

CONTAMINATION SCORECARD

Frequently Asked Questions & Guide to Visual Interpretation

This document provides background information and context on the data provided in the separately attached Contamination Scorecard from Recycle BC to assist in your contamination reduction efforts.

Please note the following:

- The visuals provided in this FAQ document reflect those found in your Contamination Scorecard to provide the necessary context to interpret your results. However, the data for the visuals in this document are those of a fictitious multi-stream collector, not the results of any individual collectors
- Some slides referenced in this FAQ document may <u>not</u> pertain to your individual Contamination Scorecard
- Slides will be referenced by the title as shown in your Contamination Scorecard. E.g: 'Not Accepted Material Rate'

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• The scale of the Y axis can be different on each slide and does not always begin at 0 in order to best highlight changes over time

FAQs:

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- Why is reducing contamination important?
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What is contamination?

Material that is not accepted for collection in curbside and multi-family collection programs is referred to collectively as Incompatible Material or "contamination". Contamination, in the context of curbside or multi-family collection in the Recycle BC program, can be understood as one or more of the following:

- Material that is not packaging or paper products (PPP)
- Material not yet accepted for collection in the Recycle BC program material that is not recyclable and/or that does not have any commercially viable end-markets (e.g. composites of paper and plastic)
- Containers with more than 10% of non-hazardous contents remaining (e.g. plastic jar with peanut butter inside)
- Hazardous material or containers with any hazardous contents remaining (e.g. propane tanks/cylinders)
- Material collected in a manner that does not permit recovery (i.e. un-sortable material, see below for definition)
- Material that is accepted in the Recycle BC program but only when collected at Recycle BC depots (e.g. plastic bags/overwrap, foam packaging and other flexible plastic packaging)
- Material that must be collected as a segregated stream or directed to depot but has been collected comingled with other materials (e.g. glass comingled with other curbside/multi-family material)

Why is reducing contamination important?

Recycle BC's stewardship plan was created to meet Schedule 5 of the BC Recycling Regulation, which is specific to PPP. Businesses that supply residential PPP to the BC market pay for the cost of the program through fees paid to Recycle BC, which include the value of the incentives paid to Recycle BC collectors to operate curbside and multi-family recycling programs. Recycle BC has neither the mandate nor the funding to collect material that is not PPP.

Contamination presents significant operational and financial implications to the Recycle BC program. Contamination can reduce the commodity value of recyclables and even reduce the ability to effectively recycle material or meet the requirements of local and foreign recycling markets. Certain types of contamination can present significant health and safety issues for both collection and post-collection staff. Hazardous materials such as medical sharps, propane tanks/cylinders, flammable liquids and batteries can be extremely dangerous when collected with PPP, and in some cases have caused fires in collection vehicles and processing facilities in BC.

In some cases, material may be recyclable, but is not well suited to being mixed with other recyclables in curbside and multi-family recycling programs. For example, plastic bags and overwrap are usually so contaminated and mixed with non-recyclable types of plastic film when collected curbside that they are unable to be recycled. This material also creates serious problems when it becomes tangled in other recyclables, or in the automated machinery used to sort curbside material. Manual labour is used to remove plastic bags and overwrap from jammed machinery – an expensive and unsustainable activity. Collecting plastic bags and overwrap at depots helps to ensure that more of all types of material can be recycled and sold to end markets. By reducing the amount of material that does not belong in the curbside and multi-family recycling streams, collectors can ensure more PPP material is effectively recycled.

Recent changes in global recycling end-markets are impacting jurisdictions and recycling processors across North America and around the world. Material that is clean, properly sorted, and contains only accepted material is now more important than ever to ensure we have viable end-markets for all our materials. Even small levels of contamination can cause entire shipments of recyclables to be rejected by end-markets. Recycle BC is continuing to find markets for the PPP collected across BC thanks to the general high quality of the material in our system, but this ability may be jeopardized if contamination levels do not continue to decrease.

How does Recycle BC measure the contamination rate for curbside and multifamily collectors?

Recycle BC routinely completes composition audits of PPP received from Recycle BC collectors. These audits are used to determine the average amount of Incompatible Material being collected under the Recycle BC program by the applicable collector.

