NIST Special Publication 1181

# Unit Pricing Guide "A Best Practice Approach to Unit Pricing" 

| Product Identity and Size |  |
| :--- | :---: |
| Retail Price | Unit Price |
| Miscellaneous Information (Retailer Specific) |  |

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## NIST Special Publication 1181

# Unit Pricing Guide <br> "A Best Practice Approach to Unit Pricing" 

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For more information regarding this guide or unit pricing in general, contact the NIST Office of Weights and Measures, owm@nist.gov or (301) 975-4004.

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## Executive Summary

This guide was developed to provide retailers with information about the best practice requirements for the unit pricing of pre-packaged commodities. The guide consists of best practice recommendations that will improve the accuracy and usability of unit pricing information offered in retail stores. In addition, the guide will help provide uniformity across all states and types of stores.

Many retailers in the various retail channels voluntarily provide unit pricing in their stores. What has been lacking since the inception of unit pricing is a guide to assist retailers in understanding consumer preferences as to its presentation, units of measure used, consistency, and accuracy.

The best practices in this guide can be used in any retail environment, including supermarkets, drug and convenience stores, mass merchandisers, wholesale clubs, auto parts stores, department stores, or virtually anywhere products are sold where units of measure (e.g., weight, volume, length, area, count) can be used to compare prices and value of products. It applies to both food and non-food products. When a decision is made to unit price in a retail location, every effort should be made to provide unit pricing across the entire store. Unit pricing is helpful in that it displays the price of all brands and sizes of a product category per unit of measure basis (e.g., price per kilogram, liter, pound, fluid ounce).

In addition, the guide enables the use of unit pricing in either the U.S. customary or metric system (International System of Units [SI]). Some categories where use of metric units may be more appropriate or beneficial than the U.S. customary system include wine, distilled spirits, bottled beverages, and spices.

This guide was developed to assist industry in the practice of providing unit price information as a voluntary provision where no legislative requirements or standards exist. Where legislative requirements and standards do exist, this guide can be used to provide unit pricing that supplements and complements those requirements.

Factors that most improve the readability and usability of a unit price label include using the "block approach," while utilizing the largest font size possible. When used in combination with other attributes such as use of bold text, color background, clarifying terms (i.e., providing the words "unit price") and location of the unit price, maximum readability can be achieved.

This guide is not intended to conflict with the Uniform Unit Pricing Regulation (UUPR) or state unit pricing regulations. When providing unit pricing in a state or territory under the UUPR or mandatory state regulations, the UUPR or mandatory regulations should be consulted to ensure those requirements are met before the recommended best practice requirements in this guide are implemented.

## Unit Pricing Best Practices Workgroup

A technical session was held at the July 2011 National Conference on Weights and Measures (NCWM) Annual Meeting to highlight and address the opportunities to improve unit pricing. This led to the formation of a collaborative work group in March 2012, whose mission was to develop best practice guidelines for industry to improve the accuracy and usability of unit pricing information provided by retailers. The work group members included representatives from industry, trade associations, academia, weights and measures regulatory officials, consumer groups, consumer advocates, and the National Institute of Standards and Technology (NIST).

The goal of the work group was to develop an industry best practice guide for unit pricing that will be made available online for use by anyone interested in improving the presentation and accuracy of unit pricing information. This guide was built upon the existing UUPR in NIST Handbook 130, Uniform Laws and Regulations in the Areas of Legal Metrology and Engine Fuel Quality and took into account current mandatory unit pricing regulations in an effort to achieve and promote a more comprehensive, consumer friendly and uniform approach to unit pricing.

The objectives of the workgroup were:

1. To reduce variation in the presentation of unit price information as it is presented by retailers.
2. To improve the usability of unit price information; making unit price information easy to identify, read, understand and use.
3. To develop best practice standards that will improve the accuracy and uniformity of unit price information available to consumers and that will be supported by industry in its adoption and use.

## Acknowledgements

The NIST Office of Weights and Measures (OWM) wishes to thank each organization and representative of the workgroup for their time, dedication, and expertise in providing input and reviewing drafts of this guide. They include:

## Trade Associations

Food Marketing Institute (FMI)
National Association of Chain Drug Stores (NACDS)
National Grocers Association (NGA)
National Retail Association (NRF)
Retail Industry Leaders Association (RILA)

## Consumers Groups

Consumer Reports
Consumer World
National Consumers League (NCL)
Queensland Consumers Association (Australia)

## Weights and Measures Officials

California, Division of Measurement Standards
Connecticut Department of Consumer Protection
Michigan Department of Agriculture and Rural Development

## Academia

Colorado State University
Michigan State University
University of Illinois at Urbana-Champaign (emeritus)
University of South Australia

## Independent

Weights and Measures Consulting

## Manufacturer

Procter and Gamble

## Retailers

Ikea
Walmart

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## Background

Unit pricing has been in existence since the early 1970s, growing out of the "truth-in-labeling" era. Consumers demanded more information ("right to know") on labels to make informed purchase decisions. Many methods of unit pricing were explored, including stamping the unit price on the product, posting the unit price on large signs by category, and giving consumers a calculator and pen to allow them to compute it themselves. The current method of putting unit price information on shelf labels and other in-store price signs was chosen because it is the easiest for the consumer to use and for retailers to maintain.

Unit pricing came into being about the same time the Fair Packaging and Labeling Act (FPLA) was enacted, which was in 1966. Before FPLA was passed, there was considerable discussion to require and limit the package sizes sold. Manufacturers and retailers opposed having size restrictions and instead suggested the idea of providing a unit price. As a result, the requirement to limit package sizes never became part of the FPLA.

In addition, supermarket point of sale scanners started to become widely used in the early 1970s, which led to an exploration of ways to provide a better alternative to individual item (sticker) pricing. Most states allowed retailers to be exempted from item pricing requirements if they provided unit pricing. At the same time, private label brands were also gaining attention. Unit pricing was a visible way for a retailer to show the value provided by their house brand.

For a variety of reasons, including a lack of voluntary requirements, several New England states developed mandatory legislation for unit pricing, with Massachusetts leading the way over 40 years ago. Over the years, other states have followed suit.

