CWMA Laws and Regulations (L&R) Committee
2022 Interim Meeting Report

Mr. Travis Soper, Committee Chair
Wisconsin

INTRODUCTION

The L&R Committee will address the following items in Table A during the Interim Meeting. Table A identifies the agenda items by reference key, title of item, page number and the appendices by appendix designations. The headings and subjects apply to *Handbook 44 Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices*. The first three letters of an item's reference key are assigned from the Subject Series List. The next 2 digits represent the year the item was introduced. The acronyms for organizations and technical terms used throughout the agenda are identified in Table B.

An "Item Under Consideration" is a statement of proposal and not necessarily a recommendation of the Committee. Suggested revisions are shown in **bold face print** by ~~**striking out**~~ information to be deleted and **underlining** information to be added. Requirements that are proposed to be nonretroactive are printed in ***bold faced italics***. Additional letters, presentations and data may have been part of the committee's consideration. Please refer to www.ncwm.com/publication-15 to review these documents.

In some cases, there may be proposed changes affecting multiple model laws or regulations that share the same purpose or proposed changes to one model law or regulation may be dependent on the adoption of proposed changes to another. The Committee may group such items into "Blocks" to facilitate efficient handling for open hearings and voting. These blocks are identified in Committee's agenda.

Note: It is policy to use metric units of measurement in publications; however, recommendations received by NCWM technical committees and regional weights and measures associations have been printed in this publication as submitted. Therefore, the report may contain references to inch-pound units.

Subject Series List

Handbook 130 – General ..... GEN Series

Uniform Laws
- Uniform Weights and Measures Law ..... WAM Series
- Uniform Weighmaster Law ..... WML Series
- Uniform Fuels and Automotive Lubricants Inspection Law ..... FLL Series

Uniform Regulations
- Uniform Packaging and Labeling Regulation ..... PAL Series
- Uniform Regulation for the Method of Sale of Commodities ..... MOS Series
- Uniform Unit Pricing Regulation ..... UPR Series
- Uniform Regulation for the Voluntary Registration of Servicepersons and Service Agencies for Commercial Weighing and Measuring Devices ..... RSA Series
- Uniform Open Dating Regulation ..... ODR Series
- Uniform Regulation for National Type Evaluation ..... NTP Series
- Uniform Fuels and Automotive Lubricants Regulation ..... FLR Series

Examination Procedure for Price Verification ..... PPV Series

NCWM Policy, Interpretations, and Guidelines ..... POL Series

Handbook 133 ..... NET Series

Other Items ..... OTH Series

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Table B
Glossary of Acronyms and Terms

Acronym	Term	Acronym	Term
ASTM	ASTM International	NEWMA	Northeastern Weights and Measures Association
API	American Petroleum Institute	NIST	National Institute of Standards and Technology
CFR	Code of Federal Regulations	NCWM	National Conference on Weights and Measures
CWMA	Central Weights and Measures Association	OWM	Office of Weights and Measures
FALS	Fuels and Lubricants Subcommittee	PALS	Packaging and Labeling Subcommittee
FDA	Food and Drug Administration	S&T	Specifications and Tolerances
FTC	Federal Trade Commission	SAE	SAE International
HB	Handbook	SWMA	Southern Weights and Measures Association
ILMA	Independent Lubricant Manufacturers Association	UPLR	Uniform Packaging and Labeling Regulation
L&R	Laws and Regulations	USDA – FSIS	U.S. Department of Agriculture – Food Safety and Inspection Service
LPG	Liquefied Petroleum Gas	USNWG	U.S. National Work Group
MAV	Maximum Allowable Variation	WWMA	Western Weights and Measures Association

Details of All Items
(In order by Reference Key)

WAM – WEIGHTS AND MEASURES LAW

WAM-23.1 Section 11. Powers and Duties of the Director

Source:
NCWM Packaging and Labeling Subcommittee

Purpose:
Add e-commerce compliance to the powers and duties of the Director.

Item Under Consideration:
Amend Handbook 130, Uniform Weights and Measures Law, as follows:

Section 11. Powers and Duties of the Director

The Director shall:

. . .

(r) have the authority to employ recognized procedures and regulations designated within the NIST Handbook 130, Uniform Laws and Regulations in the Areas of Legal Metrology and Fuel Quality, E-Commerce Regulation.

Previous Action:
2023: New Item

Original Justification:
It has been suggested that if the e-commerce regulation is adopted for inclusion in NIST Handbook 130, expanding the powers and duties of the Director in the model Weights and Measures Law would be useful.

The most likely arguments against adoption of this proposal center on whether individual programs feel this section of the model law is too restrictive in defining the scope of a weights and measures program or if the membership concludes the E-commerce regulation is better published as a stand-alone NCWM standard.

Requested Status by Submitter: Voting Item

Comments in Favor:

Regulatory:

Industry:
•

Advisory:
•

Comments Against:

Regulatory:

Industry:

-

Advisory:

-

Neutral Comments:

Regulatory:

Industry:

-

Advisory:

-

Item Development:
New

WAM-23.1
Regional recommendation to NCWM on item status: ☒ Recommend as a Voting Item on the NCWM agenda ☐ Recommend as an Information Item on the NCWM agenda ☐ Recommend as an Assigned Item on the NCWM agenda *(To be developed by an NCWM Task Group or Subcommittee)* ☐ Recommend as a Developing Item on the NCWM agenda *(To be developed by source of the proposal)* ☐ Recommend Withdrawal of the Item from the NCWM agenda *(In the case of new proposals, do not forward this item to NCWM)* ☐ No recommendation from the region to NCWM *(If this is a new proposal, it will not be forwarded to the national committee by this region)*
Comments and justification for the regional recommendation to NCWM: *(This will appear in NCWM reports)*
Chris Guay, CGGT and Chair of PALS commented this item should be subsection "s" rather than subsection "r" and notified Don Onwiler that it should be corrected prior to subsequent regional fall meetings. He indicated he believes this item is fully developed and ready for voting provided the additional e-commerce agenda item passes. Based on testimony and hearing no objections, the Committee believes this item is fully developed and ready for voting status.

Additional letters, presentation and data may have been submitted for consideration with this item. Please refer to https://www.ncwm.com/publication-15 to review these documents.

WML – UNIFORM WEIGHMASTER LAW

WML-23.1 Section 10. Certificate: Required Entries,

Source:
NIST Office of Weights and Measures

Purpose:
Allow the use of electronic signatures on certificates.

Item Under Consideration:
Amend Handbook 130, Uniform Weighmaster Law, as follows:

Section 10. Certificate: Required Entries

(a) The certificate, when properly filled out and signed [**see Section 10, Note 2**] shall be prima facie evidence of the accuracy of the measurements shown.

(b) The design of and the information to be furnished on a weight certificate shall be prescribed by the Director and will include, but not be limited to, the following:

(1) the name and license number of the public weighmaster;

(2) the kind of commodity weighed, measured, or counted;

(3) the name of the owner, agent, or consignee of the commodity;

(4) the name of the recipient of the commodity, if applicable;

(5) the date the certificate is issued;

(6) the consecutive number of the certificate;

(7) the identification, including the identification number, if any, of the carrier transporting the commodity and the identification number or license number of the vehicle;

(8) other information needed to distinguish or identify the commodity from a like kind;

(9) the number of units of the commodity, if applicable;

(10) the measure of the commodity, if applicable;

(11) the weight [see Section 10 NOTE 1] of the commodity and the vehicle or container (if applicable) broken down as follows:

i. the gross weight of the commodity and the associated vehicle or container;

ii. the tare weight of the unladen vehicle or container; or

iii. both the gross and tare weight and the resultant net weight of the commodity;

(12) signature [**see Section 10, Note 2**] of the public weighmaster who determined the weight, measure, or count.

Section 10 NOTE 1: When used in this Law, the term "weight" means "mass." (See paragraph L. "Mass" and "Weight" in Section I. Introduction, of NIST Handbook 130 for an explanation of these terms.) (Note added 1993)

Section 10 NOTE 2: Electronic signatures are acceptable if a State has a digital signature statute (Uniform Law Commission, Electronic Transactions Act {UETA} www.uniformlaws.org) (Added 20XX)

Previous Action:
2023: New Item

Original Justification:
The Uniform Weighmaster Law (UWL) is broadly worded that it does not specify whether cursive or other handwriting be used to sign tickets. Section 10. "Certificate: Required Entries," of the UWL reads that a weigh ticket, when properly filled out and signed, shall be accepted as evidence of the accuracy of the recorded measurement. A full identification of the weighmaster is required by Section 10(b)(1) that requires the name and license number of the weighmaster be furnished and Section (10)(b)(12) requires that signature to be of the public weighmaster who determined the weight, measure or count.

OWM has reviewed the UWL, NCWM Annual Meeting Reports, and information provided by other states and recommends that Section 10 allow the use of electronic signatures. Another justification for allowing the use of electronic signatures is they are widely permitted under both Federal and State Laws. At the Federal level the 2000 Electronic Signatures in Global and National Commerce Act which is in 15 U.S. Code § 7001 provides that electronic signatures on contracts, or other records relating to such transactions may not be denied legal effect, validity, or enforceability solely because they are in electronic form.

