia (2023). Single-use and Plastic Waste Prevention Regulation. O.C. 642/2023. Online.

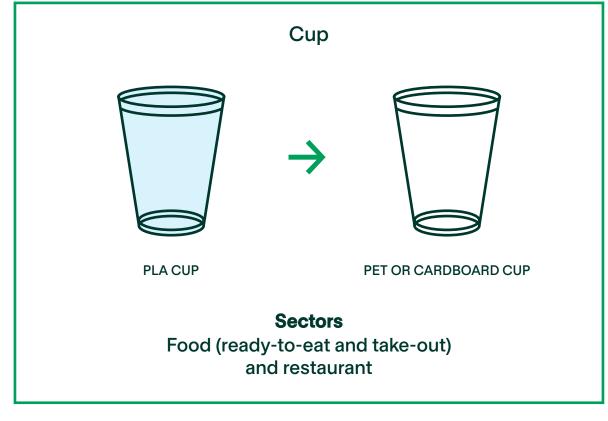
Uses and possible substitutions

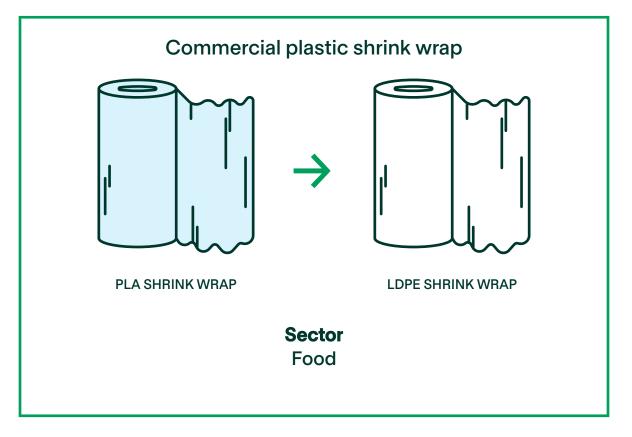
PLA and other degradable plastics are used in a range of applications, mostly in the food and restaurant sectors. Potential substitutions are listed here for reference.

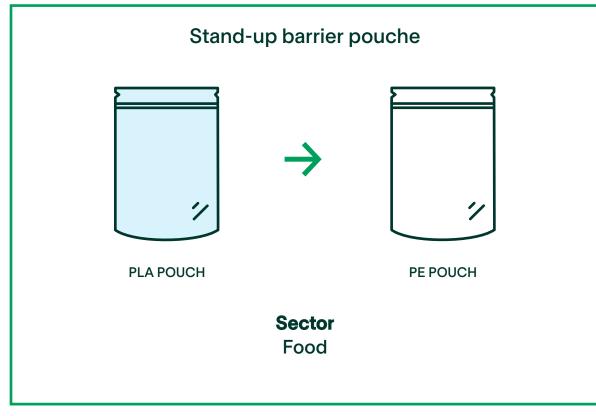
PREDOMINANT MATERIAL

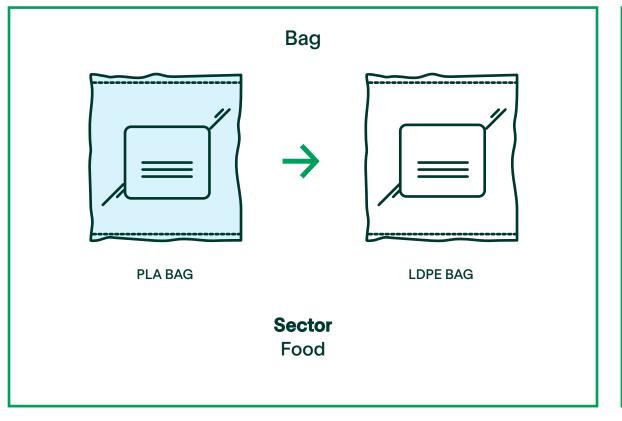




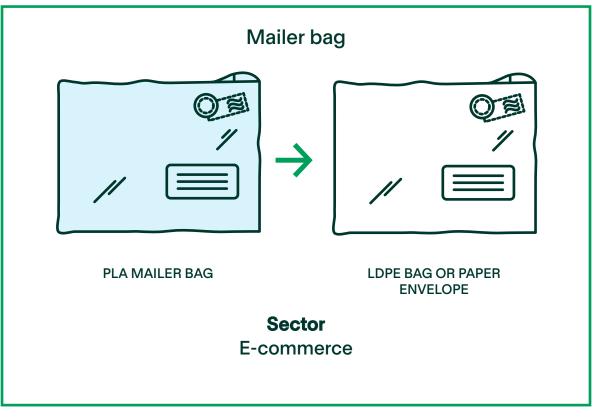












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ÉCO ENTREPRISES QUÉBEC MALUS GUIDE POLYLACTIC ACID (PLA) AND OTHER DEGRADABLE PLASTICS

PLA substitution success story

Camellia Sinensis explored several packaging solutions to preserve the quality of its loose teas and herbal teas. Although compostable bags seemed to be the best option, they were not strong enough or sufficiently sealable to effectively conserve the teas or be reused for an extended period. In the end, Camellia Sinensis opted for reusable multilayer bags, which better preserve the product and its integrity. What's more, the new bags used to package loose tea yield a significant 52% reduction in materials compared to the previous packaging.

