

# EPA Pilot Program 2010



**Goal: safely clean and  
recycle non-compliant  
mini-bulk containers**

# Project Goals

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- ❑ Matrix of container types (in progress)
- ❑ Guidance on safe preparation of portable refillable containers for recycling
- ❑ Guidance on safe triple rinsing of refillable containers prior to recycling

*Keeping in mind the goals of the C/C Rule:*

- ❑ Minimize human exposure during container handling
- ❑ Facilitate container disposal and recycling
- ❑ Encourage use of refillable containers

# General Safety Requirements

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- ❑ Whether engaged in inspection or cleaning containers and appurtenances, basic safety recommendations should be followed.
- ❑ In general, prevent unsafe practices, injuries, damage to property and the environment.
- ❑ Use PPE appropriate to pesticide before cleaning container.
- ❑ Use protective eyewear, chemical-resistant gloves and chemical-resistant apron following container cleaning.

# General Safety Requirements (cont'd)

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- ❑ Read label, focusing on pesticide formulation and safety information.
- ❑ Ensure proper rinsate management.
- ❑ Prevent and prepare for physical hazards at site, including lifting/ergonomics, confined spaces, heat and cold extremes, dehydration.
- ❑ Exercise caution when using power tools.

# Universe of containers/terminology

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- IBC: Intermediate bulk container
- Mini-bulk
- Portable refillable containers
- Molded polyethylene tanks
- Steel (types)
- Composite (steel + HDPE) or caged tanks

Define standard and unusual container terms:

- "Empty"-defined (40CFR§261.7)
- Appurtenances
- Heel
- Others?

# Guidance on related issues

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- Options for residues that remain in portable refillable containers:
  - If possible, dispose of in use scenario; triple rinse;
  - Manage rinsates appropriately;
  - Other?
- How to address generics or orphaned containers (whose ownership is unclear):
  - Cost of container disposal?
  - If orphaned container holds unknown pesticide-→ What are the options? Analyze and triple rinse, if possible; hazardous waste landfill (undesirable option)
  - Other?

# Prepare for Inspection and Cleaning Refillable Containers

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- Container history
- Plan and take safety precautions
- Inspect containers and appurtenances
- Clean container one of several ways

# History: What is the life expectancy of such containers?

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- ❑ Container history is critical- where was container stored- indoors or outdoors?, location (geographic), temperature and other conditions, impacts/trauma, pressurized or under internal vacuum?
- ❑ Is container normally filled, normally empty or continuously filled and emptied? Overfilled?
- ❑ Is container kept at one site or continuously moved from site to site?
- ❑ Is container dedicated to one product or cleaned and refilled with different products?
- ❑ Specific gravity of substance stored v container design and material



# Inspect Empty Refillable Pesticide Containers: Recycling

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- ❑ As a precaution, wear PPE recommended on the pesticide label.
- ❑ Thoroughly clean exterior of container and appurtenances.
- ❑ Unless it has already been determined the container will be recycled, examine exterior and interior of container and appurtenances according to §165.65(e) to assess container condition and/or use Mini-bulk checklist.

# Inspect Empty Refillable Pesticide Containers: Recycling

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- [Insert additional detail]

# Cleaning Empty Refillable Pesticide Containers: Recycling

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- ❑ Identify material container is made from, whether or not it can be recycled (using matrix of container types)
- ❑ Review label, check formulation and look for cleaning instructions, if present.
- ❑ Thoroughly clean exterior of container. Wash until visible residues are gone; manage rinsate. [Should language be more prescriptive here? Should exterior be cleaned using a hose, scrub brush, detergent, etc.?]

# Cleaning Empty Refillable Pesticide Containers: Recycling

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- ❑ Remove labels, placards, appurtenances, other devices. Recycle or re-use as appropriate.

## Inspection of Empty Refillable Containers

- ❑ Option a: If there is a question whether container can be re-used, inspect container using Mini-Bulk checklist
- ❑ Option b: If the container will be recycled, proceed with one of the triple rinsing or cleaning instructions.

# Cleaning Empty Refillable Pesticide Containers: Recycling

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- Thoroughly rinse the container using one of the following:
    - Triple rinse procedure described on label;
    - Residue removal procedure by registrant;
    - Instructions for refillable pesticide containers;
    - Standard industry practices;
    - Other cleaning instructions found on the label under “Storage and Disposal”;
- [Examples of language that could be inserted here:

# Cleaning Empty Refillable Pesticide Containers: Recycling

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- Ex 1: “To clean the container, fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.” [This was adapted from the “standard” refillable container cleaning procedure found at §156.156(b)(2)(iii).]

# Cleaning Empty Refillable Pesticide Containers: Recycling

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- Ex 2: " To pressure rinse the container, insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top, bottom and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure, spray duration and/or spray volume. If the manufacturer's instructions are not...

# Cleaning Empty Refillable Pesticide Containers: Recycling

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- Ex. 2 (cont'd): "...available, pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a minimum rinse volume of 10% of the container volume. Drain, pour or pump rinsate into application equipment or rinsate collection system. Repeat this pressure rinsing procedure two more times. (Adapted from specific registrant's label showing pressure rinsing instructions for larger containers.)



# Cleaning Empty Refillable Pesticide Containers: Recycling

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- ❑ Drain and collect rinsate into application equipment or a rinsate collection system.
- ❑ If container is to be recycled, puncture container taking all safety precautions, so that the container cannot be reused.
- ❑ Store cleaned container in safe, dry location until recycled.



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**Our goal is to prevent this...**







# References

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- ❑ **2009 Mini-Bulk Cleaning Guidelines**; FarmChem, Illinois Fertilizer and Chemical Association and Illinois Department of Agriculture.
- ❑ **General Terms and Conditions for the Collection of Used IBC**; Cropland Containers, Inc; [www.croplandcontainers.com](http://www.croplandcontainers.com)
- ❑ **Tank and IBC Inspection Guide (9/18/00) Snyder Industries, Inc.**
- ❑ **EPA Pesticide Container and Containment Rule: Refillable Container Requirements** for Registrants, Agricultural Retailers, Distributors, Commercial Applicators and Custom Pesticide Blenders, CropLife America, American Agronomic Stewardship Alliance, National Association of State Departments of Agriculture; [www.aginspect.org](http://www.aginspect.org)
- ❑ Information on the Pesticide Container and Containment Rule, [www.epa.gov/pesticides/regulating/containers.htm](http://www.epa.gov/pesticides/regulating/containers.htm)
- ❑ **Recycling Plastic Containers from Pesticides and Pesticide-Related Products**; ANSI/ASABE S596 FEB2006.

# Many Thanks!

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