

# Aerosols and Similar Pressurized Containers

Meeting to Discuss the Method of Sale for Packages Utilizing Bag on Valve Technology

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**NIST**  
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Standards and Technology  
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\*\*\* Certain commercial equipment, instruments, or materials are identified in this paper in order to specify the experimental procedure adequately. Such identification is not intended to imply recommendation or endorsement by the National Institute of Standards and Technology, nor is it intended to imply that the materials or equipment identified are necessarily the best available for the purpose."

# Administrative

- ◆ Restrooms
- ◆ Lunch & breaks
- ◆ Emergency Exits
- ◆ Security & valuables
- ◆ Smoking areas
- ◆ Set cell phones to silent mode
- ◆ Request permission for photography/audio/video recording



# Welcome and Introductions



# NIST's Role

FPLA Title 15, Chapter 39

1458 (a) (2) “furnish to such State officers and agencies information and assistance to promote uniformity to the greatest practical extent in State and Federal regulation of the labeling of consumer commodities.”

# The Issue Before NCWM

- Aerosols and similar pressurized containers are required to be sold by net weight (NIST Handbook 130 – Uniform Packaging and Labeling Regulation).
- Pressurized containers using Bag on Valve (BOV) technology are being sold with quantity statements labeled in terms of volume.
- Products using BOV versus traditional aerosols cannot be easily distinguished when placed side by side, creating a barrier when consumers attempt to make value comparisons when two different methods of sale (i.e., weight and volume) are used.

# Bag On Valve – Product Uses

- Personal Care

  - Post-foaming hair and shave gel.

  - Suntan sprays, body oils, and deodorants.

  - Depilatory creams and facial scrub gels/lotions.

- Animal Care/Veterinary

  - Medicines and animal care product.

  - Insecticide, grooming sprays, shampoo.

# Bag On Valve – Product Uses

- Household Products

  - Window cleaner, oven and ceramic plate cleaner.

  - Shoe sprays.

  - Insecticide sprays, citrus air fresheners.

  - Plant sprays, furniture polish.

- Industrial/Automotive

  - Automotive air conditioners.

  - Lubricants, oils, waxes, and cleaners.

  - Leak detectors, PU-foam, anti-spatter weld sprays, surface cooling sprays for welding.

# Bag On Valve – Product Uses

- Food

Whipped cream, vegetable pan sprays, chocolate paste, puddings, toppings, cheeses, concentrated food flavors.

- Medicine

Nasal sprays and vitamin gel.

Based on enzymes odor removers

Wound gels and sprays.

Dental products.



# Bag On Valve



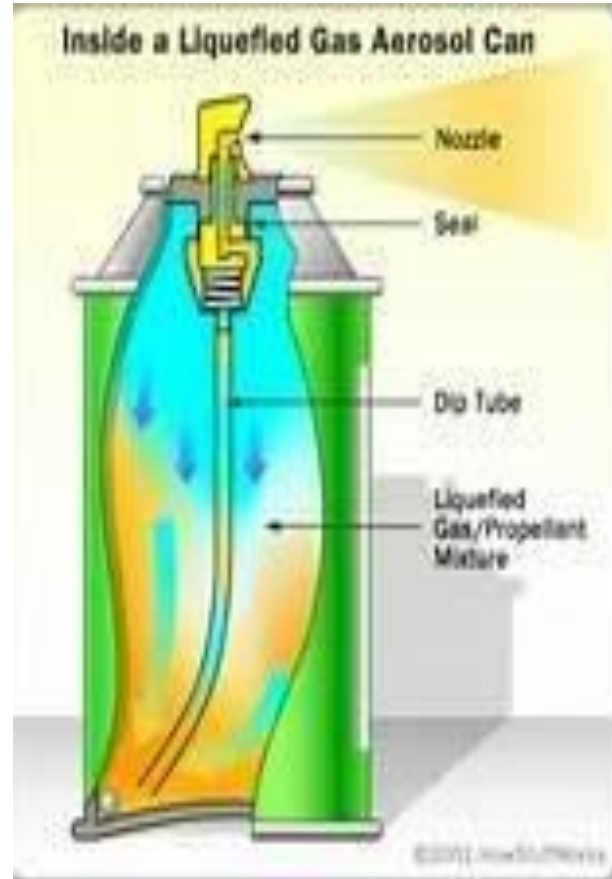
# Bag on Valve



# Bag on Valve



# Aerosols



# SUNBLOCK

Net Weight 5 ounces for \$11.49 (aerosol)

3 fluid ounces for \$10.99 (BOV)



# Definition of an Aerosol Product (see Handout)

- Definitions are provided by the Consumer Specialty Products Association (CSPA).
- Provided as a reference.



