



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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JANUARY 2019



**RECYCLE  
GROCERY  
RIGID  
PLASTICS**



**Divert Waste**



**Reduce Costs**



**Enjoy New Revenue**

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

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*Recyclable rigid plastics 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**  
President,  
Association of Plastic Recyclers

## WELCOME RETAIL GROCERS

This “How to Recycle Grocery Rigid Plastics” Guide has been developed by The Association of Plastic Recyclers (APR), North America’s largest alliance of plastics reclaimers. The APR represents companies that make up over 90% of the postconsumer plastic processing capacity in the United States, Mexico and Canada.

The APR actively seeks new ways to strengthen economically viable and environmentally responsible recycling of postconsumer plastics. There are strong markets for recyclable plastics to help meet the growing demand for recycled resin material. The APR has developed this Guide for the benefit of North American grocers, specifically to help connect the large volumes of recyclable rigid plastic packaging generated by North American supermarkets with this growing demand for recycled resins.

**Developed with support 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.**

## Key Findings From Grocery Rigid Plastics Recycling Pilot Program

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 square feet) generate 40-80 pounds 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 retail grocers’ existing recycling programs!*

## In This Guide

This “How To” Guide will help you complete the tasks listed below for successful rigid plastic recycling.

1. GET STARTED	2. NEXT STEPS	3. PROGRAM IMPLEMENTATION
<ul style="list-style-type: none"> <li>• Gather your data</li> <li>• Calculate financial benefit</li> <li>• Determine your market</li> </ul>	<ul style="list-style-type: none"> <li>• Develop your logistics</li> <li>• Train your team</li> </ul>	<ul style="list-style-type: none"> <li>• Start in-store collection</li> <li>• Understand recycling center requirements/logistics</li> <li>• Send rigid plastics to market</li> </ul>



*Examples of rigid plastics found in most grocery stores*



## 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 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.
- Help achieve waste reduction goals.
- Conserve energy and reduce greenhouse gas emissions.
- Provide packaging industry with valuable feedstock that becomes recycled content in packaging and other products.

## 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



### TOOLS & RESOURCES



WATCH VIDEO: MAKES \$EN\$E\*

**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.



**#2 HDPE & #5 PP PRICE HISTORY**  
(Baled, Truckload, FOB Seller)

#2 HDPE (per pound)	
Jan - Dec 18	8-11¢
Jan - Dec 17	7-11¢
Jan - Dec 16	7-12¢
#5 PP (per pound)	
Jan - Dec 18	8-11¢
Jan - Dec 17	6-9¢
Jan - Dec 16	8-15¢

## Maximizing Cost Savings and Revenue Potential

Regardless of whether a grocery chain is baling, stacking or using single stream to recycle valuable buckets and containers from individual departments (e.g., deli, bakery, seafood, floral, pharmacy, etc.), recycling rigid plastics makes great sense and is gaining momentum. Some supermarket chains begin simply by using single-stream recycling and as volumes grow, move to in-house baling, which offers much greater revenue generating opportunities. Financial evaluations show that centralized baling of rigid plastics is economically justifiable. Furthermore, of the three recycling options, it offers the most attractive revenue stream. Pharmacy stock bottles can also be baled.

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 and increases volume of materials entering the recycling versus waste streams.

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.



### TOOLS & RESOURCES



BALING ECONOMIC CALCULATOR:  
DOWNLOAD INTERACTIVE  
WORKSHEET



*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

#### TOOLS & RESOURCES



AVAILABLE MARKETS/  
RECLAIMERS LIST:  
ETHYLENE & POLYPROPYLENE



VIDEO:  
GROCERY RIGID PLASTICS  
COMPLETING THE CYCLE

## Choose Your Best Market Option

Recyclable rigid plastics provide valuable feedstock to recycled material processors (reclaimers); reclaimers then sell recycled resins to package and product manufacturers. With a rapidly increasing demand for recycled-content packaging, supermarkets can play an important role in the value chain by taking advantage of this new recycling opportunity. Simply put, rigid plastic recycling benefits both the grocery industry and the reclaimers and end users of recycled plastics.

