Welcome to the RPPC Webinar
California’s Rigid Plastic Packaging Container (RPPPC) Program
Webinar Agenda

1. RPPC Definition
2. “What is an RPPC” demo
3. “Container Volume Measurement” demo
4. RPPC Regulations
California’s Rigid Plastic Packaging Container (RPPC) Program

• Enacted in 1991.

• The revised regulations and went into effect in January, 2013.

• To increase the use of recycled postconsumer plastic.

• The focus is on product manufacturers that sell or offer for sale products held in RPPCs.
Product Manufacturer Definition

• A product manufacturer (PM) is the responsible party for a product to be produced and sold or offered for sale in California within a compliant RPPC.

• The regulations include factors for identifying responsibility, including:
  • Ownership of a brand name
  • Primary control over product design
  • Primary control over container design
RPPC Examples and Demonstrations
California’s RPPC Program

DISCLAIMER:
Please note that the packaging examples shown do not constitute endorsement by CalRecycle and are provided for informational purposes only. CalRecycle is providing this information in an effort to increase public awareness. Any resemblance of a container to the container shown cannot be construed as achieving compliance.
What is an RPPC?

• Is made of plastic,
• Has a relatively inflexible shape or form, following ASTM film plastic guidelines (≥0.25mm or 0.01 inches)
• Has a minimum capacity or volume of 8 fluid ounces up to a maximum capacity or volume of 5 gallons,
• Is capable of at least one closure, and
• Holds a product that is sold or offered for sale in California.
What is an RPPC?

Clamshells

Thermoform Trays

Handled Bottles

Tubes

Smaller Bottles
What is an RPPC?

- Tubs
- Buckets
- Pails
- Boxes
- Rounds
RPPC Volume Capacity

Five Gallon Bucket

Eight Ounce Container
Other RPPCs

- Entirely Plastic
- Relatively Inflexible

Capable of one Closure

8 oz – 5 gal
Incidental Portions

Metal Handle

Metal Hinges
Closures

Tube capable of multiple closures

Tube sealed by manufacturer
Collapsible Containers

Unfolded Container

Folded Container
Unregulated Containers

Bucket without Lid

Fiberboard-backed Container
Unregulated Containers
Unregulated RPPCs

The container does not have a lid, so therefore is not capable of at least one closure
California’s Rigid Plastic Packaging Container (RPPC) Program

calrecycle.ca.gov/Plastics/RPPC
RPPC Measurement Presentation:

Determining a Container’s Volume
Container Volume Determination Methods
RPPC Volume Range
8 ounces – 5 gallons
Determining a Container’s Volume

To find out what is the size of your container, you can:

• Contact container manufacturer for the specifications
• Contact a package design engineer
• Self-Determine
Regular Shaped RPPCs
Rectangular Box Volume Measurement

Volume for a Cube or Rectangular Prism:

Width x Length x Height
Rectangular Box Volume Measurement

Volume = 15.47 in$^3$

Width 2.25”
Length 2.75”
Height 2.5”

WxLxH = Volume
Rectangular Box Volume Measurement

Converting inches to ounces;

\[ \text{fl.oz} = \frac{\text{in}^3}{1.8046875} \]

\[ 15.47 \div 1.8046875 = 8.57 \text{ fluid ounces} \]
Cylindrical Container Volume Measurement

Volume of a cylinder
= \pi \times \text{radius}^2 \times \text{height}

\pi = 3.14
Cylindrical Container Volume Measurement

Radius = 1.4”

Radius\(^2 = 1.4 \times 1.4 = 1.96”

Height = 2.5”

Volume = 3.14 \times (1.4)^2 \times 2.5 = 15.39 \text{ in}^3
Cylindrical Container Volume Measurement

15.39 ÷ 1.8046875 = 8.53 fl oz
Determining a Container’s Volume or Equivalent Capacity

One of the factors for determining whether a particular product’s RPPC is regulated is the volume or equivalent capacity the RPPC is capable of holding. A regulated RPPC has a minimum capacity or volume of 8 ounces up to a maximum capacity or volume of 5 gallons. If you are unsure of a particular RPPC’s total volume or equivalent capacity, consider the following:

- Contact the container manufacturer
- Work with the engineers within your company
- Conduct the measurement yourself.