OWM has also learned that most states adopt the Uniform Electronic Transactions Act (UETA www.uniformlaws.org) which promotes the use of electronic signatures and provides adequate protections for buyers and sellers alike. While both the Federal and State exempt some business and applications the purpose of these laws is to prevent fraud and abuse while facilitating the use of electronic signatures to promote modern business and communications practices. The UETA was developed by the National Conference of Commissioners on Uniform Laws in 1999 to establish the legal equivalence of electronic records and signatures with paper writings and manually signed signatures, to remove barriers to electronic commerce. There are 47 and the District of Columbia, U.S. Virgin Islands, Puerto Rico which have adopted the UETA. Three states have not adopted UETA but do have their own state statues - New York, Illinois, and Washington.

Requested Status by Submitter: Voting Item

Comments in Favor:

Regulatory:

Industry:
-

Advisory:

-

Comments Against:

Regulatory:

Industry:

-

Advisory:

-

Neutral Comments:

Regulatory:

Industry:

-

Advisory:

-

Item Development:
New

WML-23.1
Regional recommendation to NCWM on item status: ☒ Recommend as a Voting Item on the NCWM agenda ☐ Recommend as an Information Item on the NCWM agenda ☐ Recommend as an Assigned Item on the NCWM agenda *(To be developed by an NCWM Task Group or Subcommittee)* ☐ Recommend as a Developing Item on the NCWM agenda *(To be developed by source of the proposal)* ☐ Recommend Withdrawal of the Item from the NCWM agenda *(In the case of new proposals, do not forward this item to NCWM)* ☐ No recommendation from the region to NCWM *(If this is a new proposal, it will not be forwarded to the national committee by this region)*
Comments and justification for the regional recommendation to NCWM: *(This will appear in NCWM reports)*

Additional letters, presentation and data may have been submitted for consideration with this item. Please refer to www.ncwm.com/publication-15 to review these documents.

MOS – UNIFORM REGULATION FOR THE METHOD OF SALE OF COMMODITIES

MOS-23.1 Section 1.12. Ready-to-Eat Food, 1.12.2. Methods of Sale.

Source:
Delaware Weights and Measures

Purpose:
Bringing back the word "***single*** serving" To limit the size of a prepackaged item from being allowed to be sold with no weight declaration.

Item under Consideration:
Amend Handbook 130 Uniform Regulation for the Method of Sale of Commodities as follows:

1.12. Ready-to-Eat Food.

…

1.12.1. Methods of Sale. – Ready-to-eat food sold from retail cases displaying product in bulk or in **single** servings packed or prepared on the premises may be sold by weight, measure, or count (i.e., by piece, portion, or serving). If pre-packaged, the product shall have the appropriate statement of quantity set forth in the current edition of NIST Handbook 130, Uniform Packaging and Labeling Regulation (UPLR).
(Amended 1993) (Amended 2017)

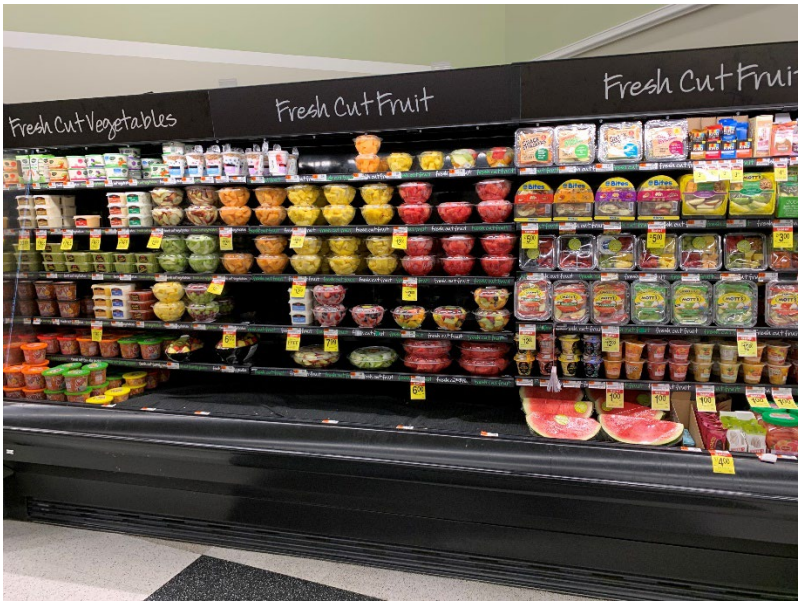
Previous Action:
New item in 2023

Original Justification:
When the change was initially introduced in the 2018 edition of Handbook 130, the way I interpreted the new regulation was that with the removal of "**single servings**" it would then allow any package that is packaged on premises to be sold by count. With that being said, it would mean that anything in the store (packaged on site) that is ready to eat would no longer be required to have a net weight. This would apply to all Deli, Hot Foods, Produce, Bakery and Seafood packaged products. Several others that I spoke with interpreted the regulation the same way I did initially. A year later, while taking a class in Gaithersburg, I brought up this issue and I was pointed to the second portion of the regulation that states: **If pre-packaged, the product shall have the appropriate statement of quantity set forth in the current edition of NIST Handbook 130, Uniform Packaging and Labeling Regulation (UPLR).** I had difficulty finding something specific in the UPLR that would override the statement **"in servings packed or prepared on the premises may be sold by weight, measure, or count"**, and at this point it became confusing if we should require a net weight on a pre-packaged item or not. More recently while taking a webinar, again I brought up this issue and the discussion was that the store would not need to put a net weight on the package. They could sell a tub of cut fruit as a "tub" of cut fruit.

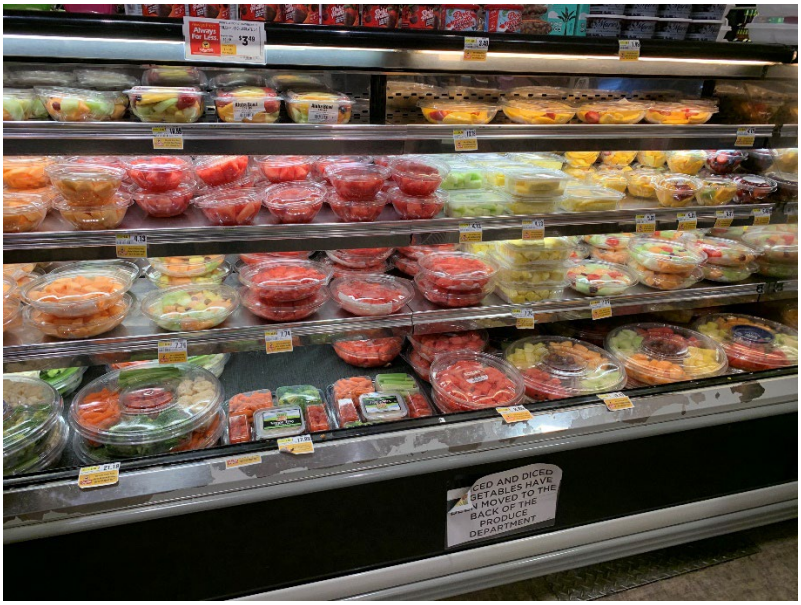
I believe that the intent was to allow Grocery Stores to sell products like Restaurants, such as a bucket of chicken at KFC needs no net weight, so it should be allowed that the Grocery Store should be able to sell a bucket of chicken with no net weight. This is understandable if the bucket is packaged at time of service from bulk, but if it is a bucket that is pre-packaged sitting on a shelf for the consumer to purchase, then it should have a net weight. Similar packages of Potato Salad that the store packages sitting next to a "National Brand" of Potato Salad should also have a net weight so the consumer can make a comparative value decision. Another example would be pre-packaged containers of cut

fruit should have a net weight so the consumer can compare the price of the processed fruit over what the consumer could purchase the same fruit themselves and cut it at home.

In the past, the single serving size exception was a good way to define what needed a net weight and what didn't. A slice of cake didn't need a weight, but a ¼ slice or larger would need a net weight. Two cookies in a baggie or a sandwich wouldn't need a weight, but a box of cookies or a platter of sandwiches would. I am afraid that if the correct interpretation is, that all ready to eat food that does not need to be processed and is pre-packaged on site will not need a net weight. If true, it removes the ability of the consumer to make an informed decision on what is the best value.



The picture above is at an Acme location and the items shown are packaged on premises. The picture below is at a Shop Rite location and those items are pre-packaged and shipped in. If Acme is allowed to sell items by count only, but the items sold at Shop Rite must be sold by weight, then how can the consumer make a comparison as to which item is a better value.



The submitter acknowledges that businesses that are currently not putting a net weight on their ready to eat items larger than single serving sizes will have to correct their product labels to show the net weight. This may also result in having to install new scales to produce product labels.

The submitter requested that this be a Voting item in 2023.

Comments in Favor:

Regulatory:
-

Industry:
-

Advisory:
-

Comments Against:

Regulatory:
-

Industry:
-

Advisory:
-

Neutral Comments:

Regulatory:
-

Industry:
-

Advisory:
-

Item Development:
New

MOS-23.1
Regional recommendation to NCWM on item status: ☒ Recommend as a Voting Item on the NCWM agenda ☐ Recommend as an Information Item on the NCWM agenda ☐ Recommend as an Assigned Item on the NCWM agenda *(To be developed by an NCWM Task Group or Subcommittee)* ☐ Recommend as a Developing Item on the NCWM agenda *(To be developed by source of the proposal)* ☐ Recommend Withdrawal of the Item from the NCWM agenda *(In the case of new proposals, do not forward this item to NCWM)* ☐ No recommendation from the region to NCWM *(If this is a new proposal, it will not be forwarded to the national committee by this region)*
Comments and justification for the regional recommendation to NCWM: *(This will appear in NCWM reports)*
Loren Minnich, Kansas commented this item has been considered in the past and believes it is a difficult subject for model language and enforcement purposes. He believes this item focuses on equity between places that prepare food for families such as a grocery store compared to a retail restaurant. He opposes the item because with the proposed language addition, the item only covers single serving. Ivan Hankins, Iowa does not oppose it being a change to cover a single serving. However, he does not support the word "may" and believes the item needs to be further developed. Mr. Minnich further questioned how to identify the term "single serving". Hearing both objections and support for the item, and reviewing the proposed change, the Committee concurs this item is fully developed and is ready for voting status.

