



The Association of
Plastic Recyclers

HOW TO RECYCLE GROCERY RIGID PLASTICS



*Divert Waste
Reduce Costs
Enjoy New Revenue*





RECYCLE GROCERY RIGID PLASTICS

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*Throughout this Guide there are free Helpful Resources. Online, they may be accessed directly through in-text hyperlinks (appearing in blue underlined copy). If you are viewing a printed copy of this Guide, the Helpful Resources are available via **recyclegroceryplastics.org**

“Testimonial”

“Recyclable rigid plastics, of the type found ‘behind the counter’ in grocery stores, provide valuable feedstock to plastic reclaimers selling to companies who want to include recycled content in their products.”

Steve Alexander,
Executive Director,
Association of
Plastic Recyclers

Introduction

This “How to Recycle Rigid Plastics” Guide, has been developed by The [Association of Plastic Recyclers](#) (APR), North America’s largest alliance of plastics reclaimers, representing companies totaling over 94% of the post-consumer plastic processing capacity in the United States, Mexico and Canada.

APR actively seeks new ways to strengthen economically viable, and environmentally responsible recycling of post-consumer plastics. There is strong demand for recyclable plastic, to meet growing demand for recycled resin material. This coupled with new knowledge that North America supermarkets generate large volumes of recyclable rigid plastic packaging, has propelled APR to develop the Guide for the benefit of grocers.

Developed with assistance from the [American Chemistry Council](#), this Guide includes important data gathered from two supermarket pilot programs conducted for APR by [Brown Sustainability Solutions](#) with generous assistance from - [Hannaford](#) and [Stop and Shop](#).

Supermarket Rigid Plastics Overview

Grocery Store Recycling Rigid Plastics Pilot Program key findings...

- 350 million pounds (8750 tractor trailer truckloads, if recycled and baled), of rigid plastics are generated in-store annually by 35,000+ conventional U.S. supermarkets.
- Average sized supermarkets (45,000-55,000 sq ft) generate 40-80lbs of wide mouth rigid containers weekly, and more than double that when including pharmacy bottles.
- Time studies have shown little or no incremental store labor is required to collect store-generated rigid plastics.
- Use of a centralized horizontal baler increases efficiencies and optimizes recycled rigids market value.
- Recycling rigid plastics keeps bulky waste out of compactors and dumpsters, reduces costs, and generates new revenue.

Recycling rigid plastics can be easily integrated into existing retail grocer’s recycling programs!

On the next few pages...this “How To” Guide will help you complete the tasks listed below for successful rigid plastic recycling.

- Get Started
 - Gather Your Data
 - Calculate Financial Benefit
 - Determine Your Market
- First Steps
 - Develop Your Logistics
 - Train Your Team
- Program Implementation
 - Start in-store collection logistics
 - Understand Recycling Center requirements/Logistics
 - Send Rigid Plastics to mMarket



Read these Links to the Reports:
[Phase I Report](#)
[Phase II Report](#)

Examples of rigid plastics found in most grocery stores



Grocery Rigid Plastics - What? Why? Where?

What types of rigid plastic are we talking about?

- The two primary types of rigid plastics in grocery stores are...
 - #2 HDPE - High Density Polyethylene (HDPE)
 - #5 PP - Polypropylene (PP)
- Rigid plastics discussed in this Guide are open top, “nestable” FOOD containers with a separate lid/cover.
- Approximately 85% of all rigid plastics are #5 PP. Of the #2 HDPE rigids, most are just two sizes. This makes nesting by container size and/or sorting by resin type simple, and most importantly, improves its end market value.



Why is it important to recover and recycle rigid plastics? ...for Your Bottom Line and Your Sustainable Operations

- Remove bulky waste from trash bins
- Generate potential recycling revenue and reduce waste disposal costs
- Potential recycling revenue vs. giving away buckets to customers
- Help achieve waste reduction goals
- Conserve energy and reduce greenhouse gas emissions
- Provide packaging industry valuable feedstock that becomes “recycled content” in consumer packaging on store shelves

Where are Rigid Plastics found in Grocery Stores?

#2 HDPE and #5 PP rigid plastic containers are typically found in these departments...

- Bakery
- Deli
- Seafood
- Pharmacy

Rigid plastics discussed in this Guide are open top, “nestable” FOOD containers with a separate lid/cover.

Important: Chemical containers, fryer oil bottles and other narrow mouthed jugs or bottles are NOT included in this Guide, as they typically require special handling to properly prepare them for a recycling market.



Watch Video #1
*Grocery Rigid Plastics:
Recycling Makes Sense**



**#2 HDPE
& #5 PP
Price History
(Baled, Truckload to
Plastic Reclaimer)**

| #2 HDPE | | |
|---------------------|--|--------|
| Jan. - Dec. '13 | | 9-11¢ |
| Jan. - Dec. '14 | | 13-18¢ |
| Jan. - Dec. '15 | | 14-16¢ |
| #5 PP | | |
| Jan. '13 - Dec. '13 | | 9-11¢ |
| Jan. '14 - Dec. '13 | | 11-20¢ |
| Jan. '15 - Dec. '15 | | 20-16¢ |

Decide Your Approach

Regardless of whether a grocery chain is baling, stacking or using single stream to recycle valuable buckets/containers from individual departments (e.g. deli, bakery, seafood, floral, pharmacy, etc.), recycling rigid plastics makes great sense and is gaining momentum throughout the Country. Some supermarket chains begin simply by using single stream recycling, and as volumes grow, move to in-house baling. This “next step” offers much greater revenue generating opportunities.

Financial evaluations show that centralized Baling of rigid plastics (including baling pharmacy plastics) is economically justifiable. Furthermore, of the three recycling options, it offers the most attractive revenue stream.