Selling your rigid plastic containers directly to plastic recycler or reclaimer end markets generally provides better revenue and efficiencies, however, choosing the best marketing option for your company will largely depend on your primary supplier relationship and local logistics opportunities. If you are a large chain that controls your distribution, you may choose to backhaul from stores and centrally consolidate recovered rigid plastics. Other retailers may need to rely on wholesalers, local haulers or material recycling facilities (MRFs) to consolidate and handle their material, as diagramed on page 7.

## Financial Benefit Example

Revenue and costs savings come from the value of marketed recyclables, as well as reduced waste disposal costs. In the example below, a 100-store supermarket chain generates 4,000 pounds per site, or 400,000 pounds (200 tons) per year, collectively.

	Rigids Recycling REVENUE	
	Pounds Rigid Plastics Recycled / 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
	Potential Financial Benefit Total	\$50,000

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



*“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**  
Business Relationship Manager  
Publix Super Markets

## RIGID PLASTICS MATERIAL FLOW

The best market for your collected rigid plastic containers will be affected by the logistics options available to your stores. The logistics for common rigid plastics material flows are diagrammed here below.



### 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 directly to plastic recycler/reclaimer.
- 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/reclaimer.

### 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, off-site RLCs can serve as efficient trailer cross-docks if they are well-located on store logistics routes. Trailers returning from stores drop off their recycled assets—full pallets, bins, totes, rigids, boxes, and bagged film—and hook empty trailers for quick return to vendors for next merchandise haul. Recyclables are cross-docked and consolidated for return back to distribution or recycling centers.

### Markets using Wholesalers

For grocery supermarket operators dependent on contracted 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 or recycling center.

#### TOOLS & RESOURCES



GROCERY RIGID PLASTICS  
CASE STUDIES

SINGLE STREAM

STACKING

BALING

BALING PHARMACY



*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 JORDAN**

Manager Publix Return Centers,  
Publix Super Markets

## Efficiencies are Key

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

- Engage a third-party hauler
- Utilize current hauler for recyclables
- Backhaul on the chain's trucks from store to distribution/recycling center

### At a central distribution/recycling center, the goals are to:

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

### For all hauling arrangements, 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.

## Baling Adds Market Value

Centralized baling, using horizontal balers, can deliver incrementally greater market value for plastics and other recyclables at lower operational cost. Baling provides a higher value per truckload, mitigating transportation costs.

### Options for trailer loading of 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 loading 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. 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.

#### TOOLS & RESOURCES



VIDEO:  
GROCERY RIGID PLASTICS:  
BALING

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



## Determine Material Flow for Your Stores

Once you develop your program logistics and determine what collection method will best fit your operation, you will need to decide how emptied rigid plastic containers will flow from your stores to a distribution/recycling center.

This will include an evaluation of 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 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 beginning on page 14.

## In-Store Collection: Watermelon Bins

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

Melon bins can be collected, stacked/banded on pallets and stored as 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.*

## Rigid Plastics Collection Highlights

- Training individual store associates initially requires about an hour for full team.
- Regular communications ensure container cleanliness, maximum bin weights, and correct sorting by size and material type.
- Applying a store number to each bin returned to your distribution/recycling center helps keep individual stores accountable for properly managing their rigid plastics.



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



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



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



**Step #4:**  
Rigid plastics are set aside in various store departments until stacked in watermelon bins near dock.



**Step #5:**  
Properly nested bin, with bagged lids on top, ready for shipment to Distribution/ Recycling Center.



**Step #6:**  
Watermelon bins of stacked rigid plastics leave the store.



**Step #7:**  
Stacked bins or bales of rigid plastics in trailer await shipment to market.



**Step #8:**  
The heavy construction of grocery buckets/containers, requires a high compaction horizontal (rather than vertical) baler to process them.



**Step #9:**  
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.



*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

## Define Project Scope

An essential component of the success of your grocery rigid plastic recycling program is securing initial buy-in. Make your case and define your process, at both the individual store and corporate levels.

**To begin this process,** identify the project scope by deciding your starting place:

- Single pilot store
- Select group of stores (recommended)
- Total roll out of the program chain-wide

## Schedule Planning Meeting

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

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

## Select a Project Lead

At this meeting, or beforehand if possible, consider selecting a leader who fully understands all components of the program. This “Green Captain” can focus on optimizing collection, troubleshooting, addressing any barriers, and generally promoting successful program implementation. Choosing a recycling enthusiast for this role is recommended.