In 1979, The National Conference on Weights and Measures (NCWM) ${ }^{1}$ first developed and adopted the UUPR ${ }^{2}$, a model regulation which states can adopt as their own or as a guide in developing their own state regulations. It was further amended in 1997.

## The Purpose of This Guide

Voluntary use of unit pricing by retailers is highly recommended because of its value to consumers and businesses (see "Consumer and Retailer Benefits" on page 4). It is one of the best tools a consumer can have during their shopping experience to help them make value and price comparisons. The Food Marketing Institute (FMI) ${ }^{3}$ reported in its 2014 annual survey, "Trends in the United States: Consumer Attitudes and the Supermarket," that $78 \%$ of consumers use unit pricing when it is available.

[^0]Providing unit pricing is in the spirit of the Fair Packaging and Labeling Act (FPLA) ${ }^{4}$. One excerpt reads:
"Informed consumers are essential to the fair and efficient functioning of a free market economy. Packages and their labels should enable consumers to obtain accurate information as to the quantity of the contents and should facilitate value comparison. Therefore, it is hereby declared to be the policy of the Congress to assist consumers and manufacturers in reaching these goals in the marketing of consumer goods."

The development of this guide has taken into account several existing resources. These include: the existing state mandatory unit pricing regulations ${ }^{5}$, the UUPR from NIST Handbook $130^{6}$, research and surveys done by Consumer Reports ${ }^{7}$ (May 2012 issue), the National Consumers League ${ }^{8}$, the Australian Queensland Consumers Association, a Canadian Report on Unit Pricing ${ }^{9}$, researchers at Michigan State University and the University of South Australia, and the knowledge and expertise of the Unit Pricing Best Practices Workgroup (see participants listed on page vii).

## Definition of Unit Pricing

Unit pricing is the cost per unit of measure of goods, such as the cost per milliliter or per ounce. Unit pricing information is most commonly displayed on in-store shelf labels and/or signs. It can be in a paper or electronic format (i.e., electronic shelf labels). Unit pricing can also be displayed in internet selling sites and in advertisements.

[^1]
## Opportunities for Improvement

Figure 1 shows unit pricing labels from a sampling of retailers in the Washington, D.C., market which clearly demonstrates that there is need for improvements. Opportunities for improvement identified in the design, provision, and maintenance of unit price labels include the following.

- More uniformity and standardization. Lack of uniformity and standardization (as in Figure 1 above) makes it difficult for consumers to compare the prices and values among products.
- Increased prominence of unit price information (e.g., font size, use of bold type, color coding to distinguish
 unit price from retail price) is positively associated with consumer awareness and use of unit prices at store level. The eye is naturally attracted by larger visual elements.

Figure 1. Examples of Unit Pricing Labels

- Greater consistency from retailer to retailer on the placement and readability of information on shelf labels and signs.
- Better accuracy and consistency in the unit of measure used to designate the unit price across a category (all brands and sizes) of product for price and value comparison.
- Increased font size and readability.
- More provision of unit price information on sale signs.
- Ensure that the print size used allows the unit price to be read on bottom shelf labels.
- Better angle of labels to increase readability.
- Greater use of metric unit pricing across different product categories. Under the FPLA, the net quantity declaration on packages is required to have both U.S. customary and the metric equivalent units. Retailers are encouraged to look for opportunities to provide metric unit pricing to consumers, especially in product categories where metric is normally used and recognized (e.g., wine, spices, bottled beverages). Wine and distilled spirits, for example, under the Alcohol and Tobacco, Tax, and Trade Bureau have had a net content requirement for over 30 years that it only be declared in metric units. The marketplace typically has used U.S. customary units in the unit price, where metric units are more appropriate.
- Provide unit pricing for more product categories (traditionally only groceries) and more store formats, such as convenience and drug stores, auto parts stores, wholesale clubs, mass merchandisers, and web based and other on-line channels.
- More education of consumers on the value and usage of unit pricing.

These shortcomings, if not addressed, will significantly reduce consumers' confidence and use of the system, which in turn reduces the benefits obtained by consumers, retailers, and the economy.

## Current Regulations - Mandatory and Voluntary

There is no federal mandate that requires unit pricing. Unit pricing is voluntary unless mandated by state laws or regulations. Currently, nine states have mandatory unit pricing regulations: Connecticut, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Oregon, Rhode Island, Vermont, and the District of Columbia. ${ }^{10}$ State or territory mandatory requirements must be met before the recommended best practice requirements in this guide can be implemented. Be sure to check with legal counsel to ensure that any practices adopted from this guide comply with the state or territory laws that apply to the jurisdiction in which business is done.

Some counties or cities within a state may also have unique requirements, regardless of whether the state has mandatory unit pricing or not. It is best to contact the state's Weights and Measures Director ${ }^{11}$ in the state in which you plan to provide unit pricing to determine if state and/or local requirements apply. In addition, 10 other states (Arkansas, California, Florida, Hawaii, Mississippi, Montana, Nevada, Virginia, Washington, and West Virginia) and 2 territories (Puerto Rico, Virgin Islands) adopt the UUPR from NIST Handbook $130{ }^{12,}$

The UUPR only applies when stores voluntarily provide unit pricing information. If a company (or store) decides to provide unit pricing in a state that adopts the UUPR, the company (store) is required to meet all the requirements of the UUPR. The UUPR is the best means for providing a uniform national approach to unit pricing. This guide is not intended to conflict with the UUPR or state unit pricing regulations. When providing unit pricing in a state or territory that is under the UUPR or mandatory state regulations, the UUPR or mandatory regulations should be consulted to ensure requirements are met before the recommended best practice requirements in this guide are implemented.

## Consumer and Retailer Benefits

## Consumers

Unit pricing is one of the best tools available to consumers to facilitate value and price comparison. This is especially important and helpful in today's economy and in an environment where "downsizing" of packages is prevalent. Package downsizing is a practice where the package content is reduced without changing the package or the price of the product.

## Retailers

Some of the benefits retailers have reported are:

- Unit pricing offers a means of customer service, satisfaction, and improves the shopping experience.
- It provides a tool to provide stock keeping and health information.

[^2]- This results in better ordering practices and tighter inventory controls.
- It enables the promotion of special programs such as Women, Infant, Children (WIC), and displaying graphics indicating nutritional information (e.g., $\downarrow$ [low] sodium, $\uparrow$ [high] fiber).
- It improves pricing accuracy.
- Unit pricing promotes and increases sales of private label products by showing value.
- It often eliminates the need for item pricing.


