



Characterization Study of Outgoing Materials from MRFs

Éco Entreprises Québec and RECYC-QUÉBEC conducted a joint characterization study of outgoing materials from material recovery facilities (MRFs) from 2018 to 2020. It was conducted in two phases, each of which enabled characterization of selected output from each of the 22 MRFs that receive materials from municipal curbside collection in Quebec.

The aims of the study were to:

- Establish a snapshot of the composition of outgoing materials from MRFs.
- Meet characterization requirements relative to RECYC-QUÉBEC financial assistance programs.
- Update data required for the activity-based costing (ABC) analysis conducted jointly by Éco Entreprises Québec and RECYC-QUÉBEC.

The results presented here reflect data collected during the initial phase of characterization conducted from June 2018 to August 2019. The second phase, currently under way and spanning the period between September 2019 and the fall of 2020, will provide additional data and track changes in the composition of bales.

Methodology

During the initial phase of the study, outgoing materials from 22 MRFs that serve municipal curbside recycling were sampled and then characterized according to 42 categories (see Appendix I).

In each MRF, between four and six material categories were characterized, with 10 samples per material category, except where operational constraints did not permit.

Sampling was conducted over a one-week span, with efforts made to ensure the weeks chosen were representative of normal operations.

Categories of materials characterized were as follows:

- Fibre: corrugated cardboard, cartons, paperboard, newsprint, mixed paper.
- Plastic: PET No. 1, HDPE No. 2, bags and films, mixed plastics.
- Metal: aluminum containers, aluminum cans, non-ferrous metals.
- Rejects.



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Glass is excluded from the study. With respect to boxboard and aluminum cans, the number of samples was limited, such that it is not possible at this time to include global, representative information in the provincial snapshot.

While MRFs receive materials from municipal curbside collection, they also receive material from industrial, businesses and institutional (IBI). The characterization results represent outgoing materials from MRF regardless of origin, given that materials from multiple streams are normally combined during the sorting or baling process.

To arrive at a representative snapshot for Quebec, the calculations takes into account the quantity of outgoing materials for each MRF, based on the data reported for the 2018 Report on waste management in Quebec produced by RECYC-QUÉBEC. A weighted average is therefore used.

Results

On the following pages, the following statistics are presented for each category of materials characterized:

- Average proportion (as a percentage) of the material category in the outgoing materials.
- The generally expected standard of quality.
- Number of MRFs in which these bales were characterized.
- Number of samples.
- Materials generally accepted, generally tolerated and generally prohibited for the category of materials characterized.

The concepts of generally accepted, tolerated and prohibited materials were determined, when possible, using the specifications of Quebec processors and recyclers. Otherwise, the default specifications are those of the Institute of Scrap Recycling Industries Inc. (ISRI), which are globally recognized standards. Wherever applicable, the acceptability percentage determined according to ISRI is indicated. It must be noted, however, that the specifications used—whether those of processors, recyclers or the ISRI—serve to provide an overall picture, but do not represent the requirements of all purchasers. A given purchaser may, according to its specific procedure, be interested in a material that might, in this study, be categorized as “generally prohibited.”

Under each graph are examples of materials included in the categories listed as being generally accepted, tolerated or prohibited. Appendix I provides examples of materials in each category.

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Average composition of corrugated cardboard bales

MRFs: **12**

Samples: **123**

ISRI Standard

Tolerated materials + prohibitives	5%
Prohibitives	1%

Generally accepted materials

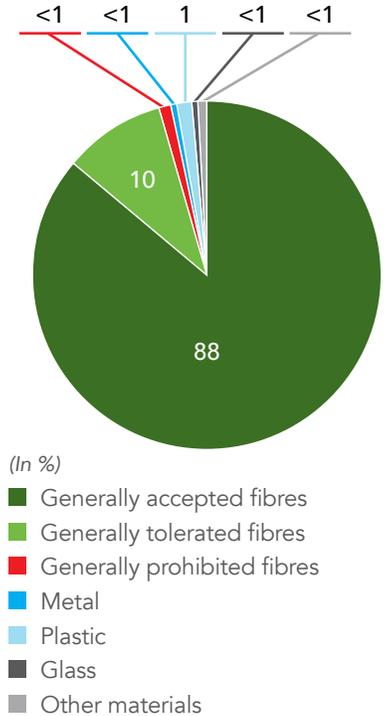
Corrugated cardboard.

Generally tolerated materials

Paperboard and pressboard, newspapers and circulars printed on newsprint, magazines and periodicals, catalogues and publications, directories, general-use paper, other non-contaminant printed papers and other paper packaging.

Generally prohibited materials

Waxed cardboard, paper and cardboard laminates, gable-top and aseptic cartons, other contaminant printed papers, wood containers and packaging, glass, metal, plastics and all other materials.



Average composition of mixed paper bales

MRFs: **10**

Samples: **122**

ISRI Standard

Tolerated materials + prohibitives	3%
Prohibitives	2%

Generally accepted materials

Newspapers, circulars printed on newsprint, magazines and periodicals, catalogues and publications, phone directories, general-use paper, corrugated cardboard, paperboard and pressboard, other non-contaminant printed papers and other paper packaging.

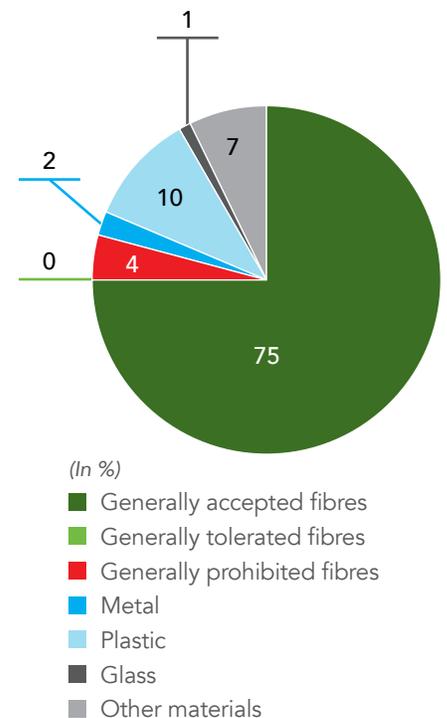
Generally tolerated materials

N/A.

Note: The fibre purchasers consulted did not identify any materials as tolerated, whereas the ISRI standards identify certain fibres as tolerated. Where possible, we have presented the data according to local purchasers.

Generally prohibited materials

Paper and cardboard laminates, waxed cardboard, gable-top and aseptic cartons, other contaminant printed papers, wood containers and packaging, glass, metal, plastics and all other materials.



Characterization Study of Outgoing Materials from MRFs

Average composition of sorted residential papers & news bales

MRFs: **12**

Samples: **129**

ISRI Standard

Tolerated materials	3%
Prohibitives	2%

Generally accepted materials

Newspapers, circulars printed on newsprint.

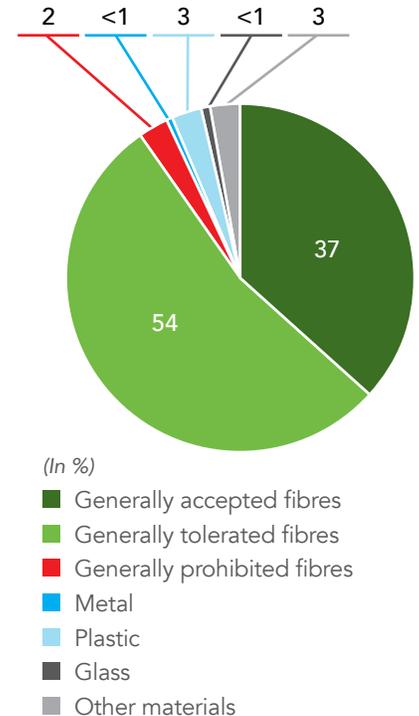
Generally tolerated materials

Magazines and periodicals, catalogues and publications, directories, general-use paper, corrugated cardboard, paperboard and pressboard, other paper packaging and other non-contaminant printed papers.

Generally prohibited materials

Paper and cardboard laminates, waxed cardboard, gable-top and aseptic cartons, other contaminant printed papers, wood containers and packaging, glass, metal, plastics and all other materials.

Note: Some MRFs indicated to us that they produce sorted residential papers & news considered as such when sold for export but would be considered mixed paper if sold in Quebec. For the purposes of this study, everything declared as newsprint by MRFs has been categorized as such.



Average composition of cartons bales

MRFs: **7**

Samples: **67**

ISRI Standard

Tolerated materials + prohibitives	5%
Prohibitives	2%

Generally accepted materials

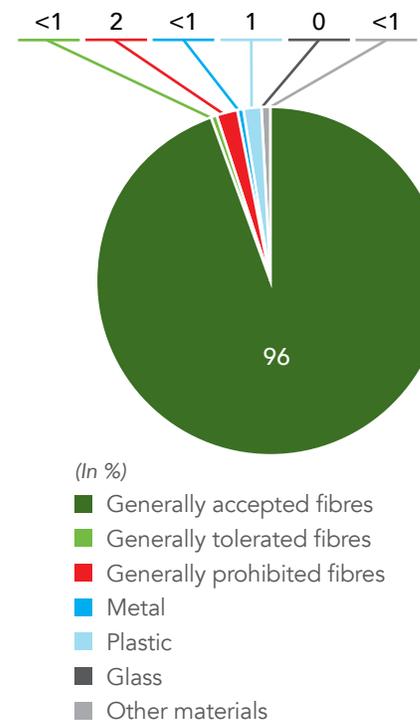
Gable-top containers, aseptic cartons, magazines and periodicals, catalogues and publications, general-use paper, paper and cardboard laminates, other non-contaminant printed papers, other paper packaging.

Generally tolerated materials

Newspapers, circulars printed on newsprint, phone directories.

Generally prohibited materials

Corrugated cardboard, waxed cardboard, paperboard and pressboard, other contaminant printed papers, wood containers and packaging, glass, metal, plastics and all other materials.



Characterization Study of Outgoing Materials from MRFs

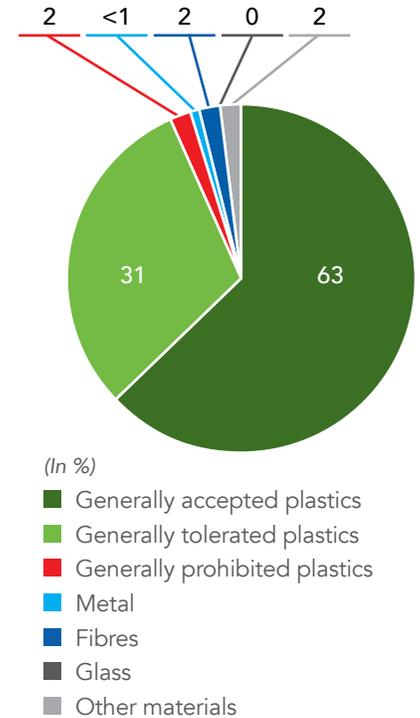
Average composition PET plastic (No. 1) bales

MRFs: 9

Samples: 82

ISRI Standard

Prohibitives	0%	All grades
Tolerated materials	6%	Grade A
Tolerated materials	7% to 17%	Grade B
Tolerated materials	18% to 27%	Grade C
Tolerated materials	≥ 28%	Grade F



Generally accepted materials

Returnable plastic beverage bottles, PET (No. 1) bottles and compatibles.

Generally tolerated materials

Opaque PET and other PET (No. 1), HDPE (No. 2) bottles, other rigid plastics, metal, fibre.

Generally prohibited materials

PVC (No. 3) bottles, containers and packaging, HDPE (No. 2) and LDPE (No. 4) film, polystyrene (No. 6) containers and packaging, laminated plastics, PLA and other degradable plastics, other plastic film (non-packaging), other plastics not covered by municipal curbside collection programs, waxed cardboard, wood containers and packaging, glass and all other materials.

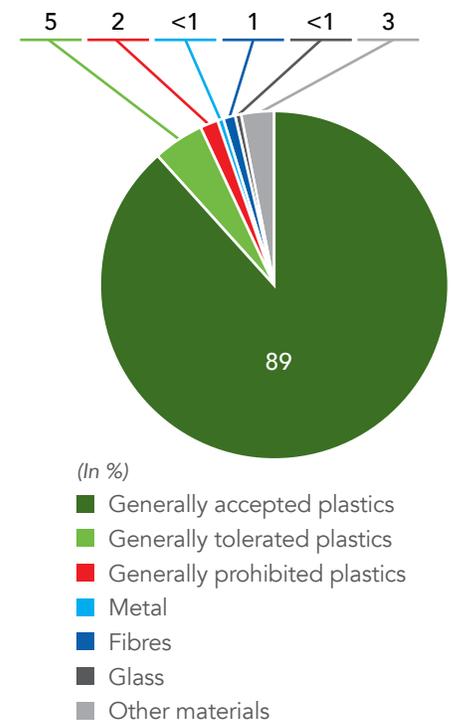
Average composition of HDPE (No. 2) plastic bales

MRFs: 10

Samples: 97

ISRI Standard

Prohibitives	0%	All grades
Tolerated materials	5%	Grade A
Tolerated materials	6% to 15%	Grade B
Tolerated materials	16% to 20%	Grade C
Tolerated materials	≥ 21%	Grade F



Generally accepted materials

HDPE (No. 2) bottles.

Generally tolerated materials

Returnable plastic beverage bottles, PET (No. 1) bottles and compatibles, opaque PET and other PET (No. 1), polystyrene (No. 6) containers and packaging, fibres, other rigid plastics and cans, aluminum foil and containers.

Generally prohibited materials

HDPE (No. 2) and LDPE (No. 4) film, PVC (No. 3) bottles, containers and packaging, laminated plastics, PLA and other degradable plastics, other plastic film (non-packaging), other plastics not covered by municipal curbside collection programs, waxed cardboard, wood containers and packaging, glass, aerosol containers, steel containers and packaging, other metals not covered by municipal curbside collection programs and all other materials.

Characterization Study of Outgoing Materials from MRFs

Average composition of mixed plastic bales

MRFs: **15**

Samples: **145**

ISRI Standard

Tolerated materials	5%
Prohibitives	0%

Generally accepted materials

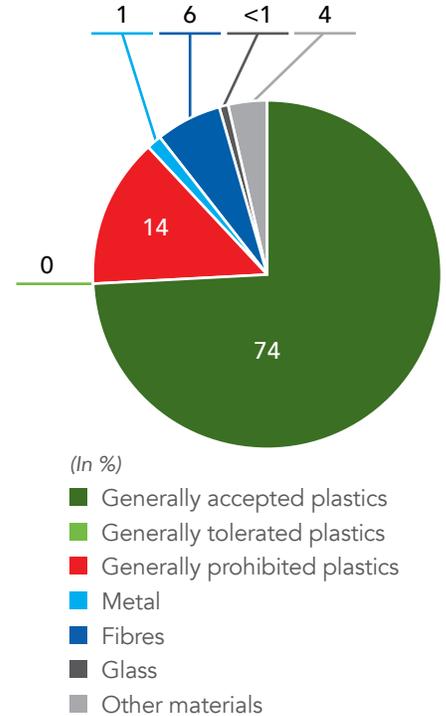
Returnable plastic beverage bottles, PET (No. 1) bottles and compatibles, opaque PET and other PET (No. 1), HDPE (No. 2) bottles, PVC (No. 3) bottles and packaging, polystyrene (No. 6) containers and packaging, other rigid plastics.

Generally tolerated materials

Fibres and metal.

Generally prohibited materials

HDPE (No. 2) and LDPE (No. 4) film, laminated plastics, PLA and other degradable plastics, other plastic film (non-packaging), other plastics not covered by municipal curbside collection programs, waxed cardboard, wood containers and packaging, glass and all other materials.



Average composition of bag and film bales

MRFs: **11**

Samples: **107**

ISRI Standard

Tolerated materials	10%
Prohibitives	0%

Generally accepted materials

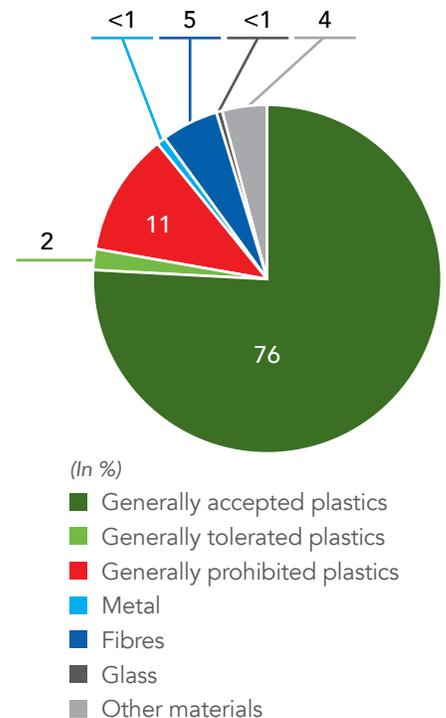
HDPE (No. 2) and LDPE (No. 4) film and other plastic film (non-packaging).

Generally tolerated materials

HDPE (No. 1) bottles, polystyrene (No. 6) containers and packaging, PLA and other degradable plastics, fibres and other rigid plastics.

Generally prohibited materials

Non-returnable PET (No. 1) beverage bottles, PET (No. 1) bottles and compatibles, other PET (No. 1), PVC (No. 3) bottles, containers and packaging, laminated plastics, other plastics not covered by municipal curbside collection programs, wood containers and packaging, metal, glass and all other materials.