## Take the Time

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 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?



## Plan Your Approach

Training your retail store associates is a crucial step to ensure your program's success. Training can be efficiently accomplished through a centralized approach and re-enforced at the store level.

### Centralized Training

A one-hour centralized training session can be conducted at one store with Green Captain leads from multiple stores in attendance. This will prepare the individual store leads with the necessary tools and information to go back to their stores to train department managers (deli, bakery, seafood and pharmacy) and their associates.

In addition to learning about why the collection of rigid plastic containers is important—and having the opportunity to see examples of the types of container included—the group training provides an opportunity for questions and discussion. It also allows representatives from logistics, distribution, operations, sustainability and other company stakeholders to participate so that all attendees will 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 before returning to distribution/recycling center

It is important to offer simple training tools—signage, Q&A sheets and related information—to support the Green Captains' training of associates at the store level. See FAQs and examples of the type of information these tools might include, beginning on page 20.

### In-Store Training

Once back in their stores, the Green Captains can distribute in-store signage explaining what containers to collect and how to identify #2 HDPE and #5 PP resins, along with Q&A Sheets and related communications explaining why the program is important. Samples of designated rigid plastic containers can be used to demonstrate how to empty and stack by size. Bins can be set up to demonstrate how to properly nest like-sized containers, and how to collect lids in separate (clear) bags to keep them apart from nested containers. Allow time for plenty of questions and answers. A printed training guideline similar to the sample version provided on page 22 may be helpful to provide a simple itemization of the actions and responses involved in the collection of rigid plastics.

## Ongoing Training is Key to Success

- Ongoing communication within each department is important, especially in initial weeks, to promote optimum collection and nesting of all containers.
- Ongoing training helps ensure best end market value and reduces risk of load downgrading; it can also help reduce store shrink, providing feedback mechanisms are in place.

#### TOOLS & RESOURCES

SEE FREQUENTLY ASKED QUESTIONS (FAQS), AND SAMPLE SIGNAGE AND ASSOCIATE GUIDELINES AT THE BACK OF THIS GUIDE.



“

*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

## 1. Determine Your Market

Selling your rigid plastics directly to a plastic recycler or processor (reclaimer) generally provides the highest revenues, but this is often dependent on your stores' distribution logistics, and whether you're able to centrally consolidate your recovered plastics. If so, cross-dock bins filled with stacked and sorted rigid plastics—or bale your material—and ship directly to market. If not, work with your local waste provider / hauler to pick up bins of rigid plastics from stores for delivery to a MRF or recycling center.

## 2. Develop Logistics

Whether you consolidate material at a central distribution facility, or arrange for collection by a local hauler, prepare material at each store site by staging a watermelon bin on a pallet in a designated area in the back room; label the bin with the store's identification number.

## 3. Train Your Associates

In-store associates should be trained to empty and scrape out containers, if needed, and stack them by resin type (#2 HDPE, #5 PP) in each department.

Lids for the collected containers should be collected in clear plastic bags.

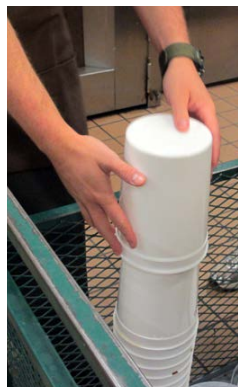
## 4. Collect / Manage Rigid

Once stacked containers accumulate in each department, they can be moved to watermelon bins. Likewise, bagged lids can be placed on top of stacked containers.

Process efficiency is important. Watermelon bins should be full of stacked rigid plastics before pick up (not partially filled) and checked for correct stacking, trash, etc. Bins are then ready to be backhauled on a truck going to back to the distribution / recycling center with other recyclables (e.g., baled OCC, film, etc.), or picked up by a local hauler.

## 5. Ship to Market

Once back at distribution center, full watermelon bins are either stored in a warehouse or storage trailer, or baled. Once an adequate number of bins or bales has accumulated, rigid plastics are ready to ship to market.