## Governing Principles

The following principles should guide the decision making on the design and maintenance of unit price labels.

## - Prominence

Information on the label intended for the consumer should be more prominent than information intended for retailer use only.

- The required information (product identity, net quantity, unit price, and retail price) on a unit price label should be the most prominently displayed. That means the retailer miscellaneous information (typically the barcode, UPC number, order code) should be less prominent (less conspicuous, smaller font size) in comparison to the required information.
- In some cases such as when state requirements may mandate certain information on a label such as a WIC logo or when information such as the barcode (i.e., self-scan) is directly used by consumers, consideration should be made to make this information more prominent.
- All required information should be in bold type, capital letters, and prominently displayed. Secondary (retailer) information should not be bolded.
- The unit price on the label must not in any way be obscured and must be visible at all times.


## - Legibility and Clarity

Labels should not be overloaded with information. A good label is one that draws a consumer's eye to relevant information.

## - Consistency of Units of Measure

The declaration of the unit price of a particular category of product in all package sizes offered for sale in a retail establishment shall be uniformly and consistently expressed in the same unit of measure. The same unit of measure should be used whether a product category is sold in a fixed weight pre-pack, loose from bulk, or in a random weight pack. For example:

- Nuts can be sold in fixed weight packaged form, loose from bulk, or packaged at the store and weighed with various (random) weights. In order to price and value compare, the unit of measure used for the unit price must be the same regardless of where and how sold. In this case, all forms would be unit priced by weight using the same unit of measure.
- Bottled water could be unit priced by the liter or 100 mL if unit priced in metric, or unit priced by the gallon, quart, pint, or fluid ounce if in the U.S. customary system, in accordance with the UUPR. All bottled water must be unit priced in the same unit of measure to enable value comparison. For example, all water may be unit priced per 100 mL or all bottled water may be unit priced per fluid ounce. What must be avoided is to have some bottled water unit priced per liter and other bottled priced by the 100 mL , or some bottled water unit priced per quart and other bottled waters being unit priced per fluid ounce.


## - Placement and Contrast

Placement of required and optional information should follow the suggested "graphic alignment principle" or "block" format as outlined in this document.

- The unit price "block" is often color coded to distinguish itself from the retail price. The color chosen should provide a clear contrast from the color background used for the rest of the label.
- Selling and Unit Price Identical

Even if the selling price and unit price are the same, a unit price should still be provided to maximize consumer use of unit prices and minimize confusion.

- Sale Signs, Loyalty Card Promotions, and Other Promotional Signing

Unit prices should be displayed on all sale signs (i.e., club card promotions) as well as the regular shelf label.

## - Bottom Shelf Labels

Consideration should be given to providing larger unit price labels on the bottom shelf (if practical, feasible, and cost effective) as compared to unit price labels on higher shelves. This will allow for larger and bolder fonts to be printed for viewing at greater (lower) distances, especially for the lower shelves. Consumers have complained that labels on bottom shelves are difficult to read due to the viewing distance. Retailers generally will need software that can support "flagging" items merchandised on the bottom shelf so the correct size unit price label can be generated for the store. Using the largest label possible as well as the largest font size feasible is important to the consumers' ability to read bottom shelf labels.

- Viewing and Display

Care should be taken to ensure unit price labels are displayed so that all information can be easily seen and read. Viewing angle can greatly influence the noticeability and readability of information. Therefore, great care should be taken to ensure that labels in difficult viewing situations, for example lower and upper shelves, are angled to assist the reader. Placing labels at vertical or near vertical position should be avoided. Care should also be taken to ensure that sign holders and other shelf attachments do not obscure the unit price information.

## - Accuracy

Retailers should have an audit program to ensure accuracy of unit pricing, both at the corporate and store level.

- Use of Metric Units

This guide enables the use of unit pricing in either the U.S. customary or metric system. Some categories where metric units may be more appropriate or beneficial than use of the U.S. customary system include wine, distilled spirits, bottled water, soda, and spices. Please be advised that some states that have mandatory regulations have provisions that units only be in U.S. customary.

- Abbreviations

Abbreviations for units should follow the standard abbreviations as outlined in this guide and follows the Uniform Packaging and Labeling Regulation in NIST Handbook 130 (e.g., milliliter $=\mathrm{mL}$ or ml , gram $=\mathrm{g}$, ounce $=\mathrm{oz}$, pound $=\mathrm{lb}$ ).

- Text

Use of upper and lower case for all text is recommended. ${ }^{13}$ Studies have shown that use of all capital letters is more difficult to read. ${ }^{14}$

- Font Size
- Retail Price - The largest font size possible should be used based on the size of the actual label.
- Unit Price $-{ }^{15}$ The larger the font size of the unit price the better, but no less than 6 mm . The font size of the unit price should not be less than $50 \%$ of the retail price font size. ${ }^{16}$


## Other Basic Principles

- Product Identity

Product identity (description) and size (net content) should be stated together. The size can be in metric or U.S. customary units. The product identity should include both the

[^3]product name and brand, as well as be easily understood by the consumer, especially in cases where abbreviations are used.

- Descriptors

The words "unit price" should be stated above the actual unit price, and the word "per" should be adjacent to the actual unit price to indicate the unit price "per" unit (e.g., $37.5 \phi$ per liter or quart). The words "retail price" should be stated above the actual selling price. Other words of similar import can be used as long as they are consistent throughout the store (e.g., "you pay", "total price").

## - Representing Monetary Values

The unit price should be to the nearest cent when a dollar or more. If under a dollar it should be listed to the nearest tenth of a cent or to the nearest whole cent. The retailer has the option to select one or the other but cannot use both and must be consistent throughout the store. Standard abbreviations and symbols as found in this guide should be used to represent monetary values. The acceptable symbols for dollars is \$, and for cents is $\phi$.

## - Rounding

The retail establishment shall accurately and consistently use the same standard method of rounding up or down using general rounding rules, when computing the price to the whole cent. Rounding should be done to the nearest whole cent.