In 2020-2021, Mandy's made the decision to replace its polylactic acid (PLA) bowls and lids as a result of supply challenges and the discovery of their very limited acceptance by composting facilities in Quebec. In addition to being more readily available locally and at a lower cost, the new bagasse bowls and recycled PET lids also made it possible to reduce the variety of packaging and thus simplify operations. Thanks to this proactive approach, Mandy's was able to comply with the Ville de Montréal By-law prohibiting the distribution of certain single-use items before it came into force.











To find out more

- → ADEME (2023). Les limites des emballages en plastique compostables. Les avis de l'ADEME. Online.
- → Compost Council of Canada (2020). Compostable Products/ Packaging: Towards Common Ground. Online.
- → Éco Entreprises Québec (2021). Biodegradable and compostable packaging: As green as we think? April 2021. Online.
- → Giroux Environmental Consulting, Kelleher Environmental and Isabelle Faucher Consultancy (2023). The Role, Management, and Impacts of Plastics in Organic Waste Diversion Programs in Canada. Resource document prepared for Environment and Climate Change Canada. Online.

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ÉCO ENTREPRISES QUÉBEC MALUS GUIDE POLYLACTIC ACID (PLA) AND OTHER DEGRADABLE PLASTICS

Glossary

Anaerobic digestion

A controlled biological process by which organic material is broken down under anaerobic conditions (in the absence of oxygen). The result is digestate, a solid or semi-solid product which must undergo additional treatment (by composting) to be considered as biologically stable and hygienized, as well as biogas.

Biobased plastic

Derived in whole or in part from biomass (wheat, sugar, corn, starch, algae, etc.) from agriculture or forests (as opposed to "conventional plastic," which is derived from petrochemicals or fossil resources).

Biodegradable plastic

Decomposes (a process involving a change in its structure, characterized by a loss of properties and/or by a loss of properties and/or fragmentation) under specific conditions to a certain point in time.

Biomass

Organic matter of plant or animal origin.

Bonus

Credit on the payable contribution for designated materials to recognize good ecodesign practices and enhance collection, sorting, conditioning and recycling.

Compostable plastic/packaging

Plastic that undergoes degradation due to biological activity during composting, producing CO₂, water, inorganic compounds and biomass. Also relying on adequate oxygenation, moisture, and temperature conditions, this process occurs at a rate comparable to the decomposition (or composting) of other known compostable materials (food waste and green waste), without leaving visible, recognizable, or toxic residues.

Composting

Mature solid product resulting from the composting of organic waste. Compost is a stable product, rich in humid compounds, which is mainly used as soil conditioner. It generally has the appearance of humus-rich potting soil and is low-odor".

Conventional plastic

A synthetic material, derived from petrochemicals or fossil resources (petrosourced), that can be shaped or molded, usually using heat and pressure.

CP

Containers or packaging.

CP&PM

Containers, packaging and printed matter.

Degradable plastic

Plastic that decomposes (a process involving a change in its structure, characterized by a loss of properties and/or by a loss of properties and/or fragmentation) under specific conditions to a certain point in time.

Eco-modulation of the Schedule of Contributions

Approach to modulate the contribution fee formula of a Producer Responsibility Organization through the addition of environmental criteria.

EVOH

Ethylene vinyl alcohol.

HCI

Hydrogen chloride.

HDPE

High-density polyethylene.

LDPE

Low-density polyethylene.

Material that interferes in recycling

Material that is difficult to recycle, that is not widely recycled locally or that may be disruptive to collection, sorting, conditioning, and recycling.

Oxo-degradable plastic

Plastic that undergoes fragmentation (breaking into small pieces) caused by additives, added to conventional plastics (from petrochemicals or fossil resources), under the effect of sunlight, heat or mechanical stress, generating a plastic residue.

PBS

Polybutylene succinate.

PE

Polyethylene.

Malus

Penalty on the payable contribution for designated materials that do not have recycling streams or that are deemed disruptive to collection, sorting, conditioning, and recycling.

PET

Polyethylene terephthalate.

PFP

Producer financial participation.

PHA

Polyhydroxyalacanoate.

PLA

Polylactic acid.

PP

Polypropylene.

Producer

Company that places packaged products, containers and printed matter on the market in Québec.

PVC

Polyvinyl chloride.

PVDC

Polyvinylidene chloride.