Collectors are randomly selected for detailed composition audits, though the frequency of selection is dependent on a number of variables, including the relative size, scope and geographic location of their collection program. Larger municipalities will therefore generally have more composition audits completed than smaller municipalities. The day and time of audits are randomly selected so that results will generally be spread across collection vehicles and routes.

The selected vehicle, once it arrives at the applicable receiving facility, is weighed according to the normal procedures. The driver is then instructed to unload in a specific area that is free of other material. The discharged load is mixed with a front-end loader and a cross section is emptied into a dedicated Super Sack. This process is repeated until the sample is roughly 100 kg. The Super Sack is then zipped closed, secured with an individually number zip tie tag and shipped to the Recycle BC audit facility in Surrey. The entire process is videotaped so that it can be reviewed by Recycle BC to ensure the required procedures are being followed.



What is Incompatible Material?

Incompatible Materials are the primary contamination categories observed by Recycle BC in audits. This category encompasses all categories of contamination, including Not Accepted Material, Un-sortable Material, Plastic Bags and Overwrap, Comingled Glass, Other Flexible Plastic Packaging, Accepted Material Containing Residue, Foam Packaging and more.



The slide titled 'Incompatible Material – ' in your Contamination Scorecard shows the trend of Incompatible Material over time. Material that is not accepted for collection in curbside and multi-family programs under the Recycle BC program (i.e. "contamination" or Incompatible Material) can be categorized into the following sub-categories, which are outilned on the same slide with the relevant percentages for your material.



What is Not Accepted Material?

Not Accepted Material includes any material that is not considered as In-Scope PPP collected under the Recycle BC program, and is one important sub-category of Incompatible Material. The slide titled 'Not Accepted Material – ' in your Contamination Scorecard shows the trend of Not Accepted Material over time.



Not Accepted Material categories can be categorized into the following sub-categories, which are outilned on the same slide with the relevant percentages for your material.



Recycle BC's Curbside and Multi-Family **Statements of Work (SOW)** indicate that collected PPP may not contain more than 3% by weight of Not Accepted Material. Loads of received PPP that contain more than 3% by weight of Not Accepted Material can be subject to rejection by the applicable receiving facility and can be subject to Service Level Failure Credits by Recycle BC.

Not Accepted Material: Not Accepted Material includes any material that is not considered as in-scope PPP collected under the Recycle BC program. Below are the Not Accepted Material categories and examples:

Category	Examples
Bioplastics - PLA, PHA, PHB – Rigid & Flexible	Packaging labeled biodegradable or compostable
Ceramics, Non-Packaging Glass	Broken glassware (e.g. drinking glasses, glass vases) and ceramics (e.g. ceramic mugs, ceramic bowls)
Construction and Renovation Waste	Drywall, wood with nails, insulation, carpet
Contaminated PPP - Hazardous	Aerosol containers with content remaining
Durable Multi-Material Products	Binders, children toys, car seats
Durable Plastic Products	Hard plastic children toys, plastic storage bins, toilet seats
Electronics	Cell phones, computers, small appliances, light strings
Hard and Softcover Books	Textbooks and novels <u>Excludes</u> telephone books or magazines, which are accepted in the Recycle BC program.
Hazardous Material	Disposable propane tanks and cylinders, medical sharps (i.e. needles), lighter fluid containers, and lithium batteries See <u>'What Is Hazardous Material?'</u>

Multi-laminated Paper Based Packaging	Paper bags with a foil liner (e.g. some coffee and pet food bags)
Multi-Material & Plastic Squeeze Tubes	Toothpaste tubes, lotion tubes
Not Accepted PPP	Squishy foam, plastic buckets with metal handles, tarps
Oil and Antifreeze Containers	Containers for motor oil, vehicle lubricant and antifreeze
Organics	Food and yard waste
Paint Containers (Plastic & Metal)	Steel paint cans, plastic paint cans
Personal Hygiene Products	Diapers, wipes, facial tissue
Residue/All Other Non-PPP Materials	Bags of mixed garbage and food waste
Scrap Metal	Automotive parts, chains, pots, frying pans, and hardware
Textiles and Clothing	Sweaters, t-shirts, shoes
Waxed Corrugated Containers	Cardboard boxes with wax coating
Wood	Construction wood waste

What is Hazardous Material?