## - Spacing

In the product identity and unit price, a space should separate the actual quantity from the unit, for example, Multi Grain Cereal $\$ 1.95$ per 100 g , not $\$ 1.95$ per 100 g ; or 14 oz , not 14 oz .

## SECTION 1. Units of Measure for Unit Pricing

The declaration of the unit price of a particular product category in all package sizes offered for sale in a retail establishment shall be uniformly and consistently expressed in the terms below. The same unit of measure should be used whether sold in a pre-pack, loose from bulk or random weight, regardless of (multiple) locations within the store.

For example, if all packages in a product category are variously labeled (quantity declaration) in a combination of liters and milliliters, a single declaration of unit price must be chosen (e.g., all items might be unit priced by the liter or all by milliliter). Another example is if all packages in a product category are labeled (quantity declaration) in gallons, quarts, pints and fluid ounces, a single declaration of unit price must be chosen (e.g., all items might be unit priced by the quart or all by ounce). The unit price can be in metric or the U.S. customary units.

Use the unit that is most dominantly or prevalently displayed on packages within the category. For example, if most of the products in the cereal category have units of grams or ounces and a small percentage are by the kilograms or pounds, use grams or ounces as the unit for the unit price.

The following units and these only must be used:
(1) Weight - Price per kilogram or 100 g , or price per pound or ounce, if the net quantity of contents of the commodity is in terms of weight or drained weight.
(2) Dry Measure or Volume - Price per liter or 100 mL , or price per dry quart or dry pint, if the net quantity of contents of the commodity is in terms of dry measure or volume.
(3) Liquid Volume - Price per liter or 100 mL , or price per gallon, quart, pint, or fluid ounce, if the net quantity of contents of the commodity is in terms of liquid volume.
(4) Count - Price per individual unit or multiple (e.g., 100 count) if the net quantity of contents of the commodity is in terms of count.
(5) Area - Price per square meter, square decimeter, or square centimeter, or price per square yard, square foot, or square inch if the net quantity of contents of the commodity is in terms of area. Price per 100 square feet where the net quantity exceeds 100 square feet provided the same unit of measure is used for the same commodity in all sizes.
(6) Length - Price per meter, price per foot, or price per 100 feet, if the net quantity of contents of commodity is in terms of length.

Note: Ply - Count should be expressed as part of the product identity, if applicable.
Combination Declarations - Some products have a combination of (the above) net content declarations. For example, trash bags are required to be sold in terms of count, dimensions, thickness, and capacity. In this case, choose the unit that would be the most helpful and meaningful to the consumer in making a value and price comparison. It is also important to
remember the principal that "all units across a product category should be unit priced the same."

Note: Wines and Spirits are required by Federal law to be labeled in metric units only. Therefore, it is the recommendation of this "Best Practice Guide" that the unit price also be in metric only.

Summary of Best Practice Requirements for Units of Measure

| MEASURE | METRIC UNIT | CUSTOMARY UNIT |
| :---: | :--- | :--- |
| Weight or Drained <br> Weight | 100 grams, kilogram | ounce, pound |
| Dry Measure or Volume | liter or 100 milliliter | dry quart, dry pint |
| Liquid Volume | liter or 100 milliliter | gallon, quart, pint, fluid <br> ounce |
| Count | individual or multiple | individual or multiple |
| Area | square meter, square <br> decimeter, square centimeter | square yard, square foot, <br> square inch |
| Length | meter | foot or 100 feet |

Note 1: Choose the unit that would be the most helpful and meaningful to the consumer in making a value and price comparison. A good rule is to use the unit that is most dominantly or prevalently displayed on packages within the category. For example, if most products in the juice category have units of mL and fluid ounces, and a small percentage have a mixture of units in liters, quarts, pints, and gallons, use 100 mL or fluid ounces.

Note 2: Unit prices must be based on legal measurement units such as those for declaring a packaged quantity or net content as found in the Fair Packaging and Labeling Act (FPLA). Use of unit pricing in terms of "loads," "uses," and "servings" are prohibited.

Note 3: States with mandatory unit pricing regulations may have specific requirements on the use of inch pound units for specific commodities. When displaying unit pricing in these states, the state mandatory requirements must be followed. States with mandatory unit pricing regulations include Connecticut, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Oregon, Rhode Island, Vermont, and the District of Columbia.

## SECTION 2 - Pricing Methods for Displaying the Unit Price

This section provides guidance on the use of displaying the dollars and cents, acceptable abbreviations, and other best practice recommendations to ensure a clear presentation, format, and usability of this information.

## Display of Dollars and Cents

(1) The unit price should be to the nearest cent when a dollar or more (e.g., \$1.03, \$1.49)
(2) If the unit price is under a dollar, it should be listed:
(a) to the nearest whole cent (e.g., 13ф); or
(b) to the nearest tenth of a cent (e.g., 13.1申);

- If the unit price is dollars, the following symbol only is acceptable:
- \$
- If the unit price is in cents, the following symbol only is acceptable:
- $\varnothing$

Note: The retail establishment has the choice of using options (2)(a) or (2)(b) above for the display of unit prices, but should not implement both methods.

Use of the words "dollar" or "cents" is discouraged.

## Linking the Price per Unit to the Actual Unit

The term "per" should be used in all cases when defining the unit price (linking the price to the units). For example, $\$ 1.99$ per kg or $\$ 1.99$ per lb, avoid use of symbols such as "/" (e.g., $\$ 1.99 / \mathrm{kg}, \$ 1.99 / \mathrm{lb})$.

## Rounding

It is recommended that normal rounding rules be applied. This means that when the decimal fraction is 5 or more, round up (e.g., $13.5 \phi$ would be rounded up to $14 \phi$ and $13.4 \phi$ would be rounded down to $13 \not \subset$ ).