Additional letters, presentation and data may have been submitted for consideration with this item. Please refer to https://www.ncwm.com/publication-15 to review these documents.

MOS-20.5 Section 2.21. Liquefied Petroleum Gas

Source:
Arizona Department of Agriculture, Weights and Measures Services Division

Purpose:
Provide clarity and consistency regarding the method of sale (MOS) for liquefied petroleum gas (LPG) through a meter that has a maximum rated capacity of 20 gal/min or less.

Item Under Consideration:
Amend Handbook 130, Uniform Regulation for the Method of Sale of Commodities, as follows:

2.21. Liquefied Petroleum Gas.

2.21.1. Method of Sale. □ All liquefied petroleum gas, including, but not limited to propane, butane, and mixtures thereof, shall be kept, offered, exposed for sale, or sold by the **following methods of sale. If kept, offered, exposed for sale, or sold by:**

(a) Weight: by the **kilogram** or pound; or by,

(b) Gaseous Volume: by the metered cubic meter of vapor (defined as 1 m^3 at 15 °C); or metered cubic foot of vapor (defined as 1 ft^3 at 60 °F) [See *Section 2.21. Note*]; or by,

(c) Liquid Volume: **by the liter (defined as 1 liter at 15 °C) or** the gallon (defined as 231 in^3 at 60 °F). ~~**All metered sales by the or gallon, except those using meters with a maximum rated capacity of**~~

~~(20 gal)/min or less, shall be accomplished by use of a meter and device that automatically compensates for temperature~~.

2.21.2. Metered Sales by Liquid Volume. □ All metered sales by liquid volume shall be accomplished using metering systems as follows:

(a) Sales using metering systems with a maximum rated capacity greater than 20 gal/min shall be accomplished using a metering system that automatically compensates for the effects of temperature.

(b) Sales using metering systems with a maximum rated capacity equal to or less than 20 gal/min that were placed into service after January 1, 2026 shall be accomplished by use of a metering system that automatically compensates for the effects of temperature.

(c) Effective January 1, 2030, all metered sales (through all capacities of metering devices, regardless of installation and service date) shall be accomplished by use of a metering system that automatically compensates for temperature.

Section 2.21. NOTE: Sources: ~~American National Standards Institute, Inc.,~~ ANSI B109.1 (~~2008~~2000), "~~American National Standard~~ For Diaphragm-Type Gas Displacement Meters (~~14.16 Cubic Meters [~~Under 500 Cubic Feet~~]~~ Per Hour Capacity ~~and Under~~)," and NIST Handbook 44, "Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices."

(Added 1986**, Amended 20XX**)

Previous Action:

2020: Informational

2021: Voting - Returned to Committee

2022 Annual Meeting: Voting – Returned to Committee

Original Justification:

There appears to be a lack of clarity and consistency regarding the method of sale (MOS) for liquefied petroleum gas (LPG) through a meter that has a maximum rated capacity of 20 gal/min or less. The Uniform Regulation for the Method of Sale of Commodities, Section 2.2. Liquified Petroleum Gas specifically exempts these meters from the use of automatic temperature compensation but defines a gallon as 231 in^3 at 60 °F [15.6 °C].

With this definition, it can be interpreted that, while automatic temperature compensation is not required, the sale of LPG shall be temperature compensated through manual means (or alternatively sold by weight). Temperature compensation manually requires the use temperature readings and a chart to manually perform conversions to determine the volume sold.

When discussing potential implementation of these requirements, propane industry officials in Arizona noted that other states do not require sale of LPG through these smaller meters to be temperature compensated or sold by weight and cited numerous problems with manual calibration or changing the MOS to sell by weight.

An informal survey of western states appears to support that most do not enforce this requirement to sell LPG through these smaller meters by weight or temperature compensated.

Due to the inconsistency with the method of sale between various states and interpretation of this section, it is being proposed to exempt the sale of LPG through these smaller meters from temperature compensation.

The item is proposed developing to allow for discussion and submittal of supporting cost analysis and impact to consumers and businesses that supports a requirement to sell LPG through these small meters as temperature compensated (or by weight).

The submitter noted that the sale of propane that is not temperature compensated can vary in quantities dispensed, which may provide a business or consumer with more or less product than stated.

Comments in Favor:

Regulatory:

- Mr. Bill Striejewske, FALS Chair, supported the item as Voting

Industry:

- Two Industry members spoke in favor of keeping the Item as Voting

Advisory:

- None

Comments Against:

Regulatory:

- None

Industry:

- None

Advisory:

- None

Neutral Comments:

Regulatory:

- Kurt Floren, County of Los Angeles requested to amend the title in Section 2.21.1. (c) to read "Liquid Volume".

Industry:

- None

Advisory:

- None

Item Development:

NCWM 2020 Interim Meeting: Mr. Tim Chesser (AR) felt that the current proposal conflicts with language in Handbook 44. Ms. Tina Butcher (NIST OWM) responded the current language in Handbook 44 does not conflict with the language in this item, referencing language from Handbook 44 stating "If a device is equipped with an automatic temperature compensator." This suggests that language in Handbook 44 does not require modification to accommodate devices with automatic temperature compensation capabilities. Mr. Constantine Cotsoradis (Flint Hill Resources) questioned if this proposal would have any benefit for consumers. Representing the submitter, Mr. Vince Wolpert (AZ) stated that temperature in the state ranges from 32 to 100 degrees Fahrenheit and volume delivered for LP sales varies accordingly.

As a result of the lack of consistency with volume delivered the state receives a lot of complaints concerning LP sales. Several regulators commented that the most equitable way to address the issue is to require automatic temperature compensation for all sales. The original submitter received feedback from the fall regions and modified the language (dated January 24, 2020).

The submitter, Ms. Wilson recommended this modified language be vetted through the regional meetings and industry for consideration. Currently, the Committee concurs with the recommendation and moved this item forward as the Item Under Consideration as Informational.

On the 2020 NCWM Interim Agenda the item under consideration appeared as:

2.21. Liquefied Petroleum Gas. – All liquefied petroleum gas, including, but not limited to propane, butane, and mixtures thereof, shall be kept, offered, exposed for sale, or sold by the pound, metered cubic foot [***NOTE 7***, page 132] of vapor (defined as 1 ft3 at 60 °F [15.6 °C]), or the gallon (defined as 231 in3 at 60 °F [15.6 °C]). All metered sales by the gallon, except those using meters with a maximum rated capacity of 20 gal/min or less, shall be accomplished by use of a meter and device that automatically compensates for temperature. **Metered sales using a meter with a maximum rated capacity of 20 gal/min or less is exempt from temperature compensation requirements.**

(Added 1986 **Amended 20XX)**

NCWM 2021 Interim Meeting: The language within NCWM Publication 15 appeared as:

2.21. Liquefied Petroleum Gas. – All liquefied petroleum gas, including, but not limited to propane, butane, and mixtures thereof, shall be kept, offered, exposed for sale, or sold by the pound, metered cubic foot [***NOTE 7***, page 132] of vapor (defined as 1 ft^3 at 60 °F [15.6 °C]), or the gallon (defined as 231 in^3 at 60 °F [15.6 °C]). ~~**All metered sales by the gallon, except those using meters with a maximum rated capacity of 20 gal/min or less, shall be accomplished by use of a meter and device that automatically compensates for temperature.**~~

(a) All metered sales by the gallon using a meter with a maximum rated capacity greater than 20 gal/min, shall be accomplished using a meter and device that automatically compensates for temperature.

(b) For equipment placed in service on or after January 1, 2023, all metered sales using a meter with a maximum rated capacity of 20 gal/min or less shall be accomplished by use of a meter and device that automatically compensates for temperature.

(c) Effective January 1, 2030, all metered sales shall be accomplished by use of a meter and device that automatically compensates for temperature.

(Added 1986 **Amended 20XX)**

Mr. Chesser commented his concern with conflicts between the method of sale and Handbook 44 requirements. Ms. Tina Butcher (NIST OWM) addressed questions that were stated within the reporting for this item. Ms. Butcher also

provided an in-depth background and discussion on this item. It was noted that NIST OWM submitted modified language that was posted under the NCWM L&R supporting documents.