Hazardous material is material that can be dangerous and is not accepted for recycling collection. The most common types are disposable propane cylinders, lithium batteries from electronics such as computers and cell phones, and lighter fluid containers.

Other examples include reusable propane canisters, butane canisters, helium balloon cylinders, oxygen cylinders used for home health, medical sharps (needles) and flammable liquid and pesticide containers with contents remaining.

Why it's a problem:

Hazardous material can pose serious safety problems for

recycling workers and the operation of recycling facilities, such as explosions and fires, if they are not properly recycled or disposed of.

Hazardous Material

butane cylinders

* Lithium batteries

(cellphones, etc.)

* Lighter fluid containers

* Disposable propane and/or

These items may explode or burst when heated, compressed or dropped. Small sparks can cause flammable and combustible material to catch fire or explode.



• % Audits with Hazardous Material = # Audits with Hazardous Material / Total # Audits

How to prevent it:

It's important residents dispose of these dangerous materials properly and DO NOT put any materials that have the risk of explosion in with their packaging and paper products. Residents should **take these hazardous materials to a recycling depot that accepts them for safe disposal.**

1. Educate your residents

- The Recycling Council of British Columbia's <u>Recyclepedia</u> allows residents to search for a nearby depot at <u>RCBC.ca.</u>
- Residents can also call their recycling hotline at 1-800-667-4321, or email hotline@rcbc.ca_to find a drop-off location

2. Remove and tag these items at the curb

• Practice active tagging and contamination removal at the source (residents' bins) to ensure they aren't put in the collection trucks or delivered to the receiving facility.

Incompatible Material Breakdown

The 'Incompatible Rate Over Time' graph illustrated on your Contamination Scorecard is the sum of each primary contamination category over time.

Each category will be shown in the Contamination Scorecard as a graph similar to the one seen in the visual below:

• The **blue** and **yellow dotted line** - - - **represents the trend line** for your performance over time. If you are single stream collector you will only have one trend line.

Cross-contaminated Material is a category applicable only to multi-stream collectors. If you are a single-stream collector, the Cross-contaminated Material graph will not contain any data and will be left blank.









Un-sortable Material: Un-sortable material refers to material that may otherwise be accepted and recyclable, but has been placed in collection containers by residents in a manner that does not allow the material to be recycled. This is typically the case when residents tie their recyclables into plastic bags that are not approved collection containers (such as grocery bags) or nest different types of containers together (e.g. a metal can inside a plastic tub). When materials are received in this matter, they can't be recycled. For more information on this problem, please see: https://recyclebc.ca/recycling-unrecyclable/

Accepted Material Containing Residue: Accepted Material Containing Residue refers to packaging and paper products that still contain product residue and have not been rinsed out prior to entering the recycling stream. Common examples include half-empty shampoo bottles and food residue in pizza boxes. This can pose significant challenges at the sorting facilities as the materials cannot be separated and otherwise acceptable PPP will become waste. Food residue can also lead to materials being rejected by end-markets.

*Cross-Contaminated Material: Cross-contaminated material refers to paper that has been included in the containers stream, or containers that have been included in the paper stream.

*applicable to Multi-stream collectors only. See Multi-stream collection

Overall Mis-sorted Material: Mis-sorted material refers to the grouping of contamination sub-categories material that is accepted for recycling in the Recycle BC program but only for drop-off at Recycle BC depots, or as a segregated collection stream (for those collectors with segregated glass collection). These materials include Foam Packaging, Plastic Bags and Overwrap, Other Flexible Plastic Packaging and Comingled Glass.

Mis-sorted Material Breakdown

Mis-sorted material refers to the grouping of contamination sub-categories material that is accepted for recycling in the Recycle BC program but only for drop-off at Recycle BC depots, or as a segregated collection stream (for those collectors with segregated glass collection). These materials include Foam Packaging, Plastic Bags and Overwrap, Other Flexible Plastic Packaging and Comingled Glass.