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FAQ

General questions

Why impose a malus on materials that are not accepted under curbside recycling programs?

The compensation plan and EPR are designed to make producers responsible for the CP&PM they place on the market by requiring they assume their end-of-life management costs, whether or not they are compatible with the curbside recycling system. The fact that some CP&PM are compostable or incompatible with the curbside recycling system does not exempt a producer from reporting and paying a contribution for the materials. This position is in line with the opinion issued by the Direction des matières résiduelles (Ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs (MELCCFP))¹⁷.

Could ÉEQ introduce other maluses?

Yes, ÉEQ is currently exploring different scenarios in which other materials that do not have recycling streams or which disrupt the collection, sorting, conditioning or recycling of other materials could be subject to a malus. Any broadening of the materials subject to a malus will be the focus of a consultation with producers before it comes into effect.

How is the malus calculated for the different materials?

on the quantity of the material put on the market in the reference year and the material rate in effect. Under the 2024 SoC and until the compensation plan ends, the penalty is automatically applied on the first contribution invoice for the 2024 SoC, on a separate line. It is important to note that the malus will then be integrated into EPR. The malus will therefore not be applied to the special producer financial participation (PFP) payable by producers.

Click here for more information on the PFP.

How can I determine whether my company qualifies as a low-volume producer? What are the benefits, and could the status exclude me from the malus?

Producers that generate small quantities of materials may be recognized as low-volume producers and be eligible for simplified reporting and a lump sum payment if they meet the following criterion:

Generate > 1 t and ≤ 15 t of designated materials in Québec.

Note: Low-volume producers that generate materials subject to a malus and that choose to submit a detailed report may be required to pay the penalty. <u>Click here</u> to learn more about low-volume producers.

Are voluntary contributors also subject to the malus?

Yes, any producer that is not subject to the compensation plan but which voluntarily assumes the obligations arising from it and generates materials subject to a malus must pay the penalty. Click here to learn more about voluntary producers.

How will the malus be applied to the balance of my contributions?

The penalty will be applied automatically on the first contribution invoice for 2024 SoC, on a separate line. No further action is required at the time of reporting.

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¹⁷ MELCCFP (2019). Demande d'avis quant à l'assujettissement au Règlement sur la compensation pour les services municipaux. [Sent by the MELCCFP to ÉEQ, August 2, 2019, Québec – internal document]

FAQ

Questions about materials

How can I avoid using materials subject to a malus?

For your current containers and packaging, use this guide to identify those that may be subject to a malus. Then contact your supplier to determine their composition and possible substitutions. Finally, be sure to test substitute materials before integrating them. For your new projects, include a list of prohibited materials in the packaging technical specifications you provide to potential suppliers.

Can I apply for an ecodesign incentive bonus for a material subject to a malus?

No, materials subject to a malus are not eligible for an ecodesign incentive bonus, regardless of their format (rigid packaging, flexible packaging, component or packaging element). Click here to learn more about the ecodesign incentive bonus.

Why make PVC (resin code #3) subject to a malus when it is accepted under curbside recycling programs?

PVC containers and packaging are accepted under curbside recycling programs, but there are no recycling streams for them and they interfere with the conditioning and recycling of other materials. Unlike other plastic resins, PVC and PVDC containers and packaging are difficult to identify at a glance because the resin identification code is very rarely printed on them. It is therefore the responsibility of container and packaging manufacturers and producers to avoid using PVC and PVDC and choose materials that are easy to recycle.

My supplier confirmed that the compostable plastic packaging it offers is certified compostable by a credible independent certification authority. So why is the material subject to a malus?

Although there are several certifications attesting to a product's suitability for composting, they are voluntary and conducted in laboratories under specific controlled conditions (e.g., time, temperature, humidity, etc.) that do not reflect reality. A compostable certification does not guarantee that the packaging will be composted in composting or anaerobic digestion facilities. For more information, refer to ÉEQ's 2021 report on biodegradable and compostable packaging in Québec.

Why is ÉEQ introducing a malus on compostable and degradable plastics when these materials will eventually have to be collected under curbside recycling programs?

ÉEQ recognizes that the Regulation respecting a system of selective collection of certain residual materials provides for the collection of residual materials¹⁸ made up of compostable or degradable plastics by January 1, 2031. However, as detailed in this guide, the materials have no recycling streams at this time and interfere with the conditioning and recycling of other materials.

Are compostable bags intended for animal waste or compost bins subject to a malus?

No. They are implicitly intended for compost bins and are therefore excluded from the reporting process and also from the malus.

ÉCO ENTREPRISES QUÉBEC MALUS GUIDE FAQ 16

¹⁸ Regulation respecting a system of selective collection of certain residual materials, Q-2, r. 46.01.



Questions? Contact us!

You may find the answers on our FAQ page.

Your question is not there?

Get in touch with the **Ecodesign and Ecomodulation** team.