Alternatively Stacking (nesting) buckets/containers, offers only incremental revenue at market prices lower than baling. However, combined with waste cost avoidance, this handling method does result in some economic advantages.

The Single Stream method of recycling grocery rigid plastics does not typically offer any significant revenue, and results in costs similar to traditional waste disposal. However, Single Stream recycling does offer grocery stores a simple and easy process to manage/follow.

Maximizing Cost Savings and Revenue Potential

A key component of handling recyclable rigid plastics is to fully understand the market potential. The hierarchy below demonstrates that sorting by resin type and baling, assures highest value.



[Link to Grocery Rigid
Plastics Recycling
Economic Overview](#)

“Testimonial”

“What grocers might see in their backroom today as trash, is a treasure for us. Recycled rigid plastics from grocery backrooms quite possibly could end up on store shelves as new packaging next month.”

Stephanie Baker
Director of Market Development,
KW Plastics

Determine Your Market

Rigid plastic containers have value. When grocery retailers understand various marketing options, and therefore go direct to end plastic recycling markets, they usually enjoy better revenue and efficiencies.

Recyclable rigid plastics provide valuable **feedstock** that is of growing interest to plastics reclaimers and other industry stakeholders. With a rapidly increasing demand for end-market, recycled-content packaging, supermarkets can play an important role within this new recycling opportunity. Simply put, rigid plastic recycling benefits both the grocery industry and plastic reclaimers.

You DO have a Choice of Best Market Option

Choice of the best marketing option for your company will largely depend on your primary supplier relationship and local logistics opportunities. Large chains in control of their own distribution may choose to backhaul from stores and centrally consolidate recovered rigid plastics. Other retailers may need to rely on wholesalers or local haulers or material recycling facilities (MRFs), to consolidate and handle material.

Products Made from Grocery Rigid Plastics



Green Toys



Retail Products



Kitchenware

Financial Benefit Example

Example: A group of 100 supermarkets collectively generating, [conservatively] 4,000 lbs/year for a total of 400,000 lbs. (200 tons)/year.

Rigids Recycling Revenue

| | |
|---------------------------------------|-------------------------|
| Pounds Rigid Plastics Recycled a Year | 400,000 lbs. (200 tons) |
| Market Value | x 5¢/lb.* |
| Recycled Rigid Plastics Revenue | \$20,000 |

* Net Revenue assumes some capital and operating costs for baling materials. The pilot studies indicated no cost for watermelon bins or labor for segregating rigids. As a result no additional costs are included in calculations. The price per pound value is illustrative only and is not intended to signal actual pricing. Insert your price per pound.

Waste Disposal and Hauling Cost Savings

| | |
|--|------------|
| Grocery Store’s Disposal & Hauling Costs | \$ 150/ton |
| Rigid Plastics Recycled | x 200 tons |
| Waste Disposal Cost Savings | \$30,000 |

Note: Discuss reduced hauls with your waste company.

Financial Benefit of Grocery Rigid Plastic Recycling

| | |
|---------------------------------|------------|
| Recycled Rigid Plastics Revenue | \$20,000 |
| Waste Disposal Cost Savings | + \$30,000 |
| Financial Benefit Total | \$50,000 |

Note: Including pharmacy stock bottles in a grocery rigid recycling program, can significantly increase the \$ benefit.

[Grocery Rigid Plastics Available Markets List](#)



Watch Video #3
Grocery Rigid Plastics
“Completing the Cycle”

Develop Your Logistics

Partnering with an end market, with minimal “middlemen,” will help assure highest market value for material. The Chart below indicates how rigid plastics can flow through various types of grocery retailers



“Testimonial”

“Making it easy and simple for the associates to recycle rigid plastics, is the right thing to do. Everybody feels good when they are doing the right thing. As we’ve grown, we continue to create new processes that are scalable and sustainable to meet business needs.”

-
Kim Brunson
Recycling and Solid
Waste Manager,
Publix Super Markets

[Links to Grocery Rigid Plastic Recycling ...3 Case Studies](#)
[Single Stream Stacking](#)
[Baling](#)

Self-Distributors

For grocery supermarket operators who have backhaul capability to a central recycling facility, there are **three recommended options** for handling bins of clean, stacked rigid buckets/lids:

1. **Cross-Dock Bins** filled with rigid plastics (**yields lowest net material value**)
 - a. Load onto a dedicated trailer.
 - b. Include additional recyclables (pallets, baled OCC, baled film) on trailer to increase trailer weight.
 - c. Ship direct to plastic reclaimer/recycler.
2. **Bale Rigid Containers/Lids** separately by resin type (**yields highest net material value**)
 - a. Stage bins of rigid plastics in temporary storage area
 - b. Bale rigid plastics mixed or by resin type
 - c. Ship baled rigid plastics to plastic recycler/end user

3. Reverse Logistics

Retailers can create reverse logistics programs on site at the Distribution Centers, or off-site, at a Reverse Logistics Center (RLC).

In collaboration with retail distribution centers, transportation groups, and store operations, RLCs serve as ideally-located trailer cross docks. Trailers returning from stores drop off assets consisting of pallets, bins, totes, rigids, boxes, and film, and drivers hook empties for quick returns back to vendors to haul valuable merchandise back to Distribution/Recycling Center.

Markets using Wholesalers

For grocery supermarket operators *dependent on contract/third party or local haulers*, there are **two recommended options** for handling bins of clean rigid buckets/lids:

1. **Bins of rigid plastics can be backhauled** by wholesaler or distributor to their Warehouse/ Distribution Center.
2. **Bins of rigid plastics can be picked up** by a local waste/recycling hauling company and delivered to a MRF/recycling center.

Your surplus cardboard watermelon/pumpkin bins offer a perfect container for stacking, storing and shipping your rigid plastics.