Some of the bullet points that were in the NIST analysis of this item were:

- The existing language references a value of "15.6 °C" for temperature determinations in metric units, according to the current industry practice for sales of petroleum products, the reference temperature for sales in metric are based on 15 °C rather than the exact conversion from 60 °F (which is 15.6 °C). Thus, the temperature reference in metric should be 15 °C.
- The current method of sale for LPG requires sales based on a specified reference temperature because of the significant effects of temperature on the volume of LPG. This helps ensure equity for buyer and seller; facilitate value comparisons among competing applications; and deter those who would take advantage of the effects of temperature on volume from using these effects to their advantage during sales under given temperature conditions.
- There is some concern that including effective dates as shown in the Item Under Consideration does have the effect of rescinding the original requirement for certain categories of sales. Additionally, specifying such dates may possibly lead to future extensions of these date or permanent exceptions. However, if this proposal will allow the community to progress toward more uniform implementation of temperature compensation in the commercial measurement of LPG, this approach may prove to be a valuable tool for accomplishing this goal and improve understanding and consistent application of the requirements, and we believe the submitter is to be commended for striving to achieve this clarity and uniformity in application.
- The second clause of the current Item Under Consideration addresses equipment put into service as of January 1, 2023. The generic reference to "equipment placed into service" implies that only newly installed equipment with flow rates of 20 gpm or less needs to include automatic temperature compensation capabilities. This could be misconstrued as negating the first clause in the proposal. We believe the intent of the submitter was to simply expand the requirement for "automatic" temperature compensation capability for metering systems above 20 gpm to include those systems below this flow rate point. Thus, a recommended alternative is included in the suggested changes.

Formatting Changes:

- By formatting the language into sub-sections, it makes the method of sale requirement easier to follow and apply and facilitates consideration of the Item Under Consideration.
- For the next released edition of Handbook 130, NIST OWM will be reformatting the references to "Notes" and their associated page numbers and replacing these with notes formatted as "Section ##. Note."

Mr. Scott Simmons (Colorado) led a discussion regarding some of the issues that his state has faced regarding LPG sales. Mr. Simmons and many other regulators expressed support for this Item. It was expressed that many were unaware of the NIST modified proposal. L&R Chair McGuire encouraged membership to review the NIST proposal. During the Committee work session both the original and NIST proposals were discussed. A Committee member expressed concern that industry may be unaware of this agenda item. Several Committee members commented that they would reach out to their industry contacts to alert them. The Committee heard many comments that they supported the NIST proposal. The Committee was appreciative that NIST had reformatted the structure to make the language easier to read. The Committee recommends this move forward as a Voting item.

NCWM 2021 Annual Meeting: Mr. Swiecicki (NPGA) expressed concern with the language for temperature compensation and how the mechanical devices have a lag in correcting the temperature. Mr. Swiecicki did request that the date in Section 2.21.2.(b) be moved to 2025, or at least another year added. Mr. Schnepp (CA) remarked that in Section 2.21.2.(a) the language should read "equal to or greater than" to align with NIST HB44 language. Mr. Allen (AZ) was supportive of the changes from Mr. Schnepp. Mr. Willis (NY) rose to oppose this item and believes this item is detrimental to the propone industry. Mr. Willis remarked that they are done by weight and the temperature compensation is an issue with the smaller tanks. Mr. Ramsburg (MD) asked the committee to withdraw the item.

Based on testimony during open hearings and reviewing the documents from the regional meetings, the Committee changed the effective date in Section 2.21.2.(b) from January 1, 2023 until January 1, 2024. In Sections 2.21.2. (a), (b) and (c) replaced the words "meter and device" with "metering system." The Committee concurred with Mr. Schnepp's recommendation to modify the language in Section 2.21.2.(a) to replace the words "greater than or equal to" with "equal to or greater than". This item did appear as a Voting Item at the 2021 NCWM Annual Meeting but did not garner enough votes, it was therefore returned to the Committee.

NCWM 2022 Interim Meeting: The Committee assigned Voting status for this item at the 2022 Interim Meeting and extended the effective dates to address concerns expressed during the open hearings.

The Committee assigned Voting status to this item because there was support for it and only one regulator spoke against it. Additionally, the National Propane Gas Association supported the item provided the effective dates were extended. The Committee made this change.

NCWM 2022 Annual Meeting: This item was returned to Committee. Based on a comment from a weight and measures official during the open hearings at the 2022 Annual Meeting, the Committee amended the title in Section 2.21.1. (c) to read "Liquid Volume".

During the July 2022 Annual Meeting the Committee included this item in the Consent Calendar but it was removed during the voting session upon request by membership. There was no discussion on the item during the voting and it failed to receive the necessary 27 votes to pass and was returned to Committee.

This is the second time this item has been presented for a vote before membership and returned to the Committee. Membership is split between whether there is a need for a temperature compensator on meters of 20 gallons or less. The committee believes this item is fully developed and no addition work is needed.

Regional Associations' Comments:

WWMA 2021 Annual Meeting: Mr. Bruce Swiecicki, (NPGA) – Provided testimony that highlighted concerns from the background information in the agenda. He commented that with meters dispensing at less than 20 gallons per minute, automatic temperature compensation would have a minimal effect on small deliveries. Mr. Swiecicki also commented on the financial burden that would be placed on industry to convert to automatic temperature compensation. Mr. Matt Douglas, (CDFA-DMS) – Provided testimony that they support the item and there is redundant language that requires editing.

The Committee recommends this as a Voting Item with the following editorial changes and a change in effective date from January 1, 2024 to January 1, 2025:

2.21. Liquefied Petroleum Gas.

2.21.1. Method of Sale. □ All liquefied petroleum gas, including, but not limited to propane, butane, and mixtures thereof, shall be kept, offered, exposed for sale, or sold ~~by~~ in accordance with the **following methods of sale** and conditions. ~~If kept, offered, exposed for sale, or sold by:~~

(a) Weight: by the **kilogram** or pound~~; or by,~~

(b) Gaseous Volume: by the metered cubic meter of vapor (defined as 1 m^3 at 15 °C); or metered cubic foot of vapor (defined as 1 ft^3 at 60 °F) [See *Section 2.21. Note*]; ~~or by,~~

(c) Liquid: **by the liter (defined as 1 liter at 15 °C) or** the gallon (defined as 231 in^3 at 60 °F). ~~**All metered sales by the or gallon, except those using meters with a maximum rated capacity of (20 gal)/min or less, shall be accomplished by use of a meter and device that automatically compensates for temperature**~~.

2.21.2. Metered Sales by Liquid Volume. □ All metered sales by liquid volume shall be accomplished using metering systems as follows:

(a) Sales using metering systems with a maximum rated capacity equal to or greater than 20 gal/min shall be accomplished by the use of a metering system that automatically compensates for temperature.

(b) Sales using metering systems with a maximum rated capacity less than 20 gal/min that were placed into service after January 1, 2025 shall be accomplished by use of a metering system that automatically compensates for the effects of temperature.

(c) Effective January 1, 2030, all metered sales (through all capacities of metering devices, regardless of installation and service date) shall be accomplished by use of a metering system that automatically compensates for temperature.

Section 2.21. NOTE: Sources: ~~American National Standards Institute, Inc.,~~ ANSI B109.1 (~~2008~~2000), "~~American National Standard~~ For Diaphragm-Type Gas Displacement Meters (~~14.16 Cubic Meters [~~Under 500 Cubic Feet~~]~~ Per Hour Capacity ~~and Under~~)," and NIST Handbook 44, "Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices."

(Added 1986**, Amended 20XX**)

WWMA L&R Committee believes this item is fully developed, the Committee has the following concerns:

- The potential lack of effectiveness of automatic temperature compensation on short deliveries.
- The financial burden on device operators that would be affected by the proposed changes.
- Would like to hear reasons for lack of supporting votes

SWMA 2021 Annual Meeting: NIST OWM provided a written analysis that this proposal is fully developed, and consideration should be given to delaying the effective date until January 1, 2025. Mr. Tim Chesser (State of Arkansas) spoke in support of this item as long as the language is amended to an effective date of January 1, 2025.

The Committee believes this is fully developed and recommends this as a Voting item with an effective date of January 1, 2025.

CWMA 2022 Annual Meeting: Lisa Warfield, NIST Technical Advisor commented that a typical packaging change is adopted with a three-year lead time from the date of adoption. The Committee believes this item is fully developed and should remain as a Voting status item and also recommends the three-year implementation suggestion.

CWMA recommended it as a Voting Item on the NCWM agenda.

NEWMA 2022 Annual Meeting: Jim Willis, NY – Noted that NY has opposed and voiced opposition for this item in the past. NY believes this is burdensome for regulators and industry and continues to be opposed.

No additional comments received during the open hearing.

NEWMA L&R Committee recommends this item move forward as a voting item.

MOS-20.5
Regional recommendation to NCWM on item status: ☒ Recommend as a Voting Item on the NCWM agenda ☐ Recommend as an Information Item on the NCWM agenda ☐ Recommend as an Assigned Item on the NCWM agenda *(To be developed by an NCWM Task Group or Subcommittee)* ☐ Recommend as a Developing Item on the NCWM agenda *(To be developed by source of the proposal)* ☐ Recommend Withdrawal of the Item from the NCWM agenda *(In the case of new proposals, do not forward this item to NCWM)* ☐ No recommendation from the region to NCWM *(If this is a new proposal, it will not be forwarded to the national committee by this region)*
Comments and justification for the regional recommendation to NCWM: *(This will appear in NCWM reports)*

Loren Minnich, Kansas commented he has no opinion on the content of the item, but the formatting of the proposal should be bolded and underlined after section 2.21 (see below). Ivan Hankins, Iowa expressed support for putting temperature compensators on any LPG meter with a maximum rated capacity of 20 gal/min or less. He believes six years as indicated in item 2.21.2.(c) is too long of an implementation time. Doug Rathbun, Illinois concurs with Mr. Hankins. After discussion, the Committee agreed with Mr. Minnich's formatting suggestion and concurred the item is fully developed and ready for voting status.