Summary of Best Practice Requirements for Displaying the Unit Price

| Display of Unit Price | Requirement |
| :---: | :---: |
| > \$1.00 Unit Price Value | Unit price to the nearest cent (e.g., $\$ 1.03$ or \$X.XX) |
| < \$1.00 Unit Price Value | Option (2)(a) - unit price is listed to the whole cent (e.g., $13 \phi$ or XX $\phi$ ). <br> Option (2)(b) - unit price is listed to the tenth of a cent (e.g., 13.1申, or XX.X $\phi$ ). <br> - Retailer must choose either option (2)(a) or option (2)(b) for the entire store (cannot use both). Using option A is the best practice recommendation. |
| Linking the price per unit to the actual unit | Use the term "per" (e.g., \$1.99 per kg; $\$ 1.99$ per lb). |
| Rounding | Normal rounding rules apply. |

## Use of Symbols and Abbreviations of Units

For Metric (International System of Units [SI]) Symbols. - The following symbols for SI units should be employed in the unit statement for the unit price:

| UNITS | SYMBOLS |  | UNITS | SYMBOLS |
| :--- | :---: | :---: | :--- | :---: |
| millimeter | mm |  | milliliter | mL or ml |
| centimeter | cm |  | liter | L or 1 |
| meter | m |  | square centimeter | $\mathrm{cm}^{2}$ |
| gram | g |  | square decimeter | $\mathrm{dm}^{2}$ |
| kilogram | kg |  | square meter | $\mathrm{m}^{2}$ |

(1) Symbols in SI, except for liter, are not capitalized unless the unit is derived from a proper name. Periods should not be used after the symbol. SI symbols should always be written in the singular form.
(2) The "L" symbol and the "mL" symbol are preferred; however, the "l" symbol for liter and "ml" symbol for milliliter are permitted.

For U.S. Customary Symbols and Abbreviations of Units - The following symbols and abbreviations should be employed as the unit statement. A period should not be used after the abbreviation. Abbreviations should be written in singular form and "s" should not be added to express the plural. Both upper and lowercase letters are acceptable.

Note: Other terms such as sheets, rolls, bags, napkins, and tablets should be avoided.

| UNITS | SYMBOLS/ <br> ABBREVIATIONS | UNITS | SYMBOLS/ <br> ABBREVIATIONS |
| :---: | :---: | :---: | :---: |
| cubic | cu | ounce | OZ |
| count | ct | piece | pc |
| each | ea | pint | pt |
| feet or foot | ft | pound | lb |
| fluid | fl | quart | qt |
| gallon | gal | square | sq |
| inch | in | yard | yd |

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## SECTION 3. Presentation of the Unit Price

This section describes where and how unit prices can be displayed. In all cases, unit pricing information should be displayed in a clear, prominent, conspicuous, and non-deceptive manner.

## Media Used to Display Unit Price

(1) Unit price can be affixed to the product or shelf by means of: sign, sticker, stamp, label, or tag.
(2) Where a sign is used, that sign shall be displayed clearly and in a non-deceptive manner in a central location as close as practical to all items to which the sign refers (i.e., if a commodity is refrigerated or in a frozen case, the unit price label could be affixed to the case, case doors, the shelf edge, or attached to the commodity).
(3) If a single sign or tag includes the unit price information for more than one brand or size of a given commodity, the following information should be provided:
(a) The identity and the brand name of the commodity;
(b) The quantity (SI or U.S. customary) of the packaged commodity, if more than one package size per brand is displayed;
(c) The total retail sales price; and
(d) The price per appropriate unit of measure, in accordance with Section 1, Units of Measure for Unit Pricing.

If the commodity is displayed upon a shelf, the unit price label shall appear directly below or above the commodity, or, alternatively, a unit price tag shall be attached to the commodity. If the use of a unit price label or unit price tag is impossible or impractical, a unit price sign or list may be used provided such sign or list is conspicuously located at or near the commodity.

If the commodity is displayed in a special fashion such as in an end display, portable rack or large bin, the unit price tag should be attached to the commodity, or, alternatively, a unit price sign or list shall be conspicuously placed at or near the point where the commodity is displayed. Nothing in this section prohibits the use of hand-lettered unit price signs on special displays so long as such signs contain the disclosures required above.

If a commodity is refrigerated, the unit price label should be affixed to the case, to a shelf edge, or to the commodity. In the event such attachments are not possible, a unit price sign or list may be used if the sign or list is displayed in proximity to the articles for sale.

Multiple Unit Pricing - If the commodity is offered or exposed for sale at two or more selling prices (e.g., buy 2 for $\$ 2$, buy 3 for $\$ 1.50$ ), the unit price information relating to such multiple priced items should be calculated and displayed based on each price.

## Formatting and Location of Unit Pricing Information (Graphic Alignment Principle or "Block" Approach)

To ensure consistency, uniformity, clarity, and readability of a unit price label, the following "graphic alignment" or "block" approach is recommended for the presentation of information.

A unit price label (UPL) should be divided into four blocks. As shown in the example below, four blocks of information are provided following a logical and progressive order. This is consistent with the governing principle "information on the label for the consumer should be more prominent than that for the retailer."

Labels should not be overloaded with information. A good label is one that draws the eye to relevant information. Font size is critical to the readability, clarity, and prominence of information and in general should be as large as feasibly and technically possible as the label size would permit.

## Color of Font and Background

Fonts should be in black color with a white background (for contrast) except for the unit price, which should have a color background to clearly distinguish itself from the retail price. It is also recommended that Blocks 1, 2, and 3 (containing "required information") have bold lettering and numbers (see Figure 2). Block 4 is "optional" retailer information, and should be less prominent, therefore, no bold face is recommended.

## Text

Use of upper and lower case for all text is recommended. ${ }^{17}$ Studies have shown that use of all capital letters is more difficult to read. ${ }^{18}$

Below is an example format of the ideal unit price label.

| Product Identity and Size <br> (Block 1) |  |
| :---: | :---: |
| Retail Price <br> (Block 2) | Unit Price <br> (Block 3) |
| Miscellaneous Information (Retailer Specific) |  |
| (Block 4) |  |

(See designations for each block below.)
Figure 2

[^4]
## Block 1 - Product Identity and Size

- Product identity and brand name of the product should be accompanied by the size of package. For example, Campbell's Tomato Soup 340 g (12 oz).
- Abbreviations are acceptable (even recommended due to character limitations, but they should not be so cryptic that the average shopper will have difficulty understanding it) but should be consistent. It is recommended that the brand name be abbreviated first, then abbreviate the product identity if necessary. For example, CMBL Tomato Soup $340 \mathrm{~g}(12 \mathrm{oz})$. CMBL is one suggested abbreviation for Campbell.