The 'Overall Mis-sorted Material' graph shows the total mis-sorted material average contamination, which can be further broken out in to the following categories:

Comingled Glass: Comingled glass refers to glass bottles and jars that have been mixed in with other collected materials. As outlined in the Curbside and Multi-Family SOW, collectors are required to reduce the amount of comingled Category 8 glass containers to less than 3% by weight of the fibres (i.e. paper and cardboard) and containers (i.e. plastic containers, metal containers, cartons and cups). Glass containers must either be directed to depots or collected as a segregated material stream. For more details, please see: https://recyclebc.ca/focus-on-materials-glass-containers/

Foam Packaging: Foam packaging is accepted for recycling in the Recycle BC program, but only for dropoff at Recycle BC depots. This material cannot be effectively recycled when comingled with other materials at the curb as it frequently breaks and crumbles during the collection and processing stages. As this material is extremely light, even small amounts (from a total weight perspective) can cause significant processing challenges. Common examples of foam packaging accepted at depots, but not accepted for curbside or multi-family collection, include: foam food containers, foam meat trays, and foam packaging used to protect electronics. Note: "squishy" foam packaging is not acceptable anywhere in the program. For more details, please see: <u>https://recyclebc.ca/focus-on-materials-foam-packaging/</u>

Plastic Bags and Overwrap: Plastic bags and overwrap are accepted for recycling in the Recycle BC program, but only for drop-off at Recycle BC depots. This material cannot be effectively recycled when comingled with other materials at the curb and is a prohibited material in paper recycling. As this material is extremely light, even small amounts (from a total weight perspective) can cause significant processing challenges by wrapping around machinery leading to downtime and acting like paper in automated sorting machinery. Common examples of plastic bags and overwrap accepted at depots but not accepted for curbside or multi-family collection, include: plastic grocery bags, dry cleaning bags, bread bags, produce and bulk food bags, and overwrap for material like diapers, paper towels and soft drink can flats. For more information on our approach to plastic bags, see here: <u>https://recyclebc.ca/plastic-bags-depots-a-recycling-match/</u>

Other Flexible Plastic Packaging: Other Flexible Plastic Packaging (OFPP) are accepted for recycling in the Recycle BC program, but only for drop-off at Recycle BC depots. OFPP is one of the fastest growing packaging types on the market, and one of the largest categories of packaging not previously collected under the residential recycling program. Materials included in the OFPP category include stand-up and zipper lock pouches, crinkly wrappers and bags, flexible packaging with a plastic seal, woven and net plastic bags and non-food protective packaging. OFPP is collected at depots as a separate stream from Plastic Bags and Overwrap.

How do my organization's audit results compare with those of other collectors in **B.C?**

The slides titled 'Not Accepted Material Comparison' in the Contamination Scorecard provided includes graphs comparing your organization's results over time ("Collector Average") with the Recycle BC program average.



The Collector Average (red) is the average percent of Not Accepted Material by year in your collection service area.

The Program Average (light grey) is the average percent of Not Accepted Material by year of all single-stream and multi-stream collectors in the Recycle BC program within that channel type (i.e: curbside or multi-family).

This graph provides a baseline for comparison between the individual audit results of each collector and the average results of all collectors in the Recycle BC program (all collectors includes your collection results as part of the total pool).

The graphs below in the slide titled 'Not Accepted Material Comparison' shows the Collector Average and Program Average by Container Type, Stream Type and Household Density, which will reflect the details associated with your program. For example, multi-stream collectors are compared to the average of all multistream programs. This allows comparison of your service area with groups of similar collectors. The icons below each graph represent your collection Container Type, Stream Type, and Household Density.



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Household Density (HH / Hectare):



<u>Multi-stream Collectors Only</u> - How is the Not Accepted Material and Incompatible Material rate impacted by the number of fibre vs. container audits?

In Multi-stream collection systems, blended Not Accepted Material and Incompatible Material averages are determined based on a weighted calculation of the total tonnage collected in each stream. Due to the randomness of the audit generator, the number of fibre and container audits varies when examined across different timeframes. Historically, fibre audits yield lower Not Accepted Material levels than container audits. It is important to note the number of audits in each stream when examining the overall Not Accepted Material and Incompatible Material rate for each quarter.