Develop Your Program

The first step in developing your program logistics is to determine what collection method will best fit your operation. You will need to decide how emptied rigid plastic containers will flow from your Store, to a Distribution/Recycling Center (DC/RC)

Next, evaluate which in-store departments will be participating in the program. Those that generate considerable quantities of rigid plastics include—

- Deli Department (pails from deli salads, etc.)
- Bakery Department (buckets from icing, frosting, etc.)
- Seafood Department (containers and trays)

Note: Collection of Pharmacy (Rx) stock bottles can be treated as a separate element for a pilot or included in a full rollout. Please refer to the section on [Pharmacy Rigid Plastics](#).

Appointing a lead person helps ensure success. One person understanding various components enables for troubleshooting and streamlining, etc.

Used Watermelon Bins

The best in-store collection method involves nesting and stacking (upside down) clean rigid plastic containers, in a cardboard melon (squash, pumpkin, etc.) bin. Used melon bins, usually available in sufficient quantities, provide the most efficient, space-saving medium for collection of clean emptied containers.

Melon bins can be collected, stacked/banded on pallets and stored as a supply inventory on warehouse racking or unused trailers. Bins can then be treated as a supply item, and shipped to stores along with other supplies. A designated store associate can be responsible for ordering individual watermelon bins as needed, from the supply distribution center.

Keeping extra bins on hand assures uninterrupted in-store rigid plastics container collection.

In-Store Rigid Plastics Collection Highlights

- Time studies have shown, scraping containers is a minimally labor intensive task
- Training individual store associates requires about an hour initially for total team.
- Regular communications help assure container cleanliness, maximum bin weights, and sorting by size and material type.
- Applying a store number to each bin returned to your Distribution/Recycling Center assures individual store accountability for properly managing rigid plastics.



[Watch Video #2](#)
Grocery Rigid Plastics
“Recycling Made Easy”



A Visual Walk Through of Recycling Grocery Rigid Plastics



Step #1:
Watermelon bin is set up and labeled with store's identification number.



Step #6:
Properly nested bin, with bagged lids on top, ready for shipment to Distribution/ Recycling Center.



Step #2:
Food products arrive at store in NFRS rigid plastics.



Step #7:
Watermelon bins of stacked rigid plastics leave the store.



Step #3:
Product is removed from rigid plastic container.



Step #8:
Stacked bins or bales of rigid plastics in trailer await shipment to market.



Step #4:
Rigid plastics are scraped clean and rinsed.



Step #9:
The heavy construction of grocery buckets/containers, requires a high compaction horizontal (rather than vertical) baler to process them.



Step #5:
Rigid plastics are set aside in various store departments until stacked in watermelon bins near dock.



Step #10:
Completed bales of high value #2 HDPE and #5 PP, typically weighing 1,000 to 1,200 pounds, can easily be marketed to a variety of plastic reclaimers.

“Testimonial”

“From a store manager’s point of view, recycling of rigid plastics is a vital new component as part of our “zero waste” efforts to eliminate unnecessary waste and reduce our carbon footprint.”

Jon Fortier,
Store Manager,
Hannaford Supermarkets/
Delhaize America

[Link to Grocery Rigid Plastic Recycling Photo Essay](#)

Program Logistics in the APR Pilot Projects

● Prepare

1. Individual store orders cardboard watermelon bins for consolidating collected rigid plastics
2. An area is designated in the store’s “back room” for staging watermelon bin on a wood pallet
3. Watermelon bin is labeled with each store’s identification number

● Scrape Clean

1. After rigid plastic containers are emptied, they are scraped clean and rinsed, if necessary

● Stack & Store

1. In each department, containers are stacked by resin type (#2 HDPE, #5 PP) and size
2. Once adequate quantity has accumulated, stacked containers are moved to watermelon bins
3. Lids are placed in clear plastic bag
4. Bin is filled to top, without overflowing
5. Plastic bag of lids is placed on top of bin stacked with rigid plastics

● Backhaul

1. Watermelon bin full of stacked rigid plastics is checked for correct stacking, trash, etc.
2. Bin is backhauled on “clean out” truck going back to Distribution/Recycling Center with other recyclables (baled OCC, film, etc.)

● Manage Rigid Plastics at Distribution/Recycling Center

1. Full watermelon bins are either stored (warehouse or storage trailer) or baled
2. Once an adequate number of bins or bales has accumulated, rigid plastics are shipped to market



A watermelon bin full of tightly stacked/nested rigid plastic containers (net box, 1 pallet) = Approximately 90 lbs!

“Testimonial”

“Everyone talks about being green and reducing waste in our landfills. This program is a perfect example of an opportunity that exists within our control to do exactly what we talk about.”

-

Roger Belliveau,
Manager of Distribution
Services, Ahold USA/
Stop & Shop

Launch Your Team

Another essential component to success is securing initial buy-in of the grocery rigid plastic recycling program by making your case and defining your process, at both the individual stores and the corporate level.

To start the process, identify Project Scope by deciding whether you will begin with a...

- Pilot store or
- Multiple grouping of stores (recommended) or,
- Total roll out of the program chain wide.

Once the project scope has been defined, schedule an initial planning meeting that brings together representatives from all departments involved. Associates/Departments to consider being represented at the first meeting include:

- Sustainability
- Operations
- Waste/Recycling Management
- Transportation/Logistics & Distribution
- Retail – District Manager, Store Management, Department Management
- Warehouse & Recycling Center/Product Recovery
- Legal
- Executive
- End market representative/hauler
(if timing and partnership arrangements are appropriate).

At this meeting (or perhaps beforehand), consider selecting a Leader who fully understands all components of the program. This person can focus on optimizing collection, addressing barriers and testing various density options, including centralized baling, and help implementation overall.

For many at this meeting, it will be the first they've heard of grocery rigid plastics recycling, so it is important to cover all aspects of the program and leave time for questions and brainstorming. The following are many of the topics you may want to consider discussing at the meeting.