2.21. Liquefied Petroleum Gas.

2.21.1. Method of Sale. All liquefied petroleum gas, including, but not limited to propane, butane, and mixtures thereof, shall be kept, offered, exposed for sale, or sold by the following methods of sale. If kept, offered, exposed for sale, or sold by:

(a) Weight: by the kilogram or pound; or by,

(b) Gaseous Volume: by the metered cubic meter of vapor (defined as 1 m^3 at 15 °C); or metered cubic foot of vapor (defined as 1 ft^3 at 60 °F) [See *Section 2.21. Note*]; or by,

(c) Liquid Volume: by the liter (defined as 1 liter at 15 °C) or the gallon (defined as 231 in^3 at 60 °F). ~~All metered sales by the or gallon, except those using meters with a maximum rated capacity of (20 gal)/min or less, shall be accomplished by use of a meter and device that automatically compensates for temperature.~~

2.21.2. Metered Sales by Liquid Volume. All metered sales by liquid volume shall be accomplished using metering systems as follows:

(a) Sales using metering systems with a maximum rated capacity greater than 20 gal/min shall be accomplished using a metering system that automatically compensates for the effects of temperature.

(b) Sales using metering systems with a maximum rated capacity equal to or less than 20 gal/min that were placed into service after January 1, 2026 shall be accomplished by use of a metering system that automatically compensates for the effects of temperature.

(c) Effective January 1, 2030, all metered sales (through all capacities of metering devices, regardless of installation and service date) shall be accomplished by use of a metering system that automatically compensates for temperature.

Section 2.21. NOTE: Sources: ~~American National Standards Institute, Inc.,~~ ANSI B109.1 (~~2008~~2000), "~~American National Standard~~ For Diaphragm-Type Gas Displacement Meters (~~14.16 Cubic Meters [~~Under 500 Cubic Feet] Per Hour Capacity ~~and Under)~~," and NIST Handbook 44, "Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices."

(Added 1986, Amended 20XX)

Additional letters, presentation and data may have been submitted for consideration with this item. Please refer to https://www.ncwm.com/publication-15 to review these documents.

MOS-23.2 Retail Sales of Electricity Sold as a Vehicle Fuel.

Source:
NIST Office of Weights and Measures

Purpose:
Align the unit of measurement recognized for electrical energy vehicle fueling equipment in corresponding legal metrology requirements in NIST Handbook 44 *Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices* Section 3.40 Electric Vehicle Fueling Systems Code, NIST Handbook 130 *Uniform Laws and Regulations in the Areas of Legal Metrology and Fuel Quality* Part IV. B. Section 2.34 Retail Sales of Electricity Sold as a Vehicle Fuel, and corresponding international documentary standards.

Item under Consideration:

2.34. Retail Sales of Electricity Sold as a Vehicle Fuel.

…

2.34.2. Method of Sale. – All electrical energy kept, offered, or exposed for sale and sold at retail as a vehicle fuel shall be in units in terms of the ~~**megajoule (MJ) or**~~ kilowatt-hour (kWh). In addition to the fee assessed for the quantity of electrical energy sold, fees may be assessed for other services; such fees may be based on time measurement and/or a fixed fee.

(Amended 202X)

2.34.3. Retail Electric Vehicle Supply Equipment (EVSE) Labeling.

(a) A computing EVSE shall display the unit price in whole cents (e.g., $0.12) or tenths of one cent (e.g., $0.119) on the basis of price per ~~**megajoule (MJ) or**~~ kilowatt-hour (kWh). In cases where the electrical energy is unlimited or free of charge, this fact shall be clearly indicated in place of the unit price.

(Amended 202X)

…

2.34.4. Street Sign Prices and Other Advertisements. – Where electrical energy unit price information is presented on street signs or in advertising other than on EVSE:

(a) The electrical energy unit price shall be in terms of price per ~~**megajoule (MJ) or**~~ kilowatt-hour (kWh) in whole cents (e.g., $0.12) or tenths of one cent (e.g., $0.119). In cases where the electrical energy is unlimited or free of charge, this fact shall be clearly indicated in place of the unit price.

(Amended 202X)

Previous Action:
New item in 2023

Original Justification:
In harmony with the USNWG's EVFE Subgroup 2022 recommendation deleting all references to the "megajoule" unit of measurement in the device handbook requirements, NIST OWM proposes similar modifications to the method of sale regulation for retail sales of electrical energy as a vehicle fuel. The joule unit of measurement is not in use for this commercial application. This proposal will align the unit of measurement recognized for electrical energy vehicle fueling equipment in corresponding legal metrology requirements in NIST Handbook 44 *Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices* Section 3.40 Electric Vehicle Fueling

Systems Code, NIST Handbook 130 *Uniform Laws and Regulations in the Areas of Legal Metrology and Fuel Quality* Part IV. B. Section 2.34 Retail Sales of Electricity Sold as a Vehicle Fuel, and corresponding international documentary standards.

The 2022 National Conference on Weights and Measures (NCWM) adopted several initial modifications in the device handbook code requirements for Electric Vehicle Fueling Systems (aka EVSEs) to include removing the megajoule (MJ) SI unit. This modification was made in response to information received from the USNWG's EVFE Subgroup indicating this unit of measurement is not recognized for electrical energy in the SI system (i.e., OIML R 46 *Active electrical energy meters* and the yet to be published OIML electrical vehicle charging systems standard). During the 2023 weights and measures standards development cycle further modifications will be proposed by the EVFE Subgroup to remove all remaining references to the megajoule in the device requirements. To align the unit of measurements recognized for electrical energy vehicle fueling in corresponding legal metrology requirements in NIST Handbook 44 and NIST Handbook 130 NIST OWM has developed this proposal for modifying NIST Handbook 130 method of sale, equipment labeling, signage, and advertising requirements to delete all reference to the megajoule (MJ).

The submitter acknowledges that Removing the "megajoule (MJ)" unit of measurement from the handbook does not conform to the practice in place for applying the concept of primary use of SI (metric) measurements recommended in the Omnibus Trade and Competitiveness Act of 1988.

Following this practice, the handbooks cite the SI unit before the U.S. customary unit of measurement. Currently, the handbook code requirements which apply to measurements of electrical energy when sold as a vehicle fuel the requirement specify the megajoule followed by the kilowatt-hour (kWh). It appears the trade practice is limited to the kilowatt-hour. Consequently, it is recommended the megajoule no longer be referenced in all handbooks (130 and 44) for this commercial application and to harmonize with corresponding international standards where units of measurement are only expressed only in the kilowatt-hour.

The Joule does not appear to be in use as the unit for measuring the quantity of electrical energy supplied to an EV battery. Measurements of electrical energy will be in increments of 0.0001 kWh for AC systems and 0.001 kWh for DC fast charging systems. The conversion of a kilowatt-hour to a megajoule is accomplished by multiplying by a factor of 3.6 (i.e., 1 kWh = 3 600 000 J = 3 600 kJ = 3.6 MJ). Rather than advance indications of quantity in increments of 3.6 the code developers agreed to recognize an increment value for electrical energy when sold as a vehicle fuel expressed as 5 (or 5 MJ) in the handbooks, which is an increment that facilitates rounding and calculating delivery quantities and the total sale amount. The elimination of the use of the megajoule to require only indications in the kilowatt-hour unit of measurement does not appear to adversely affect any EVSEs in commercial use. Should the delivery, displayed quantity, and advertised price of electrical energy move to expressions of quantity by the joule the handbook could be modified to recognize that unit of measurement.

The submitter requested that this be a voting item in 2023.

Comments in Favor:

Regulatory:

-

Industry:

-

Advisory:

-

Comments Against:

Regulatory:
-

Industry:
-

Advisory:
-

Neutral Comments:

Regulatory:
-

Industry:
-

Advisory:
-

Item Development:
New

MOS-23.2
Regional recommendation to NCWM on item status: ☒ Recommend as a Voting Item on the NCWM agenda ☐ Recommend as an Information Item on the NCWM agenda ☐ Recommend as an Assigned Item on the NCWM agenda *(To be developed by an NCWM Task Group or Subcommittee)* ☐ Recommend as a Developing Item on the NCWM agenda *(To be developed by source of the proposal)* ☐ Recommend Withdrawal of the Item from the NCWM agenda *(In the case of new proposals, do not forward this item to NCWM)* ☐ No recommendation from the region to NCWM *(If this is a new proposal, it will not be forwarded to the national committee by this region)*
Comments and justification for the regional recommendation to NCWM: *(This will appear in NCWM reports)*
Craig VanBuren, Michigan indicated support for this item. He believes it is ready for voting status as it reflects changes suggested in subsequent meetings. Mike Harrington, Iowa also supports this item both in concept and as an item with voting status. Based on supportive testimony for this item and the desire to move it forward as a voting item, the Committee believes it is fully developed and ready for voting status.

Additional letters, presentation and data may have been submitted for consideration with this item. Please refer to www.ncwm.com/publication-15 to review these documents.

UPR – UNIFORM UNIT PRICING REGULATION

UPR-23.1 Section 2. Terms for Unit Pricing

Source:
Vermont Division of Food Safety & Consumer Protection Weights and Measures

Purpose:
Make the Uniform Unit Pricing Regulation in Handbook 130 more comprehensive by adding terms for commodities sold by length.

Item under Consideration:
Amend Handbook 130 Uniform Unit Pricing Regulation as follows:

Section 2. Terms for Unit Pricing

The declaration of the unit price of a particular commodity in all package sizes offered for sale in a retail establishment shall be uniformly and consistently expressed in terms of:

(a) Price per kilogram or 100 g, or price per pound or ounce, if the net quantity of contents of the commodity isin terms of weight.