## Block 2 - Retail Price

- The retail price should be displayed on the left as shown in Figure 2. Consumers read left to right.
- The amount of space devoted to the retail price and the unit price portion should be equal.
- The size and conspicuousness of the numerals used to disclose the retail price shall be equal to or greater than that for the unit price.
- The term "retail price," "you pay," or a similar term should be stated directly above the total retail price.
- All numerals and text should be in bold font.
- Background should be in plain white.
- Check states' mandatory unit pricing regulations to determine if a specific requirement exists on placement of retail price.


## Block 3 - Unit Price

- The unit price should be displayed on the right as shown in Figure 2.
- The amount of space devoted to the unit price and the retail price portion should be equal.
- The unit price typeface should be as large as possible, but not be less than 6 mm or 0.24 in. Check states' mandatory unit pricing regulations to determine if a greater minimum is required. Market surveys have shown that the size of the unit price typically exceeds 11 mm on average. The unit price should not be less than $50 \%$ of the height of the retail price.
- If the minimum 6 mm cannot be met due to technological barriers or physical limitations, the largest font size possible should be used based on the size of the actual label.
- The term "per" shall be used when defining the unit price (e.g., $\$ 1.99$ per kg; $\$ 1.99$ per lb).
- The term "unit price" should be stated directly above the unit price.
- All numerals and text should be in bold font.
- The unit price should have a color background different from the rest of the label to easily distinguish it from the retail price.
- Unit price information should appear on both regular price labels and sale tags, including signage used for club card or loyalty card pricing.
- Check states' mandatory unit pricing regulations to determine if a specific requirement exists on placement of unit price.


## Block 4 - Miscellaneous Information - Retailer Specific

- Information provided here is at the retailer's discretion. This may include but is not limited to:
- Barcode
- Order code
- Universal Product Code (UPC)


## Summary of Additional Best Practice Requirements for the Presentation of the Unit Price Label

| Presentation of Unit Price | Requirement |
| :---: | :--- |
| Format and Location | Follow the "graphic alignment" or "block" approach. |
|  | Font size should be as large as feasibly and technically possible <br> as the label size would permit. <br> Retail price and unit price should be equal in size. <br> Font SizeThe font size for the unit price should be at a minimum of <br> 6 mm or 0.24 in. The unit price should not be less than 50 \% of <br> the height of the retail price (check states' or territories" <br> mandatory unit pricing regulations to determine if a greater <br> minimum is required). |
| Text | Type and lettering should be in bold for the product identity <br> and size, unit price and selling price (retailer specific <br> information should be less prominent in type size and not in <br> bold). <br> Use of upper and lower case for all text is recommended. |
| Color Contrast | Black print on a white background (for all except the unit <br> price). <br> Unit price block should have colored background that contrasts <br> conspicuously with the total selling price. |

## Label Using Metric Units of Measurement

(Label is not to scale and is for example purposes only.)


## Label Using U.S. Customary Units of Measurement

## (Label is not to scale and for example purposes only.)



## SECTION 4. Uniformity of Unit Pricing

This section provides guidance on ensuring that unit pricing requirements are consistently and uniformly applied throughout a retail establishment.
(1) Mixed Units - If different brands or package sizes of the same consumer commodity are expressed in more than one unit of measure (e.g., soft drinks are offered for sale in 2 L bottles and 12 fl oz cans), the retail establishment shall choose one unit of measure and unit price the items consistently (i.e., per liter, per fl oz, per pint). This often requires an intentional and coordinated effort to ensure accuracy.
(2) Metric - When metric units appear on the consumer commodity in addition to U.S. customary units of measure, the retail establishment may unit price in metric units of measure. The type of units used should be consistent across the product category. Choose the unit that would be the most helpful and meaningful to the consumer in making a value and price comparison. Use the unit that is most dominantly or prevalently displayed on packages within the product category.

It is acceptable to unit price one product category in metric (e.g., spices) and another product category in U.S. customary units (e.g., cereals). Do not mix unit price within the same product category using both metric and U.S. customary units as this will frustrate value comparison.
(3) Inclusivity - Unit pricing should be inclusive of all products and across all categories in a store.
(4) Choosing the Appropriate Unit - Unit pricing should be displayed in units that make sense for the commodity when more than one measure is permitted as the unit price. For example, for wine, the unit price is permitted to be in liter, 100 milliliter, gallon, quart, pint, or fluid ounce. The package quantity is expressed in milliliters or liters (by law), so the logical choice would be to unit price by the 100 milliliter or liter.
(5) Regular and Sale Items - Unit pricing should be included for all regular and sale items.
(6) Identical Selling and Unit Prices - The unit price should be displayed even when the selling price and unit price are the same, though the UUPR allows this as an exception.

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## SECTION 5. General Recommendations and Best Practices

This section provides some practical suggestions and recommendations to help improve the accuracy and usability of unit pricing. Guidance and recommendations are also provided when indicating unit price on a sign.
(1) Audits and checks should exist in any retailer program (similar to price accuracy) to ensure consistent, accurate, and compliant unit pricing, including:
$\checkmark$ Correct calculation of unit price;
$\checkmark$ Correct use of units and abbreviations;
$\checkmark$ Correct and consistent unit price across like items and product categories;
$\checkmark$ All items are unit priced; and
$\checkmark$ Labels affixed to shelves and signage reflects the current price and unit price.
(2) Retailers should have an education program for consumers to promote awareness and use of unit pricing.
(3) Unit pricing should be included on any web based or on line pricing.
(4) Displaying unit price information should be the goal of any retail business regardless of store square footage or gross sales, as long as it does not impose an unreasonable burden.
(5) Other stock keeping (retailer specific) information may also be included at the option of the retail establishment provided that the additional information does not obscure, deemphasize, or confuse the unit price information.

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## SECTION 6. Guidance for Unit Pricing on SIGNS

The recommendations and guidance provided in this guide primarily applies to regular retail price and unit price shelf labels. When an item goes on sale, retailers typically will have a "bib," "dangler," or hanging sale (e.g., club or card price) tag attached to the unit (regular) price label. Additionally, these may include large overhead signs such as end aisle displays or free standing displays.

As part of their marketing strategy, some retailers use larger or special signs to draw attention to the regular retail price (not sale price) in locations such as end displays and free standing displays in aisle promotions. It is recommended that this type of signage include the unit price, even if the item has a unit price displayed in its regular shelf location. In other words, a retailer should include a unit price on any sign, whether sale or regular price, regardless of the location in the store.

Because the size of a sale, bib, or hanging tag is significantly larger than a regular unit price shelf label and because there is no need to repeat certain information already included in the regular unit price shelf label, such as product description and retailer specific information, more flexibility in the displaying of unit pricing information is possible.

These specific guiding principles still apply:

- The sale sign must be clearly attached, or directly above or under the regular unit price label.
- The term "sale price," "as advertised," "new low price," "club price," "temporary price reduction," or other words of similar import should be stated directly above the sale price.
- The term "unit price" should appear directly above or adjacent to the unit price.
- The unit price should appear on the same colored background as used for conventional unit price labels to maintain consistency and familiarity.
- The sale price information should take full advantage of the space available by utilizing a sign rather than a shelf tag.
- The font size of the unit price should be in proportion to the font size of the retail price, but not be less than $50 \%$ of the font size of the retail price.
- The font size for the sale retail price on a sale sign should be at a minimum 25.4 mm or 1 in , if it can be reasonably accommodated. The unit pricing information should take full advantage of the space available.
- The retail price should appear on the top of the sign, and the unit price directly under the sale price.
- All information should be in bold font, prominently displayed, clear, and conspicuous.
- All rules that apply to regular shelf labels regarding abbreviations, displaying of dollars and cents, defined and acceptable units of measure, use of "per" apply equally to sale signs.
- Other relevant information such as "you save $\$ 0.00$ " can also be provided, but the font size should not exceed the font size for the unit price displayed.
- A date expressing the end of the promotion should be provided (e.g., thru Oct 17) and be clear and prominent.
- Some signs contain tier pricing for multiple items (e.g., buy 1 for $\$ 1$, buy 2 for $\$ 0.75$ each). In this case, each item (scenario) on the sign should be (multi) unit priced.


## SIGNS

## - Regular Shelf Label

All rules that apply to regular shelf labels regarding abbreviations, displaying of dollars and cents, defined and acceptable units, and use of "per" also apply to sale signs.

$\left\{\right.$| Product Identity and Size |  |
| :---: | :---: |
| Retail Price | Unit Price |
| Miscellaneous Information (Retailer Specific) |  |

## - Sale Display Sign



The term "unit price" should be directly above or adjacent to the unit price.
The font size of the unit price should be the same as the font size for the retail price on the sign but no less than $50 \%$ of the font size of the retail price.
The font size on other relevant information such as "you save" should not exceed the font size for the unit price displayed.
The unit price should appear on the same colored background as used for conventional unit price labels to maintain consistency and familiarity.

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## APPENDIX A.

## Unit Pricing Checklist

## Design Unit Price Label Layout

$\square$ Retail price on left - unit price on right. Numerals should be in bold type.
$\square$ The unit price should be displayed consistently with a color background different from that of the retail price.
$\square$ The minimum height of the unit price should be a minimum of 6 mm or 0.24 in , but no less than $50 \%$ of the retail price. Effort should be used to display a font size that will "fill up" the block.

- Unit Price should have term "Unit Price" above the numeral(s) and Retail Price should have the term "Retail Price," "You Pay," or something similar above the numeral(s).
- The term "per" should appear below the numeral unit price to designate the unit price "per" unit of measure.
$\square$ The product description and size should be prominently displayed.
$\square$ Other information (e.g., order code, bar code, etc.) may be included on the label or sign, but only so as to not interfere with or diminish the prominence and clarity of the selling price, unit price and product description.
$\square$ All information should be clear, prominent, and conspicuous. Consumer information should stand out from retailer information.
$\square$ Spacing between the quantity and unit in the product identity and unit price (e.g., 100 g not $100 \mathrm{~g} ; 3.5 \mathrm{oz}$ not 3.5 oz ).


## Ongoing Maintenance

$\square$ Determine the correct unit of measure and the price per unit of measure for each item and the category in which it belongs. The unit price measure must be consistent for all products in like categories.

- Develop automated system checks and audits.
$\square$ Ensure correct symbols and abbreviations are being used.
$\square$ Determine whether rounding will occur to the whole cent or tenth of cent.
$\square$ Unit pricing should be provided on labels and sale signs.


## Other Considerations

- Retailers should consider an audit program to ensure consistent and accurate item (price) and unit pricing. This includes correct calculations of the unit price, consistent and proper units of measure across like items and that all items are unit priced.
$\square$ Retailers should consider an education and outreach program to consumers.

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## APPENDIX B.

## Examples of Unit Pricing Labels

These examples are not intended to demonstrate acceptable best practice labels, but to highlight best practice principles applied from the guide as well as opportunities to improve the label.

Here are some examples of unit price labels found in the marketplace with best practices and recommended improvements noted to improve the readability and clarity. The critical components that have shown the most success in improving the readability and usability of a unit price label is font size and using the "blocked approach" to clearly distinguish the types of information being conveyed.

In all of the examples, use of upper and lower case is preferred but not required.


Font size on unit price should be a minimum 6 mm , but it is recommended that the font size of the unit price be larger. The font size should not be less than $50 \%$ of the retail font size.

Use a space between quantity and unit in the product identity and unit price (e.g., 200 GRAM not 200GRAM and 100 g not 100 g ).


Product Identity uses both SI and U.S. Customary Units. This is consumer and metric friendly.

Some states may require the Unit Price be displayed on the left and the Retail Price on the right. Determine whether there are mandatory unit pricing regulations in states where you do business.


It is recommended that the size of the product be directly associated with product description (e.g., Annie Org Honey Must 9 oz ).


Good example. Note: This best practice guide recommendation that the Retail Price be on the left and the Unit Price be on the right. Mandatory state regulations may supersede this recommendation.



## APPENDIX C.

## Examples of Unit Pricing Signs

Here are some examples of signs found in the marketplace with unit pricing, with best practices and recommended improvements noted to improve the readability and clarity. The critical components that have shown the most success in improving the readability and usability of a unit price label is font size and using the "blocked approach" to clearly distinguish the types of information being conveyed.


The term "sale price," "as advertised," "new low price," "club price," "temporary price reduction," or other words of similar import should be stated directly above the sale price. The term "unit price" should be displayed above the unit price.