- What are rigid plastics?
- Where are they located?
- What volume is generated?
- What is the financial benefit to recycling them?
- Why is this program being implemented?
- Who is the lead person?
- What are the goals of the program?
- What are the program logistics?
- What happens to the material after it leaves the stores?
- What is each department's role?
- What is the timeline?
- What potential problems are there?



Educate Your Associates

Training your retail store associates is a crucial step to ensure your program's success. Training can be accomplished one of two ways...Centralized Training or On-Site Training.

Centralized Training

A one-hour Centralized Training session can be conducted at one store. This will prepare individual store "Green Captains" with the necessary tools and information to go back to their stores, and train each department manager (deli, bakery, seafood and pharmacy) and their associates.

In addition to learning about "Why collection of rigid plastic containers is important" (with examples of rigid plastic at the meeting for "show & tell") and "What containers are included", the group training provides an opportunity for representatives from logistics, distribution, operations, sustainability leaders and other company stakeholders to learn how to:

- Identify which wide mouthed containers/trays will be collected
- Remove residue solids from containers
- Nest containers by size in dedicated melon bin
- Fill bin to the top before shipping to Distribution/Recycling center
- Collect container lids in separate clear utility bag and place on top of filled bin
- Collect pharmacy stock bottles (if included in program) in clear utility bag
- Inspect bin and remove any contamination from bin before returning to Distribution/Recycling Center

Helpful Resources

The following links will assist you in educating and training your associates.

[In-Store Associate Letter](#)

[Associate Q & A's](#)

[Training Guidelines to Rigid Plastics Recycling](#)

[In-Store Signage](#)

[Reference Photos](#)



In-Store Training

In each individual store the "Green Captain" can pass out [In-Store Signage](#) explaining what containers to collect and how to identify #2 HDPE and #5 PP resins, along with [Q&A Sheets](#) and an [In-Store Associate Letter](#) explaining why the program is important. Samples of designated rigid plastic containers can be used to demonstrate how to empty, rinse, dry and stack by size. Bins can be set up to demonstrate how to properly nest like-sized containers. Lids are placed in separate (clear) garbage bags to keep them apart from nested containers. Allow time for plenty of questions and answers. A printed [Training Guideline](#), can be used to demonstrate the "Action" and then "Do This" (response) to action items in the collection of rigid plastics.

Ongoing Training is Essential to Success

- Ongoing communication within each department is important, especially in initial weeks, to assure optimum rinsing, collection and nesting of all containers.
- Ongoing training helps assure optimum end market value, reduced risk of load downgrading, and can also help reduce store *shrink* (providing feedback mechanisms are in place) by training for proper scraping/rinsing containers.

“Testimonial”

“Recyclers and reclaimers want all similar plastics together. By baling in horizontal balers, you maximize efficiencies by getting the weight up and transportation costs down. We also bale small rigid containers (e.g. pharmacy stock bottles) between our larger rigids (e.g. deli and floral buckets), to create very dense bales that stay together really well and maximize their value”

-

Mark Jordon
Manager Publix Return Centers,
Publix Super Markets



Watch Video #4
Baling Grocery Rigid Plastics

Understand Recycling Center Logistics

Central Distribution/Recycling Center, the goals are to:

1. Minimize handling
2. Maximize truck weight
3. Maximize material value
4. Optimize resin quality

Structuring the most efficient back hauling/recycling solution is a key element of your overall internal material recycling program. Depending on the grocery chain’s business operations model to retrieve material from individual stores, there are several hauling options to consider.

- Engage a 3rd party hauler
- Utilize current hauler for recyclables
- Backhaul on the chain’s trucks from store to Distribution/Recycling Center (DC/RC)

Whichever hauling arrangement is chosen, the following criteria should be considered:

- Pick up only filled (not partial) watermelon bins.
- Ideally, combine bin return with return of other recyclables.
- Inspect bins at stores and remove all trash, prior to releasing to hauler.
- Assure store number is marked on bin.
- Complete Tracking Form (See Helpful Resources for [Distribution/Recycling Center Tracking Form](#))

Baling

Centralized baling, using horizontal balers, could deliver incrementally greater market value (for plastics and other recyclables) at lower operational cost, including lower labor to load balers, smaller footprint = less space, higher value per truckload, and less transportation cost.

Trailer loading options for watermelon bins full of rigid plastics

1. Cross docking bins direct from the store to staged trailer;
2. Staging the load in Warehouse/Recycling/Recovery Center, then live load on truck that can be delivered on-call.

Most trailers can be loaded three bins high, with pallets in-between. It is recommended that clear utility bags containing lids be placed on top of stacked bins to maximize load density.

Baled Rigid Plastics

Bales can be loaded on a dedicated trailer or combined with other recyclables depending on agreements with end market.

Please Note: Once you have prepared your trailer load and have contracted with a market for the materials, it is critically important to follow up with the market to ensure proper feedback on the condition and value of your initial load, pricing and potential opportunity for improvement.



1. Remove stock bottle caps.
2. Ensure bottles are empty (critical to success!)
3. Deposit in dedicated stock bottle recycling bins.
4. Ship filled bags of stock bottles to Distribution Center, Recycler, etc.



Bag of Rx stock bottles ready to be loaded into a rigid plastic collection bin.

Pharmacy Stock Bottle Recycling

Introduction

Pharmacies offer a unique grocery store waste reduction opportunity since their discards are divided nearly evenly between stock bottles and recyclable paper and their actual pharmacy generated **non-recyclable** waste is negligible.

Consequently, as part of “greening in-store grocery operations,” many pharmacists are not only recycling paper but also making the switch from disposing of large volumes of stock bottles to setting up dedicated pharmacy stock bottle recycling collection bins.