# Purpose/Objectives

- Understand current federal and state regulations.
- Review available test procedures for ensuring the accuracy of the net content.
- Discuss and recommend the appropriate Method of Sale for products utilizing BOV technology (pressurized containers) that allows for value and price comparison, and fair competition.

# Background

- In November of 2010, Massachusetts brought this before the National Conference on Weights and Measures (NCWM).
- Discussed since 2011.
  - National Aerosol Association
  - Consumer Specialty Products Association
  - Blue Magic
  - Beaumont



# NIST Handbook 130

## “Uniform Laws and Regulations”

*Uniform Packaging and Labeling Regulation (UPLR)*

### **10.3. Aerosols and Similar Pressurized Containers.**

The declaration of quantity on an aerosol package and on a similar pressurized package shall disclose the net quantity of the commodity (including propellant), in terms of weight, that will be expelled when the instructions for use as shown on the container are followed.

**6.4. Terms: Weight, Measure, Volume, or Count.** – The declaration of the quantity of a particular commodity shall be expressed in terms of:

- a) weight if the commodity is solid, semisolid, viscous, or a mixture of solid and liquid;
- b) volume measure if the commodity is liquid or dry, if the commodity is dry;
- c) linear measure or area; or
- d) numerical count.

However, if there exists a firmly established general consumer usage and trade custom with respect to the terms used in expressing a declaration of quantity of a particular commodity, such a declaration of quantity may be expressed in its traditional terms, provided such traditional declaration gives accurate and adequate information as to the quantity of the commodity. **Any net content statement that does not permit price and quantity comparisons is forbidden.**

# Fair Packaging and Labeling Act

“Packages and their labels should enable consumers to obtain accurate information as to the quantity of the contents and should facilitate value comparisons.”

# Test Procedure

## NIST Handbook 133

### Chapter 2

#### 2.3.5.2. Special Procedures for Determining Tare Aerosol Containers

Aerosol containers: are handled differently for two reasons.

First, regulations in NIST HB s130 under the “Uniform Packaging and Labeling Regulation” (UPLR) require that packages designed “to deliver” the product under pressure, “must state the net quantity of the contents that will be expelled when the instructions for use as shown on the container are followed.” This means that any product retained in aerosol containers after full dispersion is included in the tare weight.

**Second, aerosol containers must not be opened because they are pressurized; for safety reasons they should not be punctured or opened.** When emptying aerosol containers to determine a tare weight, exhaust them in a well-ventilated area (e.g., under an exhaust hood or outdoors) at least 15 m (50 ft) from any source of open flame or spark.

To ensure that the container properly dispenses the product, read and follow any dispensing instructions on the package. If shaking during use is specified in the instructions, periodically shake (at least two or three times during expulsion of the product). If directions are not given, shake the container five times with a brisk wrist twisting motion. If the container has a ball agitator, continue the shaking procedure for one minute after the ball has shaken loose.

- No test procedure to test by volume.

# FDA

## 21 CFR 101.105

(g) The declaration shall accurately reveal the quantity of food in the package exclusive of wrappers and other material packed therewith: *Provided*, that in the case of **foods packed in containers designed to deliver the food under pressure, the declaration shall state the net quantity of the contents that will be expelled when the instructions for use as shown on the container are followed. The propellant is included in the net quantity declaration.**

# FDA Guide 7563.7

## “A Food Labeling Guide (5. Net Quantity of Contents Statements)”

### 9. What is the net quantity of contents for a pressurized can?

**Answer:** The net quantity is the weight or volume of the product that will be delivered from the pressurized container together with the weight or volume of the propellant.