(b) Price per liter or 100 mL, or price per dry quart or dry pint, if the net quantity of contents of the commodityis in terms of dry measure or volume.

(c) 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.

(d) Price per individual unit or multiple units if the net quantity of contents of the commodity is in terms of count.

(e) 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.

(f) **Price per meter, decimeter, centimeter or price per yard, foot, or inch, if net quantity of contents of the commodity is in terms of length.**

Previous Action:
New item in 2023

Original Justification:
Unit Pricing allows consumers to make value comparisons of similar products and assists those consumers with making purchasing decisions. Currently the Uniform Unit Pricing Regulation offers guidance for commodities sold by weight, dry measure or volume, liquid volume, count, and area. It does not include guidance for commodities sold by length.

The current period of inflation has led to frequent price and package size changes. This is resulting in unit pricing becoming more critical to consumers who are trying to maximize their purchasing power. Without clear guidance many of these commodities are being sold by the each or with inconsistent units. This does not allow consumers to make value comparisons of similar products.

Adding the proposed language will add clear guidance to the regulation and assist retailers with providing accurate unit pricing information to consumers. The guidance will also benefit retailers who are either required to or voluntarily choose to unit price their commodities by providing specific information to items sold by length. The proposed language is clear and consistent with the other units of measure currently stated in the regulation.

The submitter acknowledges that due to added time and expense, some retailers may be opposed to unit pricing by length as it adds another category of commodity that is required be addressed. Some retailers may question the value of unit pricing and feel it is not used or underutilized by consumers.

The submitter requested that this be a Voting item in 2023.

Comments in Favor:

Regulatory:
-

Industry:
-

Advisory:
-

Comments Against:

Regulatory:
-

Industry:
-

Advisory:
-

Neutral Comments:

Regulatory:
-

Industry:
-

Advisory:
-

Item Development:
New

UPR-23.1
Regional recommendation to NCWM on item status: ☒ Recommend as a Voting Item on the NCWM agenda ☐ Recommend as an Information Item on the NCWM agenda ☐ Recommend as an Assigned Item on the NCWM agenda *(To be developed by an NCWM Task Group or Subcommittee)* ☐ Recommend as a Developing Item on the NCWM agenda *(To be developed by source of the proposal)* ☐ Recommend Withdrawal of the Item from the NCWM agenda *(In the case of new proposals, do not forward this item to NCWM)* ☐ No recommendation from the region to NCWM *(If this is a new proposal, it will not be forwarded to the national committee by this region)*
Comments and justification for the regional recommendation to NCWM: *(This will appear in NCWM reports)*
Doug Musick, Kansas supports the item and believes it is ready for voting status. The Committee concurs this item is fully developed and ready for voting status.

Additional letters, presentation and data may have been submitted for consideration with this item. Please refer to www.ncwm.com/publication-15 to review these documents.

NTP – UNIFORM REGULATION FOR NATIONAL TYPE EVALUATION

NTP-23.1 Section 4. Prohibited Acts and Exemptions

Source:
Electrify America

Purpose:
Provide provisions for devices in service prior to the expansion of NTEP evaluation of the device category.

Item under Consideration:
Amend Handbook 130 Uniform Regulation for National Type Evaluation as follows:

Section 4. Prohibited Acts and Exemptions

…

(m) A device that is not traceable to an active CC may be used if the following conditions are met:

(i) Written notification is received by the Director prior to the device being placed in service;

(ii) The notification is accompanied by documentation demonstrating that the performance and construction of the device type is in conformance with the specifications, tolerances, and other technical requirements of NIST Handbook 44 effective on the date that the device will be placed in service; and

(iii) The Director has approved the use of the device type pursuant to this paragraph.

Previous Action:
New item in 2023

Original Justification:
NTEP does not accept applications for evaluations of all categories of devices that are covered by category-specific standards in Handbook 44. As just a few examples, NTEP does not evaluate timing devices, fabric-measuring devices, odometers, or milk meters. If a certificate of conformance were an absolute requirement for the lawful use of a commercial device, the absence of these evaluation programs would present a serious problem, because no device in these categories would be permissible. The Uniform Regulation in Handbook 130 addresses that situation by stating that the Uniform Regulation applies to categories for which NTEP has established evaluation procedures.

But there remains a problem about categories for which NTEP has not previously established evaluation procedures, but then newly begins evaluations. This problem has surfaced recently for electric vehicle chargers. Before 2021, NTEP did not have an evaluation procedure for EV chargers, and it did not accept applications for evaluating them. In 2021, NTEP published an evaluation protocol for AC chargers, and on July 1, 2022, it issued its first certificate for an AC charger. As the Uniform Regulation is drafted, there is a significant risk for existing devices. The Uniform Regulation says a device must be traceable to an active certificate of conformance. Section 4(a), (b). By definition, a device is traceable to an active CC only if the device "was manufactured during the period that the Certificate was maintained in active status." Section 2.1. A device that was manufactured before NTEP was even inspecting a given category of device was not manufactured during a period withan active certificate. There are various exceptions in section 4 (such as one-of-a-kind devices, or the change that a statenewly adopts the Uniform Regulation), but none that works for an existing device in this situation.

Many states do not incorporate the Uniform Regulation by reference but have instead drafted their own rules that are basedon it. Most such states do not incorporate this narrow concept of "traceable," which produces such potential difficulties in cases where NTEP transitions by beginning to evaluate a given category of device. Most states that have drafted their own rules also provide a general-purpose exception, that a device without an NTEP certificate can still be used if the weights and measures director approves the device type. In 2021, Florida amended its regulations for exactly that sort of purpose. Previously, Florida absolutely required an NTEP certificate; now, a device without an NTEP certificate can be used in commercial service if the director has reviewed and approved the device under Handbook 44 standards.

We believe that approach was the original intent of the Uniform Regulation. In other words, NTEP was meant to provide assistance to state directors, by offering a standard nationwide evaluation they could rely on; but it was not meant to restrict the ability that state directors used to have, to conduct their own evaluations. The proposed amendment would clarify that authority, in states that incorporate the Uniform Regulation by reference. Under the amendment, a director would not be forced to accept or approve devices from before an NTEP transition. But the director would be able to approve them.

The proposal does not limit its scope to devices that were placed in service, installed, or manufactured before a given point, whether that point is the publication of an evaluation protocol, the opening of NTEP to application, the issuance of the first certificate in a given category, or the issuance of a certificate for a given type. The various options for such trigger dates would present unfairness, in various ways. For example, when NTEP has published an evaluation protocol, there will typically be an extended period of time during it which it does its first evaluations under the new protocol, before it actually issues certificates. It would not be sensible to make the "director approval" available only for devices from before the protocol was published, but not those during the intervening period while NTEP was getting used to the process in its first evaluations. Then, when NTEP does issue certificates, some device type will get the first one. That might be because that manufacturer was first in line, but there could be multiple other factors (scheduling at evaluation labs, the complexity of a given design, etc.). It would not seem right to cut off the "director approval" option for all other devices just because the first certificate has issued. Besides, the "director approval" option should not really be cut off at any point. This option should remain available, not only in NTEP transitions but indefinitely, so that a state director retains the discretion and flexibility to approve a device type. So that, as was originally intended, the NTEP program is a support and assistance to regulators, rather than a constraint on them.

A regulator should not, of course, approve a device type that is not capable of complying with applicable Handbook 44 standards. The proposal would require that an application for director approval be accompanied by documentation showing the device type does comply. The text is modeled on the regulatory amendment that Florida adopted in 2021 to establish a "director approval" mechanism.

This problem is arising today with respect to EV chargers, and solving it is a nationwide issue to avoid the potential replacement of chargers that are adequate and comply with Handbook 44 standards, simply because of a technical flaw in the Uniform Regulation. But the problem is likely to recur. EV chargers are not the last device category for which there will be an NTEP transition. The lack of a "director approval" exception in the Uniform Regulation is likely an oversight from the original drafting, and it should be corrected.

The submitter acknowledges that one potential objection would be that this proposal will increase the burden on regulators, because they will receive multiple applications for director approval. We believe that concern should not lead to rejection of the proposal. Many states already operate a "director approval" mechanism, and we are not aware of undue burden they face from applications. Moreover, a given agency would be able to decide how it wants to implement or exercise this exception. An agency might, for example, announce that "director approval" is only available in certain specified circumstances.

Another objection might be that "director approval" does not need to be written into the Uniform Regulation, becausedirectors have this authority anyway. That might be true in many states, but there are likely some states that adopt the Uniform Regulation by reference, and where state law does not give the director authority to issue variances.

The submitter requested that this be a Voting item.