The following hands on operational guidelines were acquired by studying Pharmacy Stock Bottle Recycling Programs in Stop and Shop Supermarkets (a division of Ahold Delhaize). Their contribution to moving stock bottle recycling forward is truly appreciated!

Why Recycle Pharmacy Stock Bottles?

POTENTIAL REVENUE - Pharmacy stock bottles are very marketable material and highly sought after by plastic reclaimers.

NO INCREMENTAL LABOR COSTS - Pharmacies can recycle stock bottles (HDPE #2) without additional labor cost.

“ZERO WASTE” - Pharmacy waste is divided nearly evenly between stock bottles and paper. Consequently, a pharmacy stock bottle recycling program, coupled with a paper recycling program, can enable a pharmacy to reach 99 – 100% “zero waste” status.

WASTE HAULING & DISPOSAL SAVINGS – Light, yet bulky stock bottles cause store waste compactors to fill up frequently. Recycling stock bottles reduces store trash costs by reducing frequency of trash hauls thus resulting in an important cost saving measure.

The table below outlines the positive financial impact a program can realize.

| Stock Bottle Volume | Small Pharmacy (500 – 1,000 scripts weekly) | Medium Pharmacy (1,000- 2,000 scripts weekly) |
|-------------------------------|--|--|
| | 50 bags/yr. | 100 bags/yr. |
| Annual Disposal Cost Savings* | \$25 | \$50 |
| Annual Haul Cost Savings* | 75 | 150 |
| Total Annual Cost Savings: | | |
| 1 Pharmacy | \$100 | \$200 |
| 50 Pharmacies | \$5,000 | \$10,000 |
| 100 Pharmacies | \$10,000 | \$20,000 |

*Assumptions – An average bag of stock bottles weighs approximately 20 pounds. Using an average per store compactor haul cost of \$150.



Pharmacy shelves hold highly recyclable plastic



Valuable #2 HDPE plastic stock bottles



Stock bottles and caps are different plastic resins



Simple set for stock bottle collection



Compact, space saving bin collecting stock bottles



Watermelon box of bagged stock bottles



Box of stock bottles ready for shipment

What Types of Plastics are Stock Bottles?

Typically, pharmacy stock bottles are manufactured from High Density Polyethylene (HDPE#2) and stock bottles caps from polypropylene (PP#5). Given that stock bottles and caps are of two different resins, they usually need to be separate from each other in order to be recycled. In grocery chains recycling PP #5 rigid pails and buckets from Fresh Departments, caps can be recycled by placing them in a separate bag and putting that bag in a PP #5 pail or bucket.

Easy, Simple Steps to Recycling Pharmacy Stock Bottles

1. Set up collection bin with liner bag
 - a. Purchase collection bin from supplier.
 - b. Select liner bag which is long enough to prevent slipping into bin when filled and clear to allow for inspection of contents.
 - c. Consider two bins in high volume work areas.
2. Develop cap removal/handling protocol (either recycle separately w/#5 PP pails or dispose)
3. Post "Pharmacy Stock Bottle Recycling" Sign ([download here](#))



Stock Bottles Only

| | | |
|--|---|--|
| <input checked="" type="checkbox"/> Shake each bottle to empty | <input checked="" type="checkbox"/> HDPE #2 only  | <input checked="" type="checkbox"/> No Caps |
| <input checked="" type="checkbox"/> Leave paper labels on | | <input checked="" type="checkbox"/> No Waste |
| | | <input checked="" type="checkbox"/> No Vials |

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Pharmacy Stock Bottle Recycling Sign

4. Train pharmacy associates on "How to Recycle" stock bottles.
5. Remove and place filled bags of stock bottles in designated back of store area.
6. Ship collected pharmacy stock bottles to market.
 - *Single stream* - co-mingled with other recyclable material from grocery store
 - *Segregated for local recycler* - usually filled plastic bags stockpiled until pick up
 - *Aggregated at Distribution/Recycling Center*
 - Ship bagged stock bottles to market along with baled plastics
 - Baled together with other grocery rigid plastics



Stop&Shop®

Testimonial

“Stop and Shop pharmacists proudly support recycling as an important part of corporate zero waste efforts and recognize the added value of keeping stock bottles out of our waste stream. Separating stock bottles is easy, takes little space, and makes sense - helping our environment and business.”

-
Christine Gallagher,
Manager Responsible
Retailing & Healthy Living

Following is a case study which provides an excellent overview of a successful grocery pharmacy stock bottle recycling program.

Pharmacy Stock Bottle Recycling Success Study

Why it was Pharmacy Stock Bottle Recycling started?

- With support from the Association of Plastics Recyclers (APR), identified recycling/ waste reduction opportunities.
- Initially tested in two districts - approximately 30 pharmacies
 - Developed signage, collection system, training resources, and logistics.
 - Determined recycling stock bottles reduced more than 50% of pharmacy waste.
- After testing in some pharmacies, decided to formalize program to all 300 + pharmacies.
- Now stock bottle recycling is part of zero waste strategy, along with cardboard, film, paper, food waste.

When it was started?

- In the early 2000's.

How it works?

1. Pharmacy associates collect stock bottles separately in special bin lined with clear bags.
 - Full bags, weighing 15-25#, are staged with other recyclables for return to Distribution Center.
2. Distribution/Return Center associates prepare bottles for market
 - Full bags of bottles from stores are placed in recycling bins.
 - Bins weighing 75-125# are loaded onto market-supplied trailers (with baled film).
3. Recycler/Reclaimer processes bottles
 - Plastic resin - #2 HDPE & #5 PP are highly sought after recyclable plastics by end markets
 - Items made from recycled stock bottles include automotive parts, caps and totes.