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

### TOOLS & RESOURCES



VISIT OUR TOOLS & RESOURCES PAGE FOR VIDEOS AND IN-STORE RECYCLING PHOTOS.

## RECOMMENDED APPROACH

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.



## Overview

Pharmacies offer a unique grocery store waste reduction opportunity since their discards are divided nearly evenly between stock bottles and recyclable paper; their actual pharmacy generated non-recyclable waste generated 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 potential 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
<b>TOTAL ANNUAL COST SAVINGS</b>		
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; average per store compactor haul cost of \$150.



Pharmacy shelves hold highly recyclable plastic



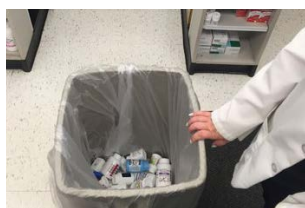
Valuable #2 HDPE plastic stock bottles



Stock bottles and caps are different plastic resins



Simple setup 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 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 with #5 PP pails or dispose.
3. Post "Pharmacy Stock Bottle Recycling" sign to include basic "how to" information as depicted in the sample sign below:



### 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

[recyclegroceryplastics.org](http://recyclegroceryplastics.org)

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 pickup
  - **Aggregated** at distribution/recycling center
    - Ship bagged stock bottles to market along with baled plastics
    - Baled together with other grocery rigid plastics



*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

The following case study provides an overview of a successful grocery pharmacy stock bottle recycling program.

## Why was Pharmacy Stock Bottle Recycling started? Was it successful?

- With support from the Association of Plastics Recyclers (APR), Stop and Shop identified their pharmacies as a potential recycling and waste reduction opportunity.
- The program was initially tested in two districts, representing approximately 30 pharmacies. Relevant signage, collection system, training and logistics were developed (see below).
- Recycling of stock bottles reduced pharmacy waste by over 50% in trial locations.
- Shop and Shop decided to formalize the program and roll it out to over 300 pharmacies.
- Stock bottle recycling is now part of the store's zero waste strategy, along with the recycling of cardboard, film, paper, food waste.

## How does it work?

- 1. Pharmacy associates collect stock bottles separately in a dedicated bin lined with clear bags.**
  - Full bags, weighing 15-25 pounds, 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 resins, #2 HDPE and #5 PP, are highly sought after by end markets.
  - Items made from recycled stock bottles include automotive parts, caps and totes.

## 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 these containers since strict compliance with all industry laws and regulations is required. Community take-back programs are becoming increasingly more prevalent as a best practice to collect customer vials.



customer vials

### 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** - commingled with other recyclable material from grocery store
  - **Segregated for local recycler** - usually in plastic bags until pickup
  - **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. Recyclable stock bottles are aggregated and 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 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, and any trash removed, before shipping.

“

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

”

**GEORGE PARMENTER**

Manager of Sustainability,  
Hannaford Supermarkets/  
Delhaize America

#### TOOLS & RESOURCES



VIDEO:  
GROCERY RIGID PLASTICS:  
BALING

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

#### **Grocers Proactively Change to Recyclable Packaging**

Some retailers are successfully getting growers and other suppliers to convert to recyclable materials, such as plastic (e.g., PP #5) shipping containers or crates, to replace non-recyclable options. Proactively encouraging a switch to recyclable plastic shipping containers can make a difference to 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, least wasteful and most recyclable container types. Proactively 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 completely unrecyclable. A package designer has many options for package features, including labels, adhesives, material color and performance layers, but is often unaware of how options positively or negatively impact recycling. To help package designers assess the impact of various options, the Association of Plastic Recyclers (APR) publishes the [APR Design® Guide for Plastics Recyclability](#) that provides tests and guidance for recycling compatible package design. For those looking for more in-depth training, APR offers designers a [“How to” training program](#) for using the Design Guide and understanding the potential impacts of their designs. Please contact the APR to better understand the impact your brand name packaging has on plastic recycling.

Below is a summary of useful resource links, many of which are also provided throughout this Guide. If you are viewing a printed copy, please visit [recyclegroceryplastics.org](http://recyclegroceryplastics.org).