Comments in Favor:

Regulatory:
-

Industry:
-

Advisory:
-

Comments Against:

Regulatory:
-

Industry:
-

Advisory:
-

Neutral Comments:

Regulatory:
-

Industry:
-

Advisory:
-

Item Development:
[Explain any changes made to the original proposal and committee recommendations]

Regional Associations' Comments:
[Refresh each year based on regional reports]

NTP-23.1
Regional recommendation to NCWM on item status: ☐ Recommend as a Voting Item on the NCWM agenda ☐ Recommend as an Information Item on the NCWM agenda ☐ Recommend as an Assigned Item on the NCWM agenda *(To be developed by an NCWM Task Group or Subcommittee)* ☒ Recommend as a Developing Item on the NCWM agenda *(To be developed by source of the proposal)* ☐ Recommend Withdrawal of the Item from the NCWM agenda *(In the case of new proposals, do not forward this item to NCWM)* ☐ No recommendation from the region to NCWM *(If this is a new proposal, it will not be forwarded to the national committee by this region)*
Comments and justification for the regional recommendation to NCWM: *(This will appear in NCWM reports)*
Scheleese Goudy, Electrify America commented that NTEP does not provide evaluation certificates for all types of devices. This item would provide exceptions for devices in service prior to NTEP evaluating and certifying a new device category. Doug Rathbun, Illinois commented he isn't sure whether he supports this item. He is concerned it could make the state vulnerable to litigious action. Craig VanBuren, Michigan supports the concept but believes the item needs further development. The State of Michigan already has provisions for non-NTEP devices that are more stringent than this proposal in some areas. Michael Kelty, Endress+Hauser commented he believes the item needs further development. The term "not traceable" and no retroactive date are two areas he believes need further development. Doug Musick, Kansas concurs with others and indicated he is unsure if this item is necessary because NTEP states already have provisions for non-NTEP devices. Mr. Musick expressed concern that while this is being discussed for electric vehicle charging stations it would apply to all devices. Loren Minnich, Kansas suggested using OIML or Measurement Canada as an alternative certifying body to NTEP. Joe Smith, Wisconsin commented this item opens the possibility for non-uniformity among neighboring states. Due to concerns expressed during open hearings and those expressed during work session discussions, the Committee recommends this item be given Developing status and returned to the submitter for further development based on comments heard during open hearings.

Additional letters, presentation and data may have been submitted for consideration with this item. Please refer to www.ncwm.com/publication-15 to review these documents.

FLR – UNIFORM FUELS AND AUTOMOTIVE LUBRICANTS REGULATION

FLR-23.3 Section 2.20. Hydrogen Fuel.

Source:
Quong and Associates

Purpose:
Add equivalent hydrogen quality standard, ISO 14687 to 2.20.

Item under Consideration:
Amend Handbook 130 Uniform Fuels and Automotive Lubricants Regulation as follows:

> **2.20. Hydrogen Fuel.** – Shall meet the latest version of SAE J2719, "Hydrogen Fuel Quality for Fuel Cell Vehicles." **or ISO14687 "Hydrogen fuel quality — Product specification"**.
> (Added 2012) **(Amended 20XX)**

Previous Action:
New item in 2023

Original Justification:
As hydrogen fuel cell vehicles expand worldwide, the codes and standards that support them have also moved to an international stage. Currently, most of the hydrogen quality requirements for fuel cell vehicles have occurred under the International Organization for Standardization (ISO) 14687 "Hydrogen fuel quality — Product specification". The latest revision of ISO 14687occurred in 2019, and SAE 2719 was updated in 2020 to match. The attached document compares the latest hydrogen fuel quality specifications in ISO 14687 2019 and SAE J2719 2020. Having both requirements will allow the user of the station to use themost updated specification and ensure that fuel cell vehicles are protected from contaminated fuel.

Some may argue that Argument: The updates in ISO 14687 could be considered a relaxation of the hydrogen quality requirements. The submitter explained that the changes were made to provide flexibility for contaminates which could not damage the fuel cell vehicle, or combinecontaminates with similar characteristics, such as inert gases or carbon monoxide/ formaldehyde/formic acid.

The submitter requested that this be a voting item.

Comments in Favor:

Regulatory:
-

Industry:
-

Advisory:
-

Comments Against:

Regulatory:
-

Industry:
-

Advisory:
-

Neutral Comments:

Regulatory:
-

Industry:
-

Advisory:
-

Item Development:
New

FLR-23.3
Regional recommendation to NCWM on item status: ☒ Recommend as a Voting Item on the NCWM agenda ☐ Recommend as an Information Item on the NCWM agenda ☐ Recommend as an Assigned Item on the NCWM agenda *(To be developed by an NCWM Task Group or Subcommittee)* ☐ Recommend as a Developing Item on the NCWM agenda *(To be developed by source of the proposal)* ☐ Recommend Withdrawal of the Item from the NCWM agenda *(In the case of new proposals, do not forward this item to NCWM)* ☐ No recommendation from the region to NCWM *(If this is a new proposal, it will not be forwarded to the national committee by this region)*
Comments and justification for the regional recommendation to NCWM: *(This will appear in NCWM reports)*
Doug Rathbun, Illinois commented he supports this item and believes it is ready for voting status. Hearing no further comments during open hearings the Committee concurs the item is fully developed and ready for voting status. The Committee recommends the National L&R Committee consider combining this item with FLR-23.4 as a block.

Additional letters, presentation and data may have been submitted for consideration with this item. Please refer to www.ncwm.com/publication-15 to review these documents.

FLR-23.4 Section 4.3. Dispenser Filters

Source:
Quong and Associates, Inc.

Purpose:
Add a filter requirement for hydrogen commercials.

Item under Consideration:
Amend Handbook 130, Uniform Fuels and Automotive Lubricants Regulation as follows:

4.3. Dispenser Filters

4.3.1 Engine Fuel Dispensers

(a) All gasoline, gasoline-alcohol blends, gasoline-ether blends, ethanol flex fuel, and M85 methanol dispensers shall have a 10micron or smaller nominal pore-sized filter.

(b) All biodiesel, biodiesel blends, diesel, and kerosene dispensers shall have a 30 micron or smaller nominal pore-sized filter.

(c) All gaseous hydrogen dispensers shall have a 5 micron or smaller nominal pore-sized filter, and a filter to protect the vehiclefrom liquid contamination.

(Amended 2014, 20XX)

Previous Action:
New item in 2023

Original Justification:
Filter requirements for gasoline and diesel dispensing systems are already included in NIST Handbook 130 and are intended toprotect the vehicle from particulate contamination. The same requirement is necessary for gaseous hydrogen dispensing systems because the particulates can harm the vehicle valves and other components. In addition, a liquid filter is necessary because water, oil, or other contaminates can freeze inside valves or cause damage to the fuel cell stack. The National Renewable Energy Laboratory (NREL) captures hydrogen quality and other data from US hydrogen dispensers. The attached slides show that particulates and hydrogen have exceeded the current limit set in SAE J2719 and required in Section 2.20 of NIST Handbook 130. Adding a filter requirement, similar to other fuels, is a simple solution that ensures proper hydrogen fuel quality and protects the vehicle from damage.

Some may argue that the requirement for filters is onerous and not necessary, but the submitter adds that filters are commonly used at most hydrogen dispensers and are required by the following hydrogen standards (see supporting documents on the NCWM website for exact text):

- CSA/ANSI HGV 4.1 “Standard for hydrogen-dispensing systems”
- CSA/ANSI HGV 4.9 “Hydrogen fueling stations”
- ISO 19880-1 “Gaseous hydrogen — Fueling stations — Part 1: General requirements”

The submitter requested that this be a voting item as a retroactive requirement.

Comments in Favor:

Regulatory:
-

Industry:
-

Advisory:
-

Comments Against:

Regulatory:
-

Industry:
-

Advisory:
-

Neutral Comments:

Regulatory:
-

Industry:
-

Advisory:
-

Item Development:
New

FLR-23.4
Regional recommendation to NCWM on item status: ☒ Recommend as a Voting Item on the NCWM agenda ☐ Recommend as an Information Item on the NCWM agenda ☐ Recommend as an Assigned Item on the NCWM agenda *(To be developed by an NCWM Task Group or Subcommittee)* ☐ Recommend as a Developing Item on the NCWM agenda *(To be developed by source of the proposal)* ☐ Recommend Withdrawal of the Item from the NCWM agenda *(In the case of new proposals, do not forward this item to NCWM)* ☐ No recommendation from the region to NCWM *(If this is a new proposal, it will not be forwarded to the national committee by this region)*
Comments and justification for the regional recommendation to NCWM: *(This will appear in NCWM reports)*

Doug Rathbun, Illinois supports this item and believes it is ready for voting status. He further believes it could be blocked with FLR 23.3. Ivan Hankins, Iowa commented that he does not know if the micron size is appropriate. Mr. Hankins further commented the Purpose section of this item should read: "Add a filter requirement for commercial hydrogen." Mr. Rathbun suggested referring to the additional items that were submitted to clarify any questions. The Committee recommends the National L&R Committee consider combining this item with FLR-23.3. The Committee concurs this item is fully developed and is ready for voting status with Mr. Hankins' recommended change to the Purpose statement.

Additional letters, presentation and data may have been submitted for consideration with this item. Please refer to www.ncwm.com/publication-15 to review these documents.

FLR-23.5 Section 4.4. Product Storage Identification., 4.4.3. Dispenser Identification

Source:
Delaware Weights and Measures

Purpose:
Make product lines distinguishable so Inspectors and Service Technicians can easily identify defective equipment.