Suggestions for Others in Industry

“Stop and Shop pharmacists proudly support recycling as an important part of corporate zero waste efforts and recognize the added value of keeping stock bottles out of our waste stream. Separating stock bottles is easy, takes little space, and makes sense - helping our environment and business.”

— Christine Gallagher,
Manager Responsible Retailing & Healthy Living

Why customer vials are NOT recommended for recycling

Customer' vials (amber colored #5 PP), although recyclable, present extra recycling challenges.

Due to the Health Insurance Portability and Accountability Act (HIPAA) regulations and the unique resin color and type, the pharmacy needs to do additional research to recycle them since it requires strict compliance with all industry laws and regulations. Community take-back programs are becoming increasingly more prevalent as a best practice to collect customer vials.



customer vials

Pharmacy Plastic Bottle Recycling FAQs

Q. Why is it important reason to recycle stock bottles?

A. Stock bottles represent a very recyclable item which is over 50% of pharmacy waste (paper the other 50%). In addition they are an important feedstock for US plastic recyclers.

Q. How does recycling benefit pharmacy and store?

A. By recycling stock bottles and paper, pharmacies can move to being "waste-free", help eliminate store waste, reduce costs and positively impact the environment.

Q. Can customer' vials be mixed/recycled with Stock bottles?

A. No. Plastic vials, although recyclable, require special handling and must NEVER be mixed with recycled stock bottles.

Q. What happens to stock bottles after they leave the pharmacy?

A. Stock bottles are recycled usually using one of the following methods:

- *Single stream* - co-mingled with other recyclable material from grocery store
- *Segregated for local recycler* - usually collected in plastic bags until pick up
- *Aggregated at Distribution/Recycling Center*
 - Ship bagged stock bottles to market along with baled plastics
 - Baled together with other grocery rigid plastics

Q. What do recyclers do with the stock bottles?

A. Truckload quantities of recyclable stock bottles are shipped to "plastic reclaimers" who process bottles into "recycled resin" which is used to make new plastic packaging and products such as auto parts, shampoo bottles, etc.

Q. What do we do with bottle "caps?"

A. If your company recycles caps, place them in a separate bag with other recyclable #5 PP, or place them in trash, if no recycling is available.

Q. Can labels and any folded instructions be left on stock bottles, when recycling?

A. Folded instructions should be removed, paper labels may remain on the bottles.

Q. Does the Pharmacy Department financially benefit from recycling?

A. By recycling ALL stock bottles and paper, pharmacy can become virtually waste free, which helps lower total store waste costs.

Q. How important is it that EVERY BOTTLE is emptied before recycling?

A. Very important! Medications left in bottles can cause recyclers to reject taking bottles.

Q. Is it important to keep from mixing trash or food residuals with recycled stock bottles?

A. Each bag of recycled bottles should be inspected to remove any trash before shipping.

“Testimonial”

“It is important for category/brand managers to pro-actively “encourage” suppliers to replace any wasteful (non-recyclable) shipping crates/packaging, with recyclable packaging.”

George Parmenter
 Manager of Sustainability,
 Hannaford Supermarkets/
 Delhaize America

[Link to Baling Grocery Rigid Plastics Case Studies](#)



Industry Trends and Issues

Below are some trends and issues occurring in the grocery industry that support the growth and development of the recovery of rigid plastics.

PP Corn and Asparagus Crates

Growing amounts of #5 PP shipping containers are showing up in selected perishable departments, most notably #5 PP corn crates. These rigid plastic shipping containers are replacing highly wasteful/non-recyclable (although sometimes reused) wire wood/wire-bound crates or various forms of poly/waxed coated boxes. The avoided cost of disposing of these non-recyclable crates can be significant, especially during high corn consumption seasons. It is not uncommon for an average supermarket to go through 75-150 crates of corn a week during a corn sale. Replacing these disposable containers with 100% recyclable PP crates yields savings from avoided hauling, landfill fees and newly found recycling revenue.



Grocers Proactively Change to Recyclable Packaging

Some retailers are successfully getting growers to convert to recyclable material, such as the PP corn crates and #5 PP asparagus crates. Pro-actively encouraging growers to switch to recyclable plastic shipping containers can make a difference on a grocery store’s bottom line.

Using Horizontal Balers

A major potential cost-saving opportunity involves dedicating resources to replace widely used down stroke balers with labor and space saving horizontal balers. Indications are that the payback of a few years is very attractive to grocers.



Pharmacy “Stock Bottle” Paper Contamination

A significant amount of pharmacy stock bottles have large amounts of adhered paper instructions that can devalue material at the end market. Pharmacy stock bottles are but one example where redesign is needed so the last handler, the retailer, can easily remove the paper before placing the empty plastic container into the plastics recycling system.

Involve Category/Brand Management

Category/Brand management plays a critical role by working with the supply chain to source the most high value, less wasteful and recyclable container types. Pro-actively transitioning suppliers to use packaging, that best meets EPA’s Waste Management Hierarchy (reduce, reuse, recycle), is fundamental to zero waste management. Sourcing and specifying recyclable material helps effect needed change in the industry as grocers and manufacturers continue to work together on sustainable packaging alternatives. As owners of their private label brand packaging, grocers can and should seize opportunities to convert wasteful shipping packaging into recyclable or reusable materials.

The Importance of Designing Plastic Packaging for Recycling

Successful plastic recycling relies on packages that are designed with an understanding of the recycling process – poor design can negatively impact recycling or even render a package, that may seem recyclable, completely unrecyclable. Package material as well as additives, layers, labels, adhesives and material color can all significantly impact recycling. A package designer has many options for package features, but is often unaware of how options positively or negatively impact recycling. To help resolve this, the Association of Plastic Recyclers (APR) has published the [APR Design Guide for Plastics Recyclability](#). It provides best use guidelines for designing plastics for quality recycling. In addition, APR offers designers a “How to” training program for using the *Design Guide* and understand their design impacts. Please contact APR to better understand the impact your brand name packaging has on plastic recycling.