In the visuals below, the blue section represents the multi-stream container (MS Containers) audit results and the yellow section represents the multi-stream fibre (MS Fibre) results.





Not Accepted Material - Curbside

Why does a section of my Contamination Scorecard show no results?

Collectors are randomly selected for detailed composition audits, though the frequency of selection is dependent on a number of variables, including the relative size, scope and geographic location of their collection program. Larger municipalities will therefore generally have more composition audits completed than smaller municipalities. The following message will show if there are insufficient audit results available for the selected timeframe for any of the applicable sections in your Contamination Scorecard:

INSUFFICIENT AUDIT RESULTS

What should I do with the information in my Contamination Scorecard and how should I proceed?

Contamination reduction remains a significant operational priority for the Recycle BC program. It is Recycle BC's expectation that all collectors will continue to work diligently to reduce the level of contamination in their curbside and multi-family program(s).

Regardless of whether you are required to submit a formal remediation plan to Recycle BC, you should be actively developing and implementing a plan to reduce the contamination levels illustrated in your Contamination Scorecard.

Any plan to seriously address curbside and/or multi-family contamination should include the following four elements:

- Promotion and education (P&E)
- Monitoring
- Training and
- Enforcement

While each element is important, in Recycle BC's experience it is only by tackling all four aggressively that real improvement is achieved.

Promotion and Education:

Clearly and frequently communicating to residents on the materials targeted for collection and common materials that should NOT be included with their PPP is critical. Promotion and education elements Recycle BC has employed in our direct service areas or have observed other local governments use include:

- Recycling calendars and guides that clearly outline accepted and non-accepted materials
- Social media campaigns and seasonal reminders
- Promotional videos and infographics
- Newsletters or mailings to residents
- Educational stickers or labels for collection containers, including updates about upcoming changes as well as "oops stickers" for rejected materials
- Advertisements (newspapers, bus shelters, billboards etc.)
- Wraps on collection trucks
- Press releases and media engagement
- Website that is easy to navigate and provides critical information
- Mobilization and coordination with community champions and groups
- Online and app-based material search and depot locator tool
- Lobby events (multi-family)
- Posters in recycling rooms (multi-family)
- Informational booths at public events (i.e. Earth Day, Public Works Yard day, etc.)

Recycle BC provides top-up payments to local government curbside and multi-family collectors specific to promotion and education. Recycle BC also has a number of communication resources available for collectors that can be used to assist in your efforts, including a number of templates for materials such as recycling guides and collection container stickers. Recycle BC's communication resources can be accessed once a collection agreement has been offered. Once applicable, please register for access to resources on the collector resource

portal at https://recyclebc.ca/collector-resource/ or contact Lyndsey Chauhan, Director, Marketing Communications at <u>lchauhan@recyclebc.ca</u> for assistance.

Recycle BC encourages collectors to use our name, logo, website and related resources to support their promotion and education efforts. If we are referenced in materials or our logo is used, we request the opportunity to review and approve the material prior to print or production to ensure accuracy. That being said, we strongly encourage collectors to provide draft communication materials to us for review in all cases so that we may review the materials for accuracy in relation to Recycle BC program requirements and so that we may provide feedback based on our direct experience as well as the collective experience of collectors participating in our program.

Monitoring:

Contamination remediation plans should include detailed monitoring strategies to gauge program performance beyond reviewing data provided by Recycle BC. Ongoing monitoring strategies can then be used to adapt applicable promotion and education, training and enforcement strategies as required.