Characterization Study of Outgoing Materials from MRFs

Average composition of aluminum container bales

MRFs: 5

ISRI Standard

Samples: 47

There is no ISRI standard for these bales.

Generally accepted materials

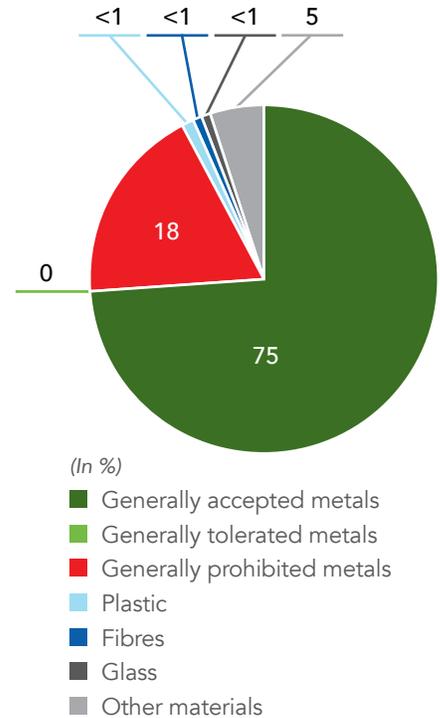
Returnable aluminum cans, aluminum food and beverage containers, aluminum foil and containers.

Generally tolerated materials

N/A

Generally prohibited materials

Aerosol containers, other non-returnable steel containers and packaging, other metals not covered by municipal curbside collection programs, fibre, plastic, glass and all other materials.



Average composition of ferrous metal (steel) bales

MRFs: 5

ISRI Standard

Samples: 47

There is no ISRI standard for these bales.

Generally accepted materials

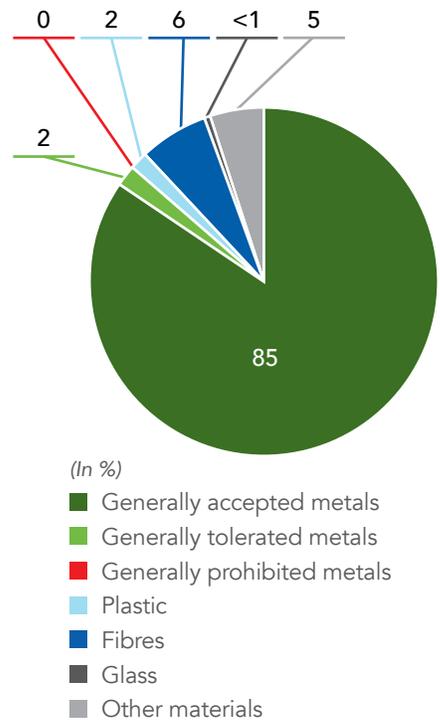
Other steel containers.

Generally tolerated materials

Returnable aluminum containers, aluminum food and beverage containers, aluminum foil and other containers, aerosol containers, fibre, plastics and glass.

Generally prohibited materials

All other materials.



Characterization Study of Outgoing Materials from MRFs

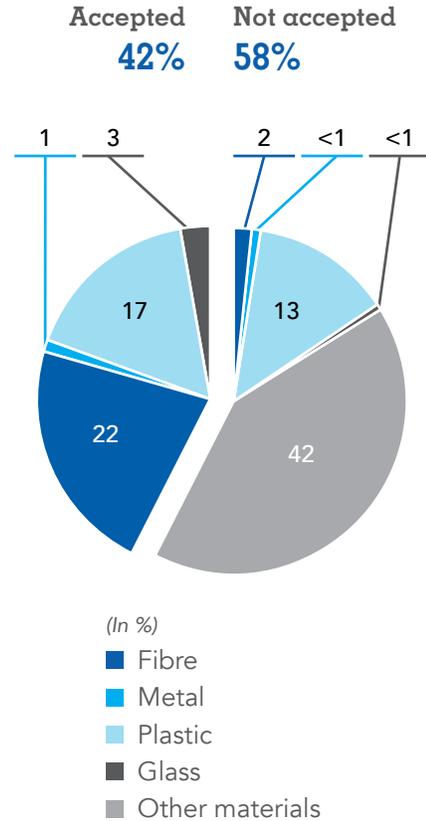
Distribution of rejects by category

MRFs: **19**

Samples: **187**

In a MRF, rejects are removed at several points, either at pre-sort or directly from sorting lines. Pre-sort is the location where attempts are made to manually remove the largest or most problematic rejects that should not have reached the MRF (e.g. chairs, garden hoses, auto parts).

This characterization was conducted on rejects removed at later sorting stages; therefore the composition presented for rejects does not necessarily consider all rejects from the MRF. The goal was to have a better idea of the quantity of recyclables present in rejects, not to obtain details on the quantities and composition of materials and products that should not have reached the MRF.



