







THE FOUR RULES OF SINGLE STREAM RECYCLING PROGRAMS

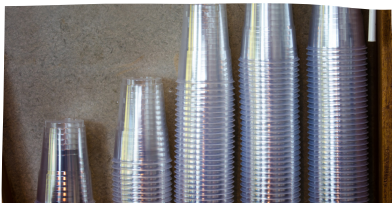
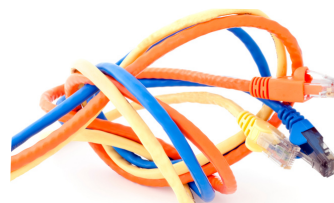
In order for an item placed in a curbside cart or public recycling bin to actually be recycled, it needs to meet each of **four rules**:

-  **Rule #1: It must be made primarily of only one of the following materials: paper, glass, metal or plastic**
-  **Rule #2: It must be reasonably clean**
-  **Rule #3: It must be machine-sortable without clogging or jamming equipment**
-  **Rule #4: It must be valuable for making new products**



occurs when people put items that break one or more of the four rules into curbside or public recycling bins. These fact sheets will present the recycling rules one-by-one, give examples of common rule-breakers, and a few rule-benders that are actually okay to recycle. Finally we'll take a look at the fate of wish-cycled items.

Commonly Wish-Cycled Items:



Rule #1: Items must be made primarily of only one of the following materials: paper, glass, metal or plastic



Obvious Rule-Breakers

- Food and liquids
- Yard waste
- Electronics
- Batteries
- Light bulbs
- Toys
- Furniture and home décor
- Scrap wood
- Clothing and other textiles

Not-so-Obvious Rule-Breakers

- Frozen food boxes (coated with inseparable plastic)
- Wrapping paper and greeting cards with lots of glitter, foil, or sound-makers
- Snack pouches, bags and wrappers, drink pouches, toothpaste tubes, ketchup packets (plastic with aluminum lining)
- Spray nozzles and pumps (plastic and metal)

Rule-Benders that are Okay

- Paper items with plastic windows (e.g., envelopes, pasta boxes, tissue boxes)
- Paper with fasteners (e.g., staples, paperclips, etc.) and corrugated cardboard boxes with tape or staples
 - Can be strained out during the pulping process
- Metal cans and lids with paper labels and/or plastic coating
- Food and beverage cartons (e.g., milk cartons, soy milk cartons, soup cartons)
- Paper cups
 - Layers can be mechanically separated

Rule #2: Items must be reasonably clean

Rule-Breakers

- Napkins, tissues, paper towels (ew!)
- Dirty diapers (double ewww!)
- Hazardous/toxic materials in any type of container
- Medical waste of any kind
- Greasy pizza boxes and fast-food bags (if the pizza box top is not greasy, it can be ripped off and recycled)
- Full or partially full containers, even if sealed
 - Use or throw out residual material before recycling
- Plastic, glass or metal food containers that are so dirty that they are likely to drip contents onto other materials
 - Give them a quick rinse or scrape out with a spatula

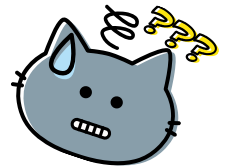


Rule-Benders that are Okay

- Plastic, glass or metal containers with a small amount of residue inside
 - Scrubbing recyclables until they're pristine wastes water and time

Rule #3: Items must be machine-sortable without clogging or jamming equipment

What does that mean? It's complicated... This rule has sub-rules



Sub-Rule #3A: If it's made of plastic, glass or metal, it shouldn't be larger than ~18" in any dimension (large flattened cardboard boxes are OK)

Sub-Rule-Breakers (common examples)

- Large pieces of scrap metal, including pots and pans, bakeware, etc.
- Any plate glass, including mirrors, windows, etc.
- Car parts (any material)
- Carpets and rugs
- Plastic coolers or storage tubs
- Propane tanks
- Kiddie pools or washtubs
- Air mattresses



Sub-Rule #3B: Items shouldn't be smaller than a standard ID card

Sub-Rule-Breakers (common examples)

- Shredded paper or confetti
 - Should not go in single stream recycling even in a sealed paper bag
- Packing peanuts
- Small plastic lids, caps, parts
 - Leave screw-top lids on their containers
- Loose metal hardware and bottle tops, small jar lids
 - These can be collected in a metal can - when full, crimp the top of the can closed and put in the recycling bin

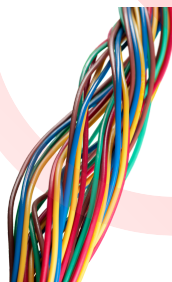


Sub-Rule #3C: Items shouldn't tangle, twist, snag or hook other items

Sub-Rule-Breakers (common examples)

- Plastic bags, wraps and films of any kind
- Coat hangers (any material)
- Wires, string-lights, cords and cables
- Ropes, strings and ribbons
- Hoses and chains
- Textiles

*the recycling facility's
least wanted!*



Sub-Rule #4D: Unless it's made out of paper or a magnetic metal it should not be flat or flattened

DO flatten:

- Corrugated cardboard boxes (e.g., shipping boxes)
- Paperboard boxes (e.g., cereal boxes)

DO NOT flatten:

- Any other type of container (e.g., aluminum cans, plastic bottles, cartons etc.)
 - Flattened cans and bottles may be sorted incorrectly as paper, becoming a contaminant

UNFLATTEN:

- Aluminum foil and pie plates
 - Scrunch into a ball, collect small pieces to make a ball

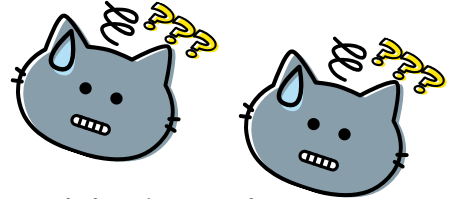


Other Sub-Rule-Breakers

- Plastic trays, tubs and lids that are less than 2" in any dimension (e.g. some hummus/dip tubs, microwave dinner trays, small berry containers, drinking straws, plastic utensils and plates)
- Very flimsy, semi-rigid containers that are easily crushable (e.g., some salad and fruit containers)



Rule #4: Items must be valuable for making new products



What does that mean? Again...kind of complicated!

- Metals are generally always valuable
- Paper is generally always valuable *unless* it is so contaminated that it can't be pulped.
- Glass is a mixed bag, but if your recycling program accepts glass containers (as Kane County programs do), then there are no further rules
- Plastic is a very mixed bag

Rule-Breakers (i.e., no end market serving curbside programs)

- Polystyrene foam (i.e., Styrofoam and similar materials)
- Very low-density plastic products
 - Single-use beverage cups and their lids
 - Clamshell take-out containers
 - These items tend to break apart in recycling streams and melt at a much lower temperature than higher value plastics
- Black plastic items (e.g., microwave food trays, some take out containers, plant pots and seedling trays)
 - The dyes used in these both interfere with sorting and prevent re-processing with other plastics
- Items with resin code #7, a.k.a. mystery plastic



What happens to Wish-Cycled Items?

Best-Case Scenario

- They go in one end of the Material Recovery Facility (a.k.a. recycling sorting facility) and come out the other end and eventually to the landfill
 - It would save us all money on recycling programs if problem items "skipped the trip"

Medium-Case Scenario

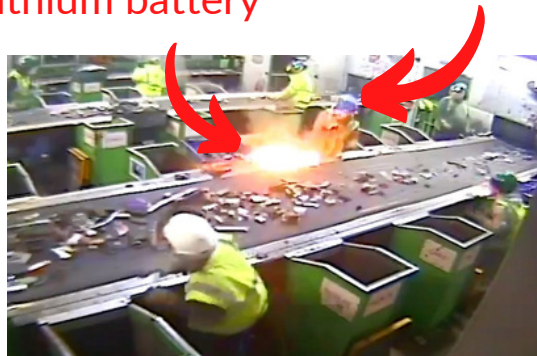
- Items are incorrectly sorted in with recyclable materials and become contaminants
 - Small, flat plastic and aluminum items get sandwiched into bales of paper
 - Low value plastics are mixed with more valuable types

Worst-Case Scenario

- Items pose a danger of illness or injury to recycling facility workers
 - Dirty diapers, medications, and hazardous materials pose obvious exposure dangers
 - Lithium-ion batteries can explode or start fires if ruptured
 - Tanglers jam up machinery and require manual removal
 - Manual picking of heavy wish-cycled items contributes to repetitive stress injuries

Exploding
Lithium battery

Facility Worker



Workers attempt to free
a conveyer snarled with
plastic bags