Helpful Resources

Technical Assistance

[Request for Assistance Application](#)

Program FAQ's and History

[FAQs Frequently Asked Questions](#) (PDF)

[Phase 1 Report](#) (PDF)

[Phase 2 Report](#) (PDF)

In-Store Educational Display Signs

[It Pays to Recycle](#) (8.5 x11") (PDF)

[Rigid Plastic ONLY!](#) (8.5 x11") (PDF)

Educational Visual Aids

[Reference Photo Gallery](#)

[Video #1 Grocery Rigid Plastics - It makes \\$ense](#)

[Video #2 Grocery Rigid Plastics - Recycling Made Easy](#)

[Video #3 Grocery Rigid Plastics - Completing the Cycle](#)

[Video #4 Grocery Rigid Plastics - Baling Rigids](#)

[APR Design Guide for Plastics Recyclability](#)

For Your In-Store Associates

[Q & A for Store Associates](#) (PDF)

[Associate's Guidelines for Rigid Plastic Recycling](#) (PDF)

[Program Sample Letter](#)

Worksheets/Forms

[Distribution/Recycling Center Tracking Form](#) (PDF)

Available Markets for your Rigid Plastics

● [Grocery Rigid Plastics Market List](#)

● Plastics Markets

www.plasticmarkets.org/

Industry Contacts and Links

● The Association of Plastic Recyclers

www.plasticsrecycling.org/

● American Chemistry Council

www.plasticpackagingfacts.org

● Brown Sustainability Solutions

www.brownsustainabilitysolutions.com

● Food Marketing Institute (FMI)

www.fmi.org

● Plastic Film/Wrap Recycling

www.plasticbagrecycling.org

● Compact Pharmacy Stock Bottle Collection Bins

www.bunzl.com

www.recycleaway.com



*Divert Waste
Reduce Costs
Enjoy New Revenue*

Frequently Asked Questions (FAQ's)

Q. Are there strong markets for this material?

A. Yes, in fact markets have never been stronger as the world market for rigid plastics grows rapidly.

Q. How do I maximize revenue?

A. Cleaning each container, removing all residue, and neatly and tightly stacking each container by size in dedicated bin will assure most efficient handling and optimum revenue.

Q. What do I do with Lids?

A. The most efficient way to handle lids is to collect them in a clear utility plastic bag. Place each filled bag on top of bin used to collect stacked containers.

Q. What is the average weight difference from full to loosely stacked bins?

A. Density of bins full of pails and trays varies from a well-stacked full bin weighing an average of 90 lbs. to a loosely filled bin weighing 40 lbs.

Q. What if trash gets into the bins?

A. A small amount of trash – less than 5% - should be acceptable to the market. However, it is crucial to educate against any trash. Food residue is also considered a contaminant (trash) if it is excessive (i.e. frostings in buckets, fish in trays, etc.).

Q. Can Rigid Plastics be baled?

A. Yes. Rigid plastics can be baled in down stroke or horizontal balers. However, effective testing is suggested.

Q. Will I have a problem with odor?

A. Cleaning each container before stacking in storage/shipping bin will reduce or eliminate odor. Using a spatula to remove solid residue then rinsing each container is important.

Q. Why are Chemical Containers and Fryer Oil Not included?

A. These containers are challenging to recycle due to cleanliness factors. They are difficult to clean without any residue/leakage issues during collection and they are bulky, thus challenging to make dense.

Q. What about other rigid plastics beyond #2 & #5?

A. Rigid plastic recycling usually starts with a collection of wide mouthed #2 and #5 food containers. There are markets for additional plastic resins, but since grocery stores produce limited volumes, these items can be added to a mature program.

Q. What is the easiest way to clean wide mouthed grocery rigid plastics?

A. Spatula out the solids and quick rinse.

Q. What is the lowest handling cost/maximum revenue approach to rigids?

A. Starting at store level filling (melon) bins with CLEAN tightly nested containers and separately bagged lids, and at central recycling center baling SINGLE RESIN rigids and loading full trailers – will assure maximum market value.

Q. What does the material we are collecting get made into?

A. “Recycled-content” plastics appear in thousands of consumer and industrial products and packaging ranging from food containers to toys.



It Pays to Recycle Rigid Plastics!

How much are they worth?

A-2



Approximate Values* of White or Clear containers:

- 5 gal. Pail = 15¢
- 4 gal. Pail = 10¢
- 2 gal. Pail = 7¢
- Fish Tray = 5¢

*Average market value of 5¢/lb

- **Energy Conservation** - Producing new plastic products from recycled materials uses 2/3 less energy than making products from raw (virgin) materials.
- **Reduced Greenhouse Gas Emissions** - When recycled material is substituted for virgin material, greenhouse gas emissions from extraction, preprocessing and production are significantly reduced.
- **Beneficial Reuse** - Recycled plastics can be made into hundreds of everyday products, including fleece jackets, carpeting and lumber for outdoor decking, providing thousands of jobs for fellow Americans.
- **Greater Recycled Plastic Supply & Demand** - The more we recycle, the more recycled plastics are available, and the more recycled plastics we buy, the more the industry will create.
- **Conserves Landfill Space** - Conserving landfill space is crucial as landfills reach their maximum capacities and shut down, and other land is limited for creating new landfills.



www.RecycleGroceryPlastics.org



Rigid Plastics ONLY!

YES!