[21 CFR 101.105\(g\)](#)<sup>17</sup>

Whipped cream	11.95 oz.
Propellant	.05 oz.
<hr/>	
<b>Net Weight</b>	<b>12 oz. (340 g)</b>

## 2.2.6. Aerosols and Similar Pressurized Containers. (L&R, 1976, p. 248)

### **Interpretation**

It is the opinion of the NCWM that an FDA opinion as expressed in the Fair Packaging and Labeling Act Manual Guide FDA 7563.7, not objecting to volume declarations on aerosol products, does not supersede or preempt state requirements that aerosols be labeled by net weight.

### **Background**

Several states, which are among the 32 that have adopted the Uniform Packaging and Labeling Regulation, indicated that pressurized cans were currently being marked by volume rather than by weight as required above. Industry representatives indicated that according to the FDA, they are permitted to mark this type of container by volume and that for competitive purposes they will continue to do so. The NCWM was asked to contact FDA and inform them that a declaration of volume on pressurized containers is not acceptable to the states since it cannot be verified.

FDA position on quantity of contents declarations on aerosols, which is found in the Fair Packaging and Labeling Act (FPLA) Manual Guide FDA 7563.7. , states that FDA has not objected to the use of units of volume to declare the net contents of aerosol preparations that would be liquid if not combined with the propellant and a net weight statement in avoirdupois units for products that would be solids if not combined with a propellant.

Committee does not believe that guidelines can preempt a Uniform Regulation developed under the technical authority of the federal agency delegated by Congress and adopted by the states through its representatives, no matter how broad the preemptive clause of an act might be.

FDA officials stated that the FDA would consider the request, but it did not appear at the time of the Interim Meetings that the FDA would make any statement to modify its position without following its administrative procedures and permitting interested parties to exhaust every element of due process. Therefore, the Committee believes that NCWM should support a firm stand by the states that their regulations must be respected.

### 2.2.7. Aerosol Packaged Products. (Liaison, 1979, p. 239)

#### Policy

The NCWM recommends all aerosol packages be labeled by net weight. FDA permits volume declarations. The NCWM has requested the FDA to change its regulations and revise its interpretation of these regulations.

#### Substance of Petition

The NCWM petitions the FDA to make the necessary changes to their regulations and interpretation of 21 CFR 101.105(g) as appearing in the FDA Fair Packaging and Labeling Manual Guide, 7563.7 pertaining to the quantity of contents declaration on aerosol packaged products. It is requested that the net quantity statement on aerosol packaged products or similar pressurized packages be made in terms of net weight only. The reasons for recommending such changes are as follows:

1. Net quantity labeling of aerosol packaged products in terms of net weight is a **firmly established trade practice** for such products.
2. Net quantity labeling of aerosol packaged products in terms of **volume is difficult (if not impossible) to verify** with consumer verification methods or **by conventional package inspection methods**. State or local enforcement action is discouraged by such labeling.
3. Since the labeling of aerosol packaged products by volume cannot be compared with the labeling of such products in terms of net weight, **labeling in terms of volume and weight inhibits value comparisons** and causes consumer confusion with respect to the quantity of product the consumer is buying and can be a form of deceptive labeling.
4. **Uniformity between all state and federal regulations is highly desirable** for both enforcement and fair competition in the marketplace. The Uniform Packaging and Labeling Regulation and EPA Regulations require net quantity labeling of aerosol packaged products in terms of net weight.



# Food and Drug Administration (FDA)

*Here is a link to the Federal Register published that regarding FDA's first efforts to address this issue. Items are referenced as "pressurized containers", and do not use the word aerosol. <http://www.gpo.gov/fdsys/pkg/FR-1997-03-04/html/97-4956.htm>*

SUMMARY: The Food and Drug Administration (**FDA**) is proposing to revise its human and animal food labeling regulations that pertain to declarations of net quantity of contents on food packages. This action would establish specific procedures for checking conformance to net contents labeling requirements nationwide, and provide consumers with information that accurately reflects the actual contents of the package. These procedures include analytical methods for evaluating declarations in terms of mass or weight, volume, and count.

**FDA is also proposing to require that food packed in a pressurized container bear a declaration of the net mass or weight of the contents expelled when the instructions for use are followed, and to clarify when net content declarations expressed in terms of mass or weight are to be based on the contents without the packing medium (i.e., drained weight).**

# FTC

## 16 CFR Part 500

Sec. 500.25 “Net quantity, average quantity, permitted variations.”

(a) The statement of net quantity of contents shall accurately reveal the quantity of the commodity in the container exclusive of wrappers and other material packed therewith: Provided, that **in the case of a commodity packed in a container designed to deliver the commodity under pressure, the statement shall declare the net quantity of the contents that will be expelled when the instructions for use are followed. The propellant is included in the net quantity statement.**

## **EPA**

### **40 CFR 156.10 – “Labeling Requirements”**

(d) (3) If the pesticide is solid or semisolid, viscous or pressurized, or is a mixture of liquid and solid, the net content statement shall be in terms of weight expressed as avoirdupois pounds and ounces.

# EPA Website

## “Pesticide Labeling Questions & Answers - General Labeling”

- *In the case of a "Bag-On-Valve" (BOV) pesticide product, as pressurized gas is released within the canister, a bag containing liquid pesticide - which bag is within the canister - is squeezed in order to expel the pesticide. Should the net contents be expressed in terms of liquid measure under 40 CFR 156.10(d)(2), or as pounds and ounces under 40 CFR 156.10(d)(3)? LC12-0552; 08/16/12*
- *As described in the question, the pesticide within the bag is a liquid, suggesting that the net contents must be expressed in terms of liquid measure under 40 CFR 156.10(d)(2). Additionally, the bag is contained within a pressurized canister, suggesting that the net contents must be expressed in terms of weight under 40 CFR 156.10(d)(3). **Because the pesticide is both liquid and pressurized, the net contents of BOV pesticide products must be expressed in terms of both liquid measure and weight.***

Law or Reg	LEGAL REQUIREMENT on Method of Sale	REFERENCE	GUIDANCE
UPLR	Weight	<p>NIST HB 130 UPLR Section 10.3.            “The declaration of quantity on an aerosol package <u>and</u> on a similar pressurized package shall disclose the net quantity of the commodity (including propellant), in terms of weight”</p>	n/a
FDA	Silent	<p>21 CFR 101.105            “foods packed in containers designed to deliver the food under pressure, the declaration shall state the net quantity of the contents that will be expelled”</p>	<p><b>Weight or Volume</b>  <u>Food Labeling Guide</u>            “The net quantity is the weight or volume of the product that will be delivered from the pressurized container together with the weight or volume of the propellant.”</p>
FTC	Silent	<p>16 CFR Part 500.25            “in the case of a commodity packed in a container designed to deliver the commodity under pressure, the statement shall declare the net quantity of the contents that will be expelled when the instructions for use are followed”</p>	n/a
EPA	Weight	<p>40 CFR 156.10            “If the pesticide is solid or semisolid, viscous or pressurized, or is a mixture of liquid and solid, the net content statement shall be in terms of weight”</p>	<p><b>Volume and Weight (if BOV)</b>  <u>EPA Website</u>  <u>“Pesticide Labeling Questions &amp; Answers - General Labeling”</u>  <i>Because the pesticide is both liquid and pressurized, the net contents of BOV pesticide products must be expressed in terms of both liquid measure and weight.</i></p>

# Industry Presentations

- Paul Hertensen (BOV Solutions)
- Hank Picken (Beaumont Products)
- Doug Fratz (Consumer Specialty Products Association )
- Doug Raymond (National Aerosol Association)

# Summary

- Under Section 10.3. of the UPLR, states have enforced WEIGHT as the method of sale for aerosols AND similar pressurized containers.
- This has been the traditional method of sale and firmly established general consumer usage and trade custom with respect to the terms used in expressing a declaration of quantity.
- Packages using BOV technology are being sold with quantity statements in terms of volume.

# Summary

## (BOV Pressurized Containers)

What Method of Sale should be required?

Considerations:

1. Legal Requirements and Uniformity
2. Value Comparison and Fair Competition
3. Test Procedures



# Next Steps