Characterization Study of Outgoing Materials from MRFs

APPENDIX I – MATERIALS CATEGORIES

1	Newspapers	Newspapers printed on newsprint covering general news or a specific field and published according to a regular schedule (daily, weekly, monthly). E.g.: Newspapers (dailies, weeklies, etc.).
2	Newsprint inserts and circulars	All materials other than newspapers printed on newsprint (published for “rapid consumption”). E.g.: Advertising inserts, circulars and flyers printed on newsprint that can be stapled and distributed inside a newspaper, in a Publisac or directly to the consumer; park guides and automotive or real-estate supplements printed on newsprint, publications printed on newsprint with or without glossy cover (e.g. automotive / real estate weekly). Excludes: Newspapers (Category No. 1) and newsprint used for wrapping products (Category No. 13).
3	Magazines and periodicals	Publications (bound periodicals printed on glossy or non-glossy paper), business and specialty magazines (e.g. health, beauty and wellness, cooking, house & home, children, family, arts & culture). E.g.: <i>L’actualité</i> , <i>7 jours</i> , <i>Décormag</i> , <i>Science et Vie</i> , <i>TV guides</i> .
4	Catalogues and bound documents	Publications, periodicals, catalogues or other bound products printed on glossy paper or coated paper (either glossy or matte, light or medium weight) the main purpose of which is to promote or sell a product or service. E.g.: Seasonal retailer catalogues, commercial directories, travel magazines and brochures, annual reports, promotional brochures and guides printed on glossy paper
5	Directories	Printed residential and commercial directories (e.g. Yellow Pages) of private and commercial telephone numbers, postal codes and website addresses, with glue binding. E.g.: Phone book, neighbourhood directory.
6	Paper for general use	E.g.: All-purpose white or colour paper, specialty white or colour printer or photocopier paper, notepads and notebooks with detachable sheets (usually glued), ruled (line or graph) loose-leaf sheets, themed papers with pre-printed images.
7	Other non-contaminant printed matter	E.g.: School textbooks/workbooks, hardcover or softcover, school supplies, training materials, official documents issued by the Government of Quebec or a controlled entity that can serve as “ID” (birth or marriage certificate), diplomas and other recognized certificates, notarized acts, magazines containing crosswords or similar games (e.g. Sudoku).
8	Other contaminant printed matter	Photographs, carbon paper.
9	Corrugated cardboard	All corrugated cardboard packaging. E.g.: TV box, pizza delivery box, beer case (12- or 24-pack). <hr/> Kraft paper bags. E.g.: Brown paper grocery bags, paper bag for take-out food, prescription medication, drive-through pickup. <hr/> Kraft paper packaging. E.g.: Bags for potatoes, flour or sugar, sugar packets, non-laminated oatmeal packages, non-laminated brown paper bags for bread without windows, kraft paper from shoeboxes.

Characterization Study of Outgoing Materials from MRFs

APPENDIX I – MATERIALS CATEGORIES (CONT'D)

10	Laminated paper and laminated fibre containers	<p>Laminated containers for rapid-consumption food and drink. E.g.: Paper cups for beverages, soup bowls, soft-drink cups.</p> <p>Paper or paperboard with a plastic or aluminum lining (other than containers for rapid-consumption food and drink). E.g.: Granola bar wrappers, ice-cream packaging, cookie bags/pouches, instant oatmeal packets, frozen-food containers, bags of flour or dessert mixes, popcorn bags, sandwich/hamburger wrappers, muffin liners, pet food bags, playing cards, bags for bread in laminated brown paper or with windows, paper packaging from cigarette packs.</p> <p>Composite containers, laminated or non-laminated, the primary component of which is fibre. E.g.: Fibre cans (with bottom and lid in metal or plastic), containers of Pringles brand chips, Quik brand drink powder or frozen juice, envelopes with bubble pack, blister-pack packaging batteries if plastic and cardboard not separated, jewellery boxes with fabric lining, ThermoSafe brand cardboard boxes with glued, non-removable polystyrene.</p>
11	Waxed cardboard	
12	Boxboard packaging	<p>Cardboard with visible fibre. E.g.: Egg cartons, moulded trays, trays for coffee or fruit, pressboard plates, cereal boxes, shoeboxes, tissue boxes, toilet paper or paper towel rolls, 6-pack beer cases, paperboard plates, pie boxes with plastic windows.</p>
13	Other paper packaging	E.g.: Clothing tags, newsprint used as packing material (e.g. shoes, gifts), bread bags made of paper other than non-laminated brown paper, tissue paper, gift wrap, paper lollipop sticks.
14	Gable-top cartons	<p>Multilayer gable-top containers, for refrigeration or otherwise. E.g.: Milk, juice and molasses cartons.</p>
15	Aseptic containers	<p>Multilayer containers with an aluminum layer, for refrigeration or otherwise. E.g.: Tetra Pak, Tetra Brik, juice boxes, soup containers, wine containers.</p>
16	Wood containers and packaging	E.g.: Boxes of clementine/tangerine oranges, apple cases, some types of cosmetics packaging, some types of tea packaging, cork, popsicle sticks.
17	Returnable beverage bottles	<p>Plastic beverage bottles refundable in Quebec. E.g.: Soft drinks, Hawaiian Punch, iced tea.</p> <p>Includes: Refundable multiple-refill water cooler jugs (state when present). See: https://bge-quebec.com/en/recovery-statistics/</p>

Characterization Study of Outgoing Materials from MRFs

APPENDIX I – MATERIALS CATEGORIES (CONT'D)

18	PET bottles and compatibles	<p>Still or sparkling water bottles, from 250 ml to 8 L, clear or coloured. E.g.: Eska, Amaro, San Pellegrino, Perrier brands.</p> <hr/> <p>Most beverage bottles. E.g.: Oasis fruit juices, Ocean Spray, Rougemont, V8, Garden Cocktail, Gatorade, Powerade, SAQ No. 1 plastic container.</p> <hr/> <p>Most bottles and containers with stoppers (non-beverage). E.g.: Cooking oil bottles, salad dressing bottles, peanut butter jars, dishwashing detergent and mouthwash bottles, kitchen-cleanser bottles.</p>
19	Opaque PET	<p>E.g.: Small brown-coloured alcoholic beverage bottles sold at the SAQ, some mouthwash bottles, some vitamin containers, coloured PET trays for meat or vegetables, pastry platters from grocery stores or caterers, blue PET mushroom containers.</p>
20	Other PET	<p>E.g.: Berry containers, lettuce containers, croissant/muffin packaging, egg trays, cookie trays.</p>
21	HDPE bottles	<p>E.g.: Milk bottles, some juice containers, SAQ No. 2 plastic containers.</p> <hr/> <p>Bottles and containers with stoppers (non-beverage). E.g.: Vinegar, dishwashing detergent, shampoo, glass cleaner, household cleansers, bleach.</p>
22	PVC	<p>E.g.: Insecticide bottles (Off!, Muskol), PVC blister packaging, PVC toy packaging.</p>
23	Other rigid polyurethane plastics	<p>E.g.: Certain gum containers, some muffin-mix containers, No. 2 lids (except Category No. 37 buckets and pails), some mustard containers, some ketchup containers, some shampoo bottles, No. 4 lids (e.g. margarine, yogurt), yogurt containers, some liquid food supplement bottles, margarine containers (includes reusable Tupperware-type margarine containers), No. 5 lids (except Category No. 23 buckets and pails).</p> <hr/> <p>Containers with capacity greater than 4 L and less than 25 L, excluding mop buckets (Vileda brand and other – Category No. 30). E.g.: Cat litter, pool chlorine.</p> <p>Excludes rigid HDPE containers with capacity 23 L or less for industrial/farm-use pesticides and fertilizers (under the responsibility of AgriRÉCUP – Category No. 30).</p> <hr/> <p>Unlabelled (unnumbered) packaging and stoppers and any non-durable No. 7 plastic packaging. E.g.: Flowerpots for short-term planting, cosmetic products tubes, toothpaste tubes, unlabelled pudding cups, small perfume samplers, citrus fruit netting, flexible plastic clothes hangers from retailers, elastic bands, plastic lollipop sticks, plastic mason-jar-type washers, syringes without sharps (e.g. for babies/infants).</p> <p>Includes: Caps and freshness seals from Tetra Pak and gable-top containers; caps from plastic Ensure bottles with metal freshness seals; plastic wine bottle stoppers, labelled or unlabelled; containers and packaging made of expanded plastic other than No. 6.</p> <p>Excludes: Caps/lids (categories nos. 22 and 23 depending on type of plastic).</p>