Recommended actions include:

- Collection vehicle ride-alongs by supervisory and management staff Recycle BC staff regularly perform ride-alongs with vehicle drivers in our direct service communities. In our experience, this is one of the best ways to see firsthand what the issues are, where they are occurring and how to address them. By getting in the field and assisting with actual collection (even if only for a couple hours), we often gather critical information that can assist in contamination reduction strategies.
- Collection surveys As an alternative to ride-alongs, supervisory and management staff can perform
 regular surveys of the material being set out for collection, even if just a representative sample (street,
 neighborhood or route). This tactic has been employed successfully by Recycle BC to gather critical
 information on issues in the field and to gauge improvement. Recycle BC field staff are available to
 participate in such surveys with collector representatives, if requested. This tactic can also be combined
 with the type of enforcement actions outlined below (e.g. 'Oops' stickers).
- Regular check-ins with collection staff Supervisory and management staff (e.g. local government staff) should meet regularly with route supervisors and collection drivers, even if using a contractor and not in-house staff, to review issues, brainstorm strategies and celebrate successes. Collection staff often have a direct window into what strategies are working and what areas of their routes are more problematic than others.
- Observing material delivery Arrangements may be able to be made with Recycle BC field services staff to observe collection vehicles offloading their materials at the applicable receiving facility. High-level information on contamination issues can often be gleaned just by watching the material being dumped (e.g. if there are high levels of plastic film present).

Training:

Contamination remediation plans should include detailed training strategies for collection staff, including collection drivers, route supervisors and managers, regardless of whether collection is done by in-house staff or a contractor.

Collection staff must be thoroughly trained and familiar on all relevant program requirements to ensure they are consistently applied. Ongoing training should be regularly scheduled as well as applied on an as-needed basis. The focus of post-transition training should, in part, be dictated by the information revealed during applied monitoring strategies.

Enforcement:

Contamination remediation plans should include a detailed enforcement strategy to ensure program requirements are being actively enforced at the point of collection.

In Recycle BC's experience, consistent and effective enforcement procedures are required to have a significant impact on actual contamination rates. Recycle BC and our contractors have focused extensively on enforcement in our direct service communities and have seen immediate and significant improvements of contamination levels. Enforcement essentially boils down to ensuring collection staff are actively reviewing materials <u>before</u> they are placed in the truck, tagging non-compliant materials and leaving these materials behind.

In multi-stream curbside programs and non-automated single-stream programs where collection staff can actually see the material being collected (e.g. programs using open top blue boxes, reusable bags), this task falls primarily on collection drivers. In successful programs, a large focus has been placed on having drivers remove non-compliant material and leaving it behind with an "oops sticker" that provides further information on the problem (typically by checking off the applicable box) and encouraging the resident to call in for further information and instructions. Entire collection containers can be left behind if that address has had more than three "strikes" in the past, and/or if the amount of non-compliant material is significant enough that removal of the offending material is simply not possible. While there is no doubt that this initially takes additional time for the driver and requires constant diligence, many of the drivers we have spoken with report that this type of short-term pain has been largely offset by long-term improvements in both contamination and route efficiencies.

In curbside and multi-family programs that use carts, particularly automated systems where the collection staff does not leave their vehicle, alternative arrangements must be made for enforcement procedures. Typically, this involves dedicated staff reviewing carts prior to collection and tagging carts as necessary for warnings or non-pick-ups, based on the severity of the issue and the timeline of infractions received at that address to date.

While it is certainly not possible for every household to be targeted in this way each collection day, a well developed and implemented enforcement strategy will ensure each neighborhood is captured in this process over time in a coordinated manner.

Regardless of the exact approach utilized, detailed procedures for tagging and relevant training protocols for collection staff are required to ensure a consistent and coordinated approach is applied. Contamination remediation plans should outline the exact procedures that will be used, how they will be applied, the timeline for application and the materials that will be used to support those procedures (e.g. "oops stickers"). To ensure that residents are not caught off-guard by the applicable enforcement procedures, Recycle BC recommends that

collectors provide as much advance notice of the applicable changes and upcoming enforcement as possible so that residents are given the opportunity to adapt their behavior beforehand.

Questions? Want to discuss further?

Please do not hesitate to reach out directly to Tessa Janzen <u>Tjanzen@RecycleBC.ca</u> or to your designated Recycle BC field services contact to discuss your results or any of the information presented in your Contamination Scorecard or in this FAQ document in more detail. As always, we would be happy to meet with you to review your plan or its implementation, discuss our experience in reducing contamination in our direct service communities or to answer any other questions you may have.

If you have any feedback on the content of your Contamination Scorecard or on this FAQ document, we would also be happy to receive it.