The font size of the unit price should be in proportion to the font size of the retail price, but not be less than $50 \%$ of the font size of the retail price.




## APPENDIX D.

## Exemptions to Unit of Measures under the UUPR

The following exemptions, as outlined in NIST Handbook 130, UUPR, can be made to the unit price. Additional exemptions under state mandatory regulations may apply. These exemptions are optional, not mandatory.
(1) Small Packages - Commodities shall be exempt from these provisions when packaged in quantities of less than $28 \mathrm{~g}(1 \mathrm{oz})$ or $29 \mathrm{~mL}(1 \mathrm{fl} \mathrm{oz})$ or when the total retail price is 50 cents or less.

Although technically a store is exempt under this situation under the UUPR, it is the recommendation of this guide that a unit price be provided. Many small packages, such as eye drops, would benefit consumers if a unit price was provided to enable price and value comparison, especially given the high cost of some of these products.
(2) Single Items - Commodities shall be exempt from these provisions when only one brand in only one size is offered for sale in a particular retail establishment.

Although technically a store is exempt under this situation under the UUPR, it is the recommendation of this guide that a unit price be provided. For example, while a store may carry only one size and brand of canned asparagus, a consumer may well wish to compare the unit price of asparagus with other vegetables nearby. In addition, if the selling price and unit price are the same, a unit price should be provided.
(3) Infant Formula - For "infant formula," unit price information may be based on the reconstituted volume. "Infant formula" means a food that is represented for special dietary use solely as a food for infants by reason of its simulation of human milk or suitability as a complete or partial substitute for human milk.

Reminder: For infant formula, if the decision is to unit price based on the reconstituted volume, then the unit price must be based on the reconstituted volume and be consistent and uniform for all infant formula.
(d) Variety and Combination Packages - Variety (e.g., plastic tableware consisting of 4 spoons, 4 knives and 4 forks) and Combination Packages (e.g., sponge and cleaner, lighter fluid and flints) shall be exempt from these provisions.

- A variety package is a package intended for retail sale, containing two or more individual packages or units of similar but not identical commodities. Commodities that are generically the same but that differ in weight, measure, volume, appearance, or quality are considered similar but not identical.
- A combination package is a package intended for retail sale, containing two or more individual packages or units of dissimilar commodities. The declaration of net quantity for a combination package shall contain an expression of weight, volume, measure, or count, a combination thereof, as appropriate, for each individual package or unit, provided the quantity statements for identical packages, or units shall be combined.


## Summary of Best Practice Requirements for UUPR Exemptions to the Units of Measure

| EXEMPTION | REQUIREMENT |
| :---: | :--- |
| Small Packages | Quantities <28 g (1 oz) or 29 mL (1 fl oz) or total retail is <br> 50 cents or less, but the best practice is to provide the unit price. |
| Single Items | Only one brand in only one size is offered for sale, but the best <br> practice is to provide the unit price. |
| Infant Formula | Unit price information may be based on the reconstituted <br> volume. |
| Variety and <br> Combination Packages | Provide the unit of measure that would be most helpful and <br> meaningful to consumers in making price and value <br> comparison. |

Note: Although technically a store is exempt under these situations under the UUPR, it is the recommendation of this guide that a unit price be provided in all possible situations.


[^0]:    ${ }^{1}$ National Conference on Weights and Measures http://www.ncwm.net/
    ${ }^{2}$ Uniform Unit Pricing Regulation http://www.nist.gov/pml/wmd/pubs/hb130-14.cfm
    ${ }^{3}$ Food Marketing Institute http://www.fmi.org/

[^1]:    ${ }^{4}$ Fair Packaging and Labeling Act Title 15, CHAPTER $39-1451$, http://www.fda.gov/regulatoryinformation/legislation/ucm148722.htm
    ${ }^{5}$ A Guide to Retail Pricing Laws and Regulations, http://nist.gov./pml/wmd/metric/pricing-laws.cfm
    ${ }^{6}$ NIST Handbook 130 - "Uniform Laws and Regulations in the areas of legal metrology and engine fuel quality" http://www.nist.gov/pml/wmd/pubs/hb130-14.cfm
    ${ }^{7}$ Consumer Reports http://www.consumerreports.org
    ${ }^{8}$ National Consumers League, http://www.nclnet.org
    ${ }^{9}$ Australian Queensland Consumers Association, a Canadian Report on Unit Pricing, http://optionconsommateurs.org/documents/principal/en/File/rapports/commercial_practices/oc ic_rr unit pricing_201010.pdf

[^2]:    ${ }^{10}$ A Guide to Retail Pricing Laws and Regulations http://nist.gov./pml/wmd/metric/pricing-laws.cfm
    ${ }^{11}$ State Weights and Measures Directors http://www.nist.gov/pml/wmd/state-directors-ac.cfm
    ${ }^{12}$ NIST Handbook 130, "Uniform Laws and Regulations in the areas of legal metrology and engine fuel quality" http://www.nist.gov/pml/wmd/pubs/hb130.cfm

[^3]:    ${ }^{13}$ The Journal of Applied Psychology, Vol XII, NO 4, "Influence of Type Form on Speed of Reading", Miles A. Tinker and Donald G. Paterson
    ${ }^{14}$ New York: Harper and Brothers 1989, 24 VOL. 9, NO. 1 "How to make Type Readable", Paterson, D.G. and Tinker, M.A.
    ${ }^{15}$ McAlister, Anna R., Soo Kim, and Chen Lou (2013, May). Design Elements in Unit Price Labels Influence Consumers' Information Processing Abilities. Special session paper presented at Marketing and Public Policy Conference, Washington, DC.
    ${ }^{16}$ Study by Svetlana Bogomolova and Justin Cohen (Ehrenberg-Bass Institute for Marketing Science, University of South Australia), Harmen Oppewal (Monash University), and Jordan Louviere (Institute for Choice, University of South Australia), February, 2014

[^4]:    ${ }^{17}$ The Journal of Applied Psychology, Vol XII, NO 4, "Influence of Type Form on Speed of Reading," Miles A. Tinker and Donald G. Paterson.
    ${ }^{18}$ Paterson, D.G. and Tinker, M.A. "How to make Type Readable," New York: Harper and Brothers.