Characterization Study of Outgoing Materials from MRFs

APPENDIX I – MATERIALS CATEGORIES (CONT'D)

24	No. 6 expanded plastic containers and packaging	<p>All varieties of No. 6 “foam”-type polystyrene (rigid or flexible) used for protective packaging. E.g.: Polystyrene sheet, packing material, packing “peanuts,” foam packaging (e.g. for electrical appliances).</p> <hr/> <p>All varieties of No. 6 “foam”-type polystyrene used for food-product packaging. E.g.: “Styrofoam” cups and dishware, disposable plates and cups, hot beverage cups, meat trays, egg containers.</p>
25	No. 6 non-expanded plastic containers and packaging	<p>All varieties of No. 6 non-expanded plastic. E.g.: Small yogurt containers, cookie trays, dairy milkers and dairy creamers, butter cups, clear rigid containers for muffins/croissants, No. 6 clamshell packages, some blue mushroom trays, empty coffee dosing pods (e.g. Keurig), rigid cigar packaging (NOTE: check code using scanner).</p> <p>Excludes: Plastic utensils and straws (non-packaging) (Category No. 30).</p>
26	HDPE-LDPE packaging film and bags (including stretch film)	<p>SThis category includes nos. 2 and 4 plastic consumer product packaging but excludes shopping bags. E.g.: Dry-cleaning bags, bread bags, milk bags/pouches, Publisac bags, earth/fertilizer pouches, french-fry bags, bags for fresh/frozen vegetables, diaper bags, retractable-film packaging for various products (e.g. for wrapping a tray of 24 water bottles or cans), woven polyethylene feed bags.</p> <hr/> <p>Non-degradable plastic shopping bags (all types of non-degradable plastic). E.g.: Grocery, pharmacy, garment or other shopping bags.</p> <hr/> <p>Excludes: All film not made from HDPE/LDPE (Category No. 27).</p>
27	Laminated plastics	<p>Films, pouches, sacks made primarily of flexible plastic. Includes: No. 5 soft plastic and PVC films.</p> <p>E.g.: Meat, poultry and fish packaging, vacuum-sealed bacon packaging, bags for prepackaged deli meats, cheese packaging, cereal-box liner pouches, chip bags, candy packaging, coffee pouches, vacuum-sealed products, fresh pasta bags, dry pasta bags, some cookie bags/pouches, yogurt tube pouches, bubble wrap, blister packs for medication or chewing gum, plastics for farm use (including hay-bale wrap), plastic packaging for cigarette packs, sanitary napkin envelopes, plastic film for bag-in-box wine (“Cubi”), fruit sauce pouches, soap refill pouches, dried-fruit, frozen-fruit, cracker and sauce pouches.</p> <hr/> <p>Protective pad liners used to line fruit and meat trays to absorb liquid/moisture.</p>
28	PLA and other degradable plastics	<p>Plastic containers labelled PLA and all other rigid or flexible degradable plastics. Excludes: Degradable shopping bags, expanded PLA. E.g.: Cookie trays, clamshell packages for croissants/muffins.</p> <hr/> <p>Degradable plastic shopping bags. E.g.: Grocery, pharmacy, clothing and other shopping bags.</p>

Characterization Study of Outgoing Materials from MRFs

APPENDIX I – MATERIALS CATEGORIES (CONT'D)