## GROCERY RIGID PLASTICS

### Educational & Visual Tools

Photo Essays

Video 1: Make \$ens\$

Video 2: Completing the Cycle

Video 3: Baling Grocery Rigids = \$

### **Program Assessment Tools**

Economic Calculator: Baling Rigids Worksheet

### **Case Studies**

Single Stream

Stacking

Baling

Pharmacy Baling

## AVAILABLE MARKETS FOR YOUR RIGID PLASTICS

APR Grocery Rigid Plastics Market List

**Plastics Markets** – [plasticmarkets.org](http://plasticmarkets.org)

### **Inquiries & Assistance with Grocery Rigids Program:**

[recyclegroceryplastics.org/contact](http://recyclegroceryplastics.org/contact)

## INDUSTRY CONTACTS AND LINKS

### **The Association of Plastic Recyclers**

[plasticsrecycling.org](http://plasticsrecycling.org)

### **American Chemistry Council**

[plasticpackagingfacts.org](http://plasticpackagingfacts.org)

### **Plastic Film/Wrap Recycling**

[plasticfilmrecycling.org](http://plasticfilmrecycling.org)

### **Food Marketing Institute (FMI)**

[fmi.org](http://fmi.org)

### **Recycling Collection Bins**

[recycleaway.com](http://recycleaway.com)



**RECYCLE  
GROCERY  
RIGID  
PLASTICS**

Divert Waste  
Reduce Costs  
Enjoy New Revenue

**Q. Are there strong markets for this material?**

- A.** Yes, this is a high-value plastic material with strong markets.

**Q. How do I maximize revenue?**

- A.** Removing residue from containers and neatly and tightly stacking them by size in dedicated bins 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 and average of 90 pounds to a loosely filled bin weighing 40 pounds.

**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 (e.g., 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 and horizontal balers are recommended.

**Q. Will I have a problem with odor?**

- A.** Removing any residual product from containers before stacking in storage/shipping bin will reduce or eliminate odor. Rinse containers if necessary.

**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 lowest handling cost/maximum revenue approach to rigids?**

- A.** Starting at the store level, fill melon bins with tightly nested containers and separately bagged lids. Once at the central recycling center, bale single-resin rigids and load full trailers for market. These steps provide maximum handling efficiencies and 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.



Source: [recyclegroceryplastics.org](http://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**


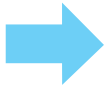
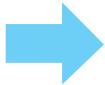


***Thank you for  
your efforts!***



**RECYCLE  
GROCERY  
RIGID  
PLASTICS**

[RecycleGroceryPlastics.org](http://RecycleGroceryPlastics.org)

## GOAL: PROPERLY RECYCLED RIGID PLASTICS

ACTION		DO THIS
Prepare to recycle		<ol style="list-style-type: none"> <li>1. Order watermelon bins</li> <li>2. Designate area for storing watermelon bin on a wood pallet</li> <li>3. Clearly label the watermelon bin with your store number</li> </ol>
Stacked empty containers and lids in your department		<ol style="list-style-type: none"> <li>1. Separate lids from containers and remove any residual product</li> <li>2. Stack containers and lids separately</li> </ol>
Consolidate containers in watermelon bins		<ol style="list-style-type: none"> <li>1. Remove containers as needed from each department to the watermelon bin, and stack upside down by size / shape</li> <li>2. Stack containers to the top of the bin, without overflowing</li> <li>3. Place lids in a clear plastic bag and lay on top of full bin</li> </ol>
Return plastics to Your distribution/ recycling center		<ol style="list-style-type: none"> <li>1. Inspect full bins and remove trash</li> <li>2. Return full bins to the "clean out" truck going to distribution / recycling center</li> <li>3. If necessary, stack watermelon bins on the truck with a wooden pallet in between for support</li> </ol>
<b>Double check Your work!</b>		<ul style="list-style-type: none"> <li>✓ Watermelon bin has been labeled with your store number</li> <li>✓ Containers are tightly stacked (upside down) in bin, according to size and shape</li> <li>✓ Lids are placed in bag on top of bin</li> <li>✓ Bin is filled <u>to the top</u> with tightly stacked rigid plastics and is ready for delivery back to the distribution / recycling center</li> </ul>



Source: [recyclegroceryplastics.org](http://recyclegroceryplastics.org)



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