Available online tools that may assist you in conducting your own measurement include:

- [U.S. Liquid Measure Volume Capacity Calculator](#)
- [Formulas to calculate shapes](#)
- [Water-dunk test](https://www.youtube.com) (YouTube)
Irregular Shaped RPPCs
Irregular Shaped RPPCs Volume Determination

• Rice Measurement Method

• Water Measurement Method

• Volume Displacement or Water Dunk Test
Irregular Shaped Container Volume Determination

Rice Measurement Method
RPPC Volume Determination Example

Width x Length x Height
Rice Measurement Method

Step 1: Tape any gaps or openings
Rice Measurement Method

1 cup = 8 ounces

Step 2: Measure 8 ounces of rice, level off the top
Rice Measurement Method

Step 3: Pour rice into empty package
Conclusion: If the rice does not completely fill the container, then this container’s volume would be considered more than 8 ounces.
Rice Measurement Method for Irregular Containers
Rice Measurement Method

Step 1: Tape any gaps or openings
Rice Measurement Method

Step 2: Measure rice
Rice Measurement Method

Step 3: Pour rice into container

Conclusion: If the rice spills over, this container’s volume would be considered less than 8 ounces.
Irregular Shaped Container Volume Determination

Water Measurement Method
Water Measurement Method

Step 1: Pour 8 ounces of water into a measuring cup
Water Measurement Method

Step 2: Pour 8 ounces of water into the container
Conclusion: If the water does not completely fill the container, then this container’s volume would be considered more than 8 ounces.
Water Measurement Method
Water Measurement Method

Step 1: Measure 8 ounces of water into a measuring cup
Water Measurement Method

Step 2: Pour water into the container.

Conclusion: If the water spills over, this container’s volume is less than 8 ounces.
Irregular Shaped Container Volume Determination

Volume Displacement or Water Dunk Test
Irregular Shaped Container Volume Determination

Irregular Shaped Container
Volume Displacement or Water Dunk Test

Step 1: Fill the container with sand
Volume Displacement or Water Dunk Test

Step 2: Tape any openings or gaps
Volume Displacement or Water Dunk Test

Step 3: Pour pre-measured water into the container
Volume Displacement or Water Dunk Test

Step 4: lower container into the water
Volume Displacement or Water Dunk Test

Step 5: Measure the amount that the water level goes up
Volume Displacement or Water Dunk Test

Conclusion: The amount by which the water goes up is equal to the volume of the container.
Demonstration: Container Volume Measurement

RPPC Website

calrecycle.ca.gov/Plastics/RPPC/SelfDetermin
Next... Phases of Certification
Phases of Certification

The certification process takes a 3-phased approach.

The phases of the certification process include:

• Registration
• Precertification
• Compliance Certification
Registration

- PMs identified by CalRecycle to use or potentially use RPPCs are notified of registration requirements.
- CalRecycle has developed an online registration (calrecycle.ca.gov/Plastics/RPPC/Register.htm).
- All PMs are welcome to register whether or not CalRecycle has sent their business a notice.
- Must register within 90 calendar days of notice.
Precertification

• CalRecycle notifies a selected number of PMs that they are in the precertification phase.
• The first precertification notices were sent out in March 2013.
Compliance Certification

• A portion of those 2013 precertification PMs will be selected to participate in a compliance certification.

• Those selected will receive a “compliance certification notice” by March 31, 2014.

• The complete compliance certification must be submitted by April 1, 2015 (the year following the 2014 measurement period).
Phases of Certification

Registration
- Ongoing phase. All product manufacturers are welcome to register.
- Product manufacturers who receive a registration notice must respond within 90 days.

Precertification
- Product manufacturers are randomly selected and notified in writing that they *may* be selected to certify their product’s compliance.

Compliance Certification
- A small random selection of product manufacturers who were in the Precertification phase will be notified to submit a compliance certification following their measurement period.
Next... Compliance Options
Compliance Options

To comply with the law, an RPPC must meet one of the compliance options:

- 25% Postconsumer
- Source Reduction
- Reuse
- Refill
- 45% Recycling Rate
- Floral Industry
- Alternative Container Compliance
The RPPC must be made from at least 25 percent postconsumer material.

“Postconsumer Material” means a material that would otherwise be destined for solid waste disposal, having completed its intended end-use and product life cycle.

Post-industrial materials and by-products generated from, and commonly reused within, an original manufacturing and fabrication process are not considered as “postconsumer material”.

Postconsumer Material Content
Source Reduction

• Reduced Container Weight (10%)
• Product Concentration (10%)
• Product Concentration and Reduced Container Weight Combination (10%)
• Comparison to Similar Products in Similar Containers (10%)
Reusable RPPC

- The RPPC is routinely reused by the end user at least five times where the reuse is to hold a replacement product.
- Example: hand washing soap container refilled by buying large container of replacement soap.
Refillable RPPC

- The RPPC is returned to the PM.
- PM refills the RPPC.
- RPPC must be replenished at least 5 times.
The RPPC must be recycled at a 45 percent recycling rate.

A methodology must be submitted and approved by CalRecycle during certification.

*Particular Type, e.g., all-purpose cleaner spray bottle or detergent bottle.

* Product Associated, e.g., containers with one or more sizes, shapes or designs with a particular generic product line.
Floral Industry Compliance

- The RPPC must contain floral preservatives.
- The RPPC must be reused for at least two years.
- A methodology must be submitted and approved by CalRecycle during certification.
Alternative Container Compliance Method

- The PM, or another company under the same corporate ownership.
- Uses California postconsumer plastic material in the manufacturing of RPPCs or other plastic product or plastic packaging.
- Must be equivalent to or exceeds 25 percent postconsumer material.
Next... Calculating Compliance
Calculating Compliance

• PMs must calculate their container compliance using the formulas in the regulations (Section 17945.5).

• Averaging can be used for the following container compliance options:
  • Postconsumer Material Content
  • Source Reduction
  • Reusable RPPC
  • Refillable RPPC
Advisory Opinions, Waivers and Exemptions

Advisory Opinions

• Can only be requested by Product Manufacturers in either the Precertification or Compliance Certification phase.

Waivers and Exemptions

• Can only be requested by Product Manufacturers who have been selected for Compliance Certification phase.
Advisory Opinion Request

• If a Product Manufacturer has a question about compliance with the RPPC law.
• Must be submitted in writing within 90 calendar days of the Product manufacturer’s receipt of either a precertification or compliance certification notice.
Waivers

• Must be submitted by a product manufacturer who has been selected to submit a compliance certification within 90 calendar days of notice, or by the end of the certification period for newly introduced products not known within 90 calendar days of the notice.

• Valid for 12 months from the date when the newly introduced product is first sold or offered for sale in California
Exemptions

• RPPCs produced in or out of California that are destined for shipment outside the state and remain with the products during that shipment.

• Drugs, medical devices, cosmetics, food, medical food, or infant formula as defined in the Federal Food, Drug and Cosmetic Act (21 U.S.C. 301 et seq.)

• Toxic or hazardous products regulated by the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. 136 et seq.).
Exemptions

- RPPCs manufactured for use in the shipment of hazardous materials and are prohibited from being manufactured with used material by federal packaging material specifications and testing standards.
To Claim Exemptions

- PM can only submit their claim in writing within 90 calendar days of receiving a compliance certification notice.
- PM must submit documentation to validate the exemption claim.
Next... Violations and Penalties
Violations and Penalties

• PMs found in violation may be assessed penalties.
• Violations can include:
  • Late or non-submittal of information in any of the 3 certification phases,
  • Submittal of incomplete and/or inaccurate certifications,
  • Container non-compliance, and/or
  • Submittal of false or misleading information.
• Fines cannot exceed $100,000 annually.
• Container Manufacturers that provide PMs with false or misleading information may be assessed penalties.
• Fines cannot exceed $100,000 annually.
Website

• The RPPC Program website can be found at:
  (calrecycle.ca.gov/plastics/rppc/)

• The website is updated on a regular basis to update program news and to add additional tools to help any interested parties with the RPPC Program.
The End