29	Other plastic film (non-packaging)	<p>This category includes plastic film sold for use as is.</p> <p>E.g.: Garbage bags, recycling bags, Ziploc-type sandwich bags, cling wrap.</p> <p>Excludes: Durable plastic bags (Category No. 30). (Pas en français)</p>
30	Other plastics not covered by municipal curbside collection programs	<p>Unlabelled (unnumbered) packaging and stoppers and all durable No. 7 plastic packaging.</p> <p>Includes: Plastics refused by curbside recycling programs.</p> <p>Excludes: Toys (Category No. 42).</p> <p>E.g.: Durable flower pots, rigid plastic clothes hangers purchased for use as is, utility buckets, plastic utensils, straws, lighters, pens, CDs, DVDs, videocassettes, latex gloves, plastic automotive parts (including bumpers or other plastic auto body parts), durable plastic bags (for all consumer goods), plastic bags with no metal parts, shower curtains, plastic flowers, artificial Holiday trees made of plastic, plastic Holiday ornaments, water filters (e.g. Brita), all-plastic pool filters, credit cards, gift cards, toothbrushes, plastic rope/twine, plastic meat injectors / basters, plastic storage bins.</p> <hr/> <p>Rigid HDPE containers with capacity 23 L or less for industrial/farm-use pesticides and fertilizers (under the responsibility of AgriRÉCUP).</p> <p>Excludes: Deodorants and air fresheners (handled by ÉEQ, so place in proper plastic category).</p>
31	Returnable aluminum cans	<p>Cans refundable in Quebec.</p> <p>E.g.: Soft drinks, beer, energy drinks, some types of iced tea.</p> <p>See: https://bge-quebec.com/en/recovery-statistics/</p>
32	Aluminum food and beverage cans	<p>Cans not refundable in Quebec.</p> <p>E.g.: Non-refundable juice cans, cans of Perrier water, sardine cans, some cat-food cans.</p>
33	Aluminum foil and containers	<p>E.g.: Aluminum plates, aluminum foil, pie plates, yogurt / sour cream freshness seals, frozen lasagna trays, aluminum hair spray / shaving cream aerosol containers, aluminum deodorant / air freshener aerosol containers, aluminum candle tins.</p>
34	Steel aerosol containers	<p>Steel aerosol cans.</p> <p>E.g.: Whipped cream, deodorant products, air fresheners, hair spray, hair dye in metal tubes.</p> <p>Excludes: Aerosol paint and other chemical containers (e.g. WD-40, PL-100, Jig-A-Loo brand spray lubricants).</p>
35	Other steel containers	<p>E.g.: Tins, cookie tins, tea boxes, metal lids (including frozen juice container lids), pet food tins, metal clothes hangers, jam jar lids, other metal lids (including mason jar lids and rings).</p> <hr/> <p>Metal stoppers/caps.</p> <p>Includes: Metal lids from Ensure brand meal-substitute bottles.</p> <p>E.g.: Beer bottle caps, beverage (Perrier, Orangina brands) bottle caps.</p>

Characterization Study of Outgoing Materials from MRFs

APPENDIX I – MATERIALS CATEGORIES (CONT'D)

36	Other metals not covered by municipal curbside collection programs	<p>This category includes only metals refused by curbside recycling programs.</p> <p>E.g.: Scrap metal, sheet metal, cabling, pipe, full metal utensils, pins, refrigerator magnets, pots and pans, water bottles, metal automotive parts (e.g. alternators).</p> <p>Excludes: Hardware, plumbing pipe, all metal from construction and renovation.</p>
37	Glass	<p>All refundable alcoholic beverage containers, including those sold at SAQ stores as well as grocery and convenience stores.</p> <p>Refundable beer and alcoholic-beverage bottles.</p> <p>Refundable glass non-alcoholic-beverage containers.</p> <p>E.g.: Soft drinks, some types of iced tea.</p> <p>See: https://bge-quebec.com/en/recovery-statistics/</p> <p>Non-refundable beer, wine and spirits bottles.</p> <p>E.g.: Wine bottles, sangria bottles.</p> <p>Non-refundable, non-alcoholic-beverage glass containers.</p> <p>E.g.: Juice, carbonated water, mineral water, still water.</p> <p>Glass containers for various food products (excluding beverages) and glass containers for non-food products.</p> <p>E.g.: Pickle, salsa and pasta-sauce jars, bottles of imported olive oil and balsamic vinegar, essential oils containers, perfume bottles.</p> <p>All unidentifiable broken glass.</p>
38	Other glass not covered by municipal curbside collection programs	<p>This category includes only items refused by curbside recycling programs.</p> <p>E.g.: Ceramics, dishware, drinking glasses, Pyrex, window glass, broken mirrors, glass from broken light bulbs, stoneware pots, crystal.</p>

Characterization Study of Outgoing Materials from MRFs

APPENDIX I – MATERIALS CATEGORIES (CONT'D)

39	Dangerous household waste (DHW)	<p>Containers (empty or with residual materials) of: latex paints, primers, architectural paints (alkyd, enamel, oil, for metal, rustproofing, aluminum, signage paints [retail business]), stains, varnishes, lacquers, products and preparations for wood treatment (preservatives) or masonry (including acrylic driveway sealers), paints containing pesticides (e.g. antifouling paints), liquid automotive paints.</p> <p>Excludes: Paints designed exclusively for artistic use, primers and paints used exclusively in industrial settings, industrial wood preservatives, solvents and thinners, adhesives, tar and tar-based sealants, autobody paint products (from autobody shops, dealerships, repair shops)</p> <hr/> <p>Containers (empty or with residual materials) of: motor oil, hydraulic oil, transmission fluid, power steering fluid, gear oil, vegetable-oil-based lubricant, refrigeration-system lubricant, compressor oil, domestic motorboat oil, brake fluid, oil additive, oil treatment, diesel-oil treatment, penetrating oil, lubricant and brake cleaner in aerosol cans, engine antifreeze (e.g. Prestone brand).</p> <hr/> <p>Oil filters, internal-combustion-engine filters, filters for hydraulic systems and transmissions, diesel filters, filters for light-heating-oil-based heating systems, antifreeze filters, storage tank filters, transmission filters, paper and plastic filters.</p> <hr/> <p>Batteries: Alkaline, zinc-air, zinc-carbon, mercuric oxide, lead-acid, silver oxide and lithium, rechargeable nickel-cadmium, lithium and nickel-metal hydride, vehicle batteries (lead-acid).</p> <p>Includes: Batteries removed from devices at sorting.</p> <hr/> <p>Desktop computers, laptop computers, monitors, printers, ink cartridges, personal digital assistants, handheld computers, scanners, fax machines, television sets, telephones, mobile phones, routers, DVD players, CD players, radios, amplifiers, electronic gaming equipment, MP3 and MP4 players, cameras, video cameras, digital receivers, GPS devices, videocassette recorders, connectors cables, calculators.</p> <p>Includes: Products containing mercury, compact fluorescent bulbs, fluorescent bulbs and bases.</p> <hr/> <p>Acids and bases, oxidants, pesticides, chemical fertilizers, medications and syringes with sharps, cyanide, propane and other HHW, such as smoke detectors, cleansers, detergents, waxes, containers and paints for artistic use, containers and primers/paints for industrial use in factories and manufacturing processes, automotive containers and paints. Glues, adhesives, epoxy, hardeners, wood filler, plastic wood, wood restorer, thinners, solvents, strippers, roof coatings, tar and tar-based sealants, cement, stucco, pruning products, waterproofing products, industrial paints containing pesticides (e.g. antifouling paints), signage paints (wholesale business), window-washing products, engine-flushing products, 3-in-1 oil, grease, rustproofing grease, rustproofing oil, cooking oil, gasoline filters, air filters, round manual thermostats, scent diffusers and other products with non-removable batteries.</p>
40	Other wood	<p>Planks, lumber, treated wood, wood flooring, cladding, prefinished and particleboard panels.</p> <p>Excludes: Wood chips and wooden furniture (Category No. 42)</p>
41	Liquids	<p>Remnants of shampoos, cleansers and e-cigarette liquids.</p> <hr/> <p>Remnants of beverages and water bottles.</p> <hr/> <p>Leached liquids from bags.</p>

Characterization Study of Outgoing Materials from MRFs

APPENDIX I – MATERIALS CATEGORIES (CONT'D)

42	Miscellaneous materials	<p>Black garden soil, peat moss, weeds, healthy or diseased plants, indoor plants, pine needles, twigs from trees and bushes.</p> <hr/> <p>Food waste (vegetable or meat origin), table scraps, pet food, coffee dosing pods (coffee only).</p> <hr/> <p>Ash, hand wipes, paper towels, napkins, sawdust, sushi chopsticks, toothpicks, wooden skewers, pieces of wood burned to at least 75%, hair, pet fur.</p> <hr/> <p>Soiled sanitary products other than disposable diapers (items from bathrooms, e.g. sanitary napkins, facial tissues, cotton swabs, dental floss, makeup remover pads), cigarettes, pet litter and waste, gravel, stones and rocks, wood chips.</p> <hr/> <p>Washers, dryers, stoves, dishwashers, refrigerators, freezers, air conditioners, lawnmowers, snowblowers, toasters, microwave ovens, kettles, food processors, coffee machines, power tools.</p> <hr/> <p>Furniture, mattresses, small rugs, garden furniture, swimming-pool liners, blinds.</p> <hr/> <p>Clothes, sheets, towels, curtains, wall hangings, rags, fabric softener sheets, shoes, sponges.</p> <hr/> <p>Non-electrical household items.</p> <hr/> <p>Electrically powered / non-powered toys.</p> <hr/> <p>Sports equipment (e.g. skates, bicycles and helmets, tennis/golf balls).</p> <hr/> <p>Baby items (strollers, car seats).</p> <hr/> <p>Rubber automobile floor mats, metal utensils with plastic or wooden handles, vaping pens / e-cigarettes.</p> <hr/> <p>Any materials not included in another category, including: jewellery, condoms, chewing gum, razor blades, disposable razors, extension cords, bicycle inner tubes, dead animals, automotive tires, incandescent bulb bases and intact bulbs, fuses, folders/binders with metal or cardboard grommets, maple sap tubing, lamps, string lights, Holiday tree ornaments and trees made from multiple materials, vacuum-cleaner and clothes-dryer filter foam, Babybel brand cheese packaging, Scrunge brand scouring pads, floral foam bricks, bandages, adhesive tape, garden hoses.</p> <hr/> <p>Asphalt shingles, gypsum, concrete, brick, stone, asphalt, earth, ceramic tiles, wall-to-wall carpeting, linoleum and other floor coverings (except wood), plastic plumbing materials, electrical wall sockets and switches, heating and ventilation equipment, insulation (including mineral wool and polystyrene [styrofoam]), cladding, plastic protective tarpaulins, electrical appliance tubing.</p>
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Characterization Study of Outgoing Materials from MRFs

About Éco Entreprises Québec

Éco Entreprises Québec (ÉEQ) is the organization that develops the Schedule of Contributions and collects company contributions, which are then redistributed to finance municipal curbside recycling services in Quebec. ÉEQ also encourages innovation and sharing of best practices in order to optimize the recyclable materials value chain. To do so, ÉEQ cooperates, on the one hand, with companies to reduce quantities of materials at the source and encourage the use of recyclable materials, as well as with municipalities to increase recycling and the economic value of recovered materials.

ÉEQ is a private non-profit organization created by companies that put containers, packaging and printed matter on Quebec's market to represent them. The organization was accredited by RECYC-QUÉBEC in 2005 in accordance with the Environment Quality Act.

HEAD OFFICE

1600 René-Lévesque Blvd. West
Suite 600
Montréal, QC H3H 1P9
Telephone: 514-987-1491
Toll free: 1-877-987-1491
Fax: 514-987-1598

E-MAIL

service@ecoentreprises.qc.ca

WEBSITE

www.ecoentreprises.qc.ca



About RECYC-QUÉBEC

Concerned with making Quebec a model of innovative and sustainable residual materials management for a society without waste, RECYC-QUÉBEC is a government corporation created in 1990. Its objective is to promote, develop and foster the reduction, reuse, recovery and recycling of containers, packaging, materials or products, as well as their reclamation with a view to conserving resources.

HEAD OFFICE

300 Saint-Paul Street
Suite 411
Québec, QC G1K 7R1
Telephone: 418-643-0394
Fax: 418-643-6507

MONTRÉAL OFFICE

141 Président-Kennedy Ave.
8th floor
Montréal, QC H2X 1Y4
Telephone: 514-352-5002
Fax: 514-873-6507

INFO-RECYC LINE

1-800-807-0678 (toll free)
514-351-7835 (Montréal area)

E-MAIL

info@recyc-quebec.gouv.qc.ca

WEBSITE

www.recyc-quebec.gouv.qc.ca