**Clean and
Tightly Stacked
by Number**



- Deli Salad Tubs
- Seafood Trays
- Bakery Pails



**Look for the number on the
bottom of the container**

NO

- Food Waste
- Shrink Wrap
- Plastic Bags
- Returnable Bottles
- Waxed Cardboard

*Thank you for
your efforts!*



Questions and Answers (Q&A) for Store Associates

Q. What are Rigid Plastics?

A. Unlike film plastics (pallet wrap, stretch wrap), rigid plastics are wide mouthed (not for retail sale) food containers with lids or covers, predominantly from food preparation areas in deli, bakery, seafood, and pharmacy (stock bottles).

Q. Why are we recycling Rigid Plastics now?

A. Expanding in-store recycling programs beyond traditional cardboard, film wraps and plastic bags, to include now more valuable rigid plastic containers, will save money and help strengthen our commitment to being a more environmentally sustainable company.

Q. What savings can our store expect from recycling Rigid Plastics?

A. First, by recycling we eliminate the cost of waste disposal, which is significant. Additionally, if we do a good job of collecting and cleaning containers we will earn the maximum market value for each pound recycled – amounting to several hundred dollars annually per store. Recycling saves us money and saves our environment.

Q. How can I distinguish #2 or #5 rigid plastics from others (#1, 3, 4, 6, 7)?

A. A triangle with the resin number is embossed on the bottom of each container. Covers usually do not have a number, but can be included.

Q. Why are only #2 and #5 rigid plastics included in this recycling Pilot Program?

A. High Density Polyethylene - HDPE (#2) and Polypropylene - PP(#5) plastics have high market value to recyclers and are increasingly sought after by plastic packaging manufacturers, collectors, and associated businesses. More and more packaging contains recycled content, creating greater demand for #2 & #5 recycled plastics.

Q. Do labels need to be removed from rigid plastics?

A. No.

Q. Should covers be removed?

A. Yes, and covers can be recycled separately in a clear bag.

Q. Why are Chemical Containers and Fryer Oil Not included?

A. These containers are challenging to recycle due to cleanliness factors. They are difficult to clean without any residue/leakage issues during collection and they are bulky, thus challenging to make dense.

Q. Will I have a problem with odor?

A. Cleaning each container before stacking in storage/shipping bin will reduce or eliminate odor. Using a spatula to remove solid residue then rinsing each container is important.

Q. What is the easiest way to clean wide mouthed grocery rigid plastics?

A. Spatula out the solids and quick rinse.

Q. What does the material we are collecting get made into?

A. “Recycled-content” plastics appear in thousands of consumer and industrial products and packaging ranging from food containers to toys.

Q. How long will the Pilot last?

A. Approximately three months.

Q. Once the Pilot is over, will we continue recycling?

A. With a successful Pilot, we plan to roll out rigid plastics recycling to additional stores.

Q. If we have a question about the Pilot, whom do we ask?

A. *Green Captains* will be prepared to answer questions and help in whatever way necessary to help make the Pilot a success.



Associate GUIDELINES for Rigid Plastic Recycling

Goal: Properly Recycled Rigid Plastics

| <u>ACTION</u> | <u>DO THIS</u> |
|--|--|
| Prepare to Recycle | <ol style="list-style-type: none"> 1. Order Watermelon Bins 2. Designate area for storing Watermelon Bin on a wood pallet 3. Clearly label the Watermelon Bin with your Store Number! |
| Clean Containers and Lids | <ol style="list-style-type: none"> 1. Remove lids from containers and clean/rinse 2. Use a spatula, then rinse and dry plastic containers upside down 3. Stack cleaned lids separately from clean containers |
| Stack Containers in Watermelon Bins | <ol style="list-style-type: none"> 1. Remove containers as needed from each department to the Watermelon Bin, and stack upside down by size/ shape 2. Place lids in clear bag 3. Stack containers to the top of the Bin, without overflowing 4. Place lids in a clear plastic bag and lay on top of full Bin |
| Return Plastics to Your Distribution/ Recycling Center | <ol style="list-style-type: none"> 1. Inspect full Bins and remove trash 2. Return full Bins to the “clean out” truck going to Distribution/Recycling Center 3. If necessary, stack Watermelon Bins on the truck with a wooden pallet in between for support |
| Double Check Your Work! | <ol style="list-style-type: none"> <input checked="" type="checkbox"/> 1. Watermelon Bin has been labeled with your Store Number! <input checked="" type="checkbox"/> 2. All rigid plastic containers/lids have been properly cleaned <input checked="" type="checkbox"/> 3. Containers are tightly stacked (upside down) in Bin, according to size and shape <input checked="" type="checkbox"/> 4. Lids are placed in bag on top of Bin <input checked="" type="checkbox"/> 5. Bin has been filled <u>to the top</u> with tightly stacked rigid plastics <input checked="" type="checkbox"/> 6. Your full Bin is on the “clean out” truck ready for delivery back to the Distribution/Recycling Center |



Letter to Associates Rigid Plastics Recycling - Program Announcement

Beginning Date Here our store will begin Piloting a new additional recycling practice to demonstrate how we can easily recycle rigid plastic containers and lids primarily from deli, bakery and seafood departments, as well as pharmacy, where applicable.

The new Pilot will be referred to as Rigid Plastics Recycling. The purpose of the Pilot is to help us understand potential new benefits for our company - should we decide to move forward and roll out to all stores at the conclusion of the Pilot.

Advantages to the company are many, including reduced waste disposal costs, potential new recycling revenue combined with higher recycling rates for the store - key to helping achieve our waste reduction goals.

What's in it for our store? In addition to above economic benefits:

- Communities benefit from reduced waste going to disposal sites
- Rigid plastic buckets, and certain bottles are valuable to recyclers and supermarkets generate many containers each week
- "Doing the right thing" complements our sustainability commitment

Thank you for supporting this important effort to Pilot recycling of "Rigids."





**RECYCLE
GROCERY
RIGID
PLASTICS**

*Divert Waste
Reduce Costs
Enjoy New Revenue*

recyclegroceryplastics.org

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