Item under Consideration:
Amend Handbook 130 Uniform Fuels and Automotive Lubricants Regulation as follows:

4.4. Product Storage Identification.

4.4.1. Fill Connection Labeling. – The fill connection for any fuel product storage tank or vessel supplyingengine-fuel devices shall be permanently, plainly, and visibly marked as to the product contained.
(Amended 2008)

4.4.2. Declaration of Meaning of Color Code. – When the fill connection device is marked by means of a color code, the color code shall be conspicuously displayed at the place of business and the API color codes as specified and published in "API Recommended Practice 1637, Using the API Color-Symbol System to Identify Equipment, Vehicles, and Transfer Points for Petroleum Fuels and Related Products at Dispensing and Storage Facilities and Distribution Terminals" shall be used.
(Amended 2018)

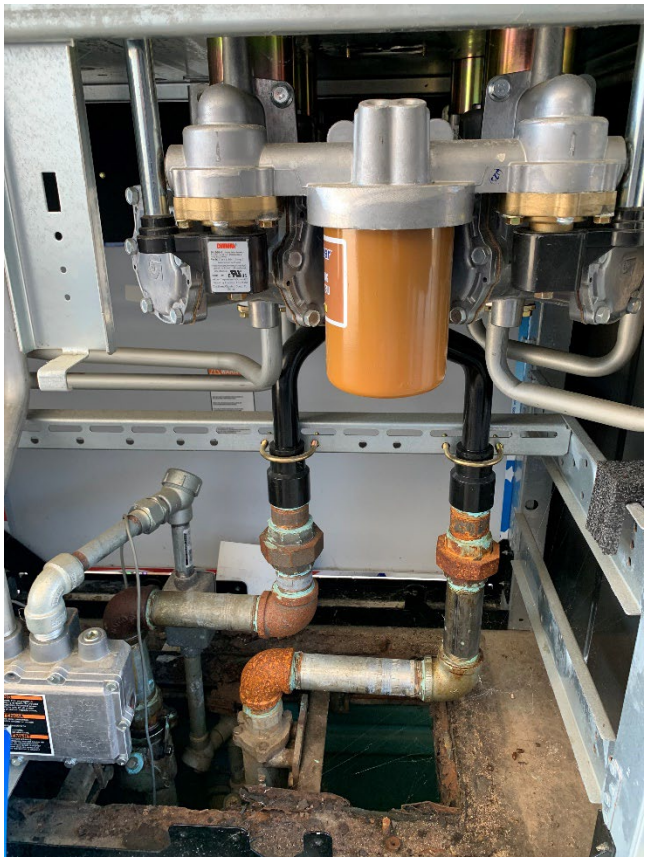
4.4.3. Dispenser Identification. - Inside the dispenser cabinet, the individual dispenser supply piping or the individual meters must be marked by either a label or by color (as defined in 4.4.2) as to the grade of fuel that they provide.

Previous Action:
New Item in 2023

Original Justification:
With the development of new technologies, there is no way for an Inspector to differentiate which meter is suppling fuel to the discharge hose on certain dispensers. In the past, a cog, a gear or totalizer would be visible, and you could identify which meter belonged to which grade of fuel. If the meter is leaking today, you must fail all grades because you cannot verify which grade is at issue. With pulsers, and security covers to prevent access, you cannot see which meter is actually moving product. The easiest solution would be to spray paint a spot on the supply line with white for Regular, red for Premium, yellow for Diesel, etc. This would also be beneficial when verifying

which type of filter must be installed (10 micron for Unleaded or 30 micron for Diesel/Kerosene). This would also be beneficial to Service Technicians, saving them time to verify which line is which when doing maintenance and repairs.

This could be non-retroactive to alleviate Retailers from incurring new expenses but would be more beneficial if it were Retroactive.



The submitter acknowledged that this would be one more added expense and extra step to installing a dispenser. If the law was retroactive, it would be costly for the retailer to have a service person come and make the needed markings if that retailer was unable to do it themselves.

The submitter requested that this be a Voting item in 2023.

Comments in Favor:

Regulatory:

-

Industry:

-

Advisory:

-

Comments Against:

Regulatory:
-

Industry:
-

Advisory:
-

Neutral Comments:

Regulatory:
-

Industry:
-

Advisory:
-

Item Development:
New

FLR-23.5
Regional recommendation to NCWM on item status: ☐ Recommend as a Voting Item on the NCWM agenda ☐ Recommend as an Information Item on the NCWM agenda ☐ Recommend as an Assigned Item on the NCWM agenda *(To be developed by an NCWM Task Group or Subcommittee)* ☐ Recommend as a Developing Item on the NCWM agenda *(To be developed by source of the proposal)* ☒ Recommend Withdrawal of the Item from the NCWM agenda *(In the case of new proposals, do not forward this item to NCWM)* ☐ No recommendation from the region to NCWM *(If this is a new proposal, it will not be forwarded to the national committee by this region)*
Comments and justification for the regional recommendation to NCWM: *(This will appear in NCWM reports)*
Doug Musick, Kansas commented that he does not support the change as it does not benefit consumers in any way. He believes inspectors should be competent in identifying the proper lines inside a dispenser cabinet without the need for further identification. He does not believe it would be worth the cost. Craig VanBuren, Michigan, concurs. Doug Rathbun, Illinois does not support this item. Ivan Hankins, Iowa also concurs. Prentiss Searles, API does not support the item. He commented that dispensers have more than one life and would require second use and beyond to reidentify respective lines. Clinton Whitaker, Missouri does not support this item. He doesn't believe it goes far enough to benefit consumers and would be potentially onerous to identify certain products where there is only one product in a dispenser. Hearing no support during open hearings, the Committee concurred this item has insufficient merit and should be withdrawn.

Additional letters, presentation and data may have been submitted for consideration with this item. Please refer to www.ncwm.com/publication-15 to review these documents.

PPV – EXAM PROCEDURE FOR PRICE VERIFICATION

PPV-23.1 Inspection Procedures of Online Orders

Source:
Kansas Department of Agriculture

Purpose:
Create price verification inspection procedures for online orders.

Item Under Consideration:
Amend Handbook 130, Examination Procedure for Price Verification, as follows:

Form a NCWM Task Group to develop price verification inspection procedures for online orders.

Previous Action:
2023: New Item

Original Justification:
The current procedure is inadequate to address pricing accuracy when shopping online. The submitter acknowledges that some may believe this is impractical.

Requested Status by Submitter: Assigned to a Task Group

Comments in Favor:

Regulatory:

Industry:
-

Advisory:
-

Comments Against:

Regulatory:

Industry:
-

Advisory:
-

Neutral Comments:

Regulatory:

Industry:

-

Advisory:

-

Item Development:
New

PPV-23.1
Regional recommendation to NCWM on item status: ☐ Recommend as a Voting Item on the NCWM agenda ☐ Recommend as an Information Item on the NCWM agenda ☒ Recommend as an Assigned Item on the NCWM agenda *(To be developed by an NCWM Task Group or Subcommittee)* ☐ Recommend as a Developing Item on the NCWM agenda *(To be developed by source of the proposal)* ☐ Recommend Withdrawal of the Item from the NCWM agenda *(In the case of new proposals, do not forward this item to NCWM)* ☐ No recommendation from the region to NCWM *(If this is a new proposal, it will not be forwarded to the national committee by this region)*
Comments and justification for the regional recommendation to NCWM: *(This will appear in NCWM reports)*
Loren Minnich, Kansas commented that his state received a complaint from a consumer who placed an online order, and they were charged a different price than was posted. He is asking the Committee to consider developing a procedure for online ordering. The Committee is recommending the National L&R Committee consider assigning this item to a work group, task force, or other appropriate group for further development.

Additional letters, presentation and data may have been submitted for consideration with this item. Please refer to www.ncwm.com/publication-15 to review these documents.

NET – HANDBOOK 133: CHECKING THE NET CONTENT OF PACKAGED GOODS

NET-22.1 A HB133, Section 1.2.6. Deviations Caused by Moisture Loss or Gain and Section 2.3.8. Table 2-3 Moisture Allowances.

Source:
NCWM Cannabis Task Group

Purpose:

Establish an acceptable Net Weight allowance for *Cannabis*, which is related to the MOS Form 15 related to water activity and the Packaging and Labeling Form 15 Sections 2 and 10.

Item Under Consideration:
Amend Handbook 133, Checking the Net Contents of Packaged Goods, as follows:

1.2.6. Deviations Caused by Moisture Loss or Gain

Deviations from the net quantity of contents caused by the loss or gain of moisture from the package are permitted when they are caused by ordinary and customary exposure to conditions that normally occur in good distribution practice and that unavoidably result in change of weight or measure. According to regulations adopted by the U.S. Environmental Protection Agency, no moisture loss is recognized on pesticides. (see Code of Federal Regulations 40 CFR 156.10.)

1.2.6.1. Applying a Moisture Allowance

Some packaged products may lose or gain moisture and, therefore, lose or gain weight or volume after packaging. The amount of moisture loss depends upon the nature of the product, the packaging material, the length of time it is in distribution, environmental conditions, and other factors. Moisture loss may occur even when manufacturers follow good distribution practices. Loss of weight "due to exposure" may include solvent evaporation, not just loss of water. For loss or gain of moisture, the moisture allowances may be applied before or after the package errors are determined.

To apply an allowance before determining package errors, adjust the Nominal Gross Weight (see Section 2.3.6. "Determine Nominal Gross Weight and Package Errors"), so the package errors are increased by an amount equal to the moisture allowance. This approach is used to account for moisture loss in both the average and individual package errors.

It is also permissible to apply the moisture allowances after individual package errors and average errors are determined.

Example:

A sample of a product that could be subject to moisture loss might fail because the average error is minus or the error in several of the sample packages are found to be unreasonable errors (i.e., the package error is greater than the Maximum Allowable Variation (MAV) permitted for the package's labeled quantity).

You may apply a moisture allowance after determining the package errors by adding the allowance to the Sample Error Limit (SEL) and then, comparing the average error to the SEL to determine compliance. The moisture allowance must be added to the MAV before evaluating sample errors to identify unreasonable minus errors**.**

(Amended 2010)

This handbook provides "moisