PLASTICS RECYCLING 101:
HDPE (#2) & PP (#5)

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Sorting & Shipping
Processing
Extrusion
Molding
Final Product
**WHAT MAKES A GOOD HDPE BALE LOAD?**

- Less than 2% contamination:
  - Film (no bags)
  - Dirt, rocks, debris, metal
  - Other commodities

Strapping: 10/12 galvanized baling wire non-corrodimg strapping such (cardboard used to hold bale together or protect material ok)

- Size: 3x4x5, 4x6x4 (standard baler sizes)

- Natural bales: Clear, homopolymer HDPE ONLY (white is pigment, not all milk jugs are nat. and not all clear bottles are homopolymer.)

- 40,000# truckload, double-stacked

- Bottles only! Crates, pallets, 5-gallon buckets, collection bins and cans are separate commodities. Don’t mix injection grade or HMW with blow-mold (bottles)  **CLUE: wide mouth containers (margarine containers, lids, chemical bottles, buckets, etc.)**

- No hazardous material, including residue or medical waste

- No plastic that has deteriorated due to sunlight or weather exposure
Ideal Natural Bales
Average Natural Bales
Downgraded Natural Bales
EXAMPLES OF INJECTION GRADE BUCKETS & LIDS AND HMW CONTAMINATION
Is there any value in sorting natural from mixed colors?
What about PP (#5)?

- Is PP recyclable?
  
  Yes! Polypropylene (PP or #5) is recyclable and has proven to be recycled successfully.

- Are their markets for PP?
  
  Yes, there are some very competitive markets & recyclers that buy PP scrap. However, PP takes up only 2% of the total recycled resin market.

- Examples of post-consumer PP
- Should I start including all #5s in my curbside or drop-off program?

  Not necessarily. Post-consumer PP has a wide variety of grades and specs that would cause contamination issues and decrease its value.

- How do I make sure my PP has value?

  - mass quantity
  - consistent lots of similar material
  - size reduced: bale or grind
  - send sample to verify specs and price

- Examples of valuable PP scrap
Cat litter buckets

Milk crates, pallets
*can be HDPE also, always sample!

Caps & Closures

Corrugated, “Coraplast”
What are some applications for PP PCR?

car battery casings, paint cans, closures, automotive parts, casters & wheels (office equipment, grills, etc.)
So caps are “good”?  
PP Caps are a good recyclable and have value.

-What do I tell communities to do with caps?  
Remove caps from bottles & drop in plastic recycling bin.

-What should I do with caps I get into my facility?  
Leave caps on soda bottles (PET, #1). Caps on PET bottles are segregated at the PET recycler and sent for further reprocessing to PP recyclers. They are not considered a contaminant for PET.

Individual caps can be:  
1) Thrown into cap only Gaylord for grinding & separate revenue stream or  
2) Included in PET bales

Caps on HDPE, #2 bottles can be removed at the recycler if the caps are not twisted on tightly. Some cap contamination is anticipated and allowed for.

-Won’t my load get rejected for caps?  
On Natural HDPE (milk jugs) a high percentage of caps can affect the clarity (color) of reprocessed pellet and therefore a the load may be downgraded to the Mixed Color price and run with pigmented material.
HDPE-Beyond Bottles

- Injection grade
  - 5 gallon buckets
  - pallets
  - crates
- HMW
  - 55 gallon drums
  - totes
- Corrugated
  - nursery pots
  - pipe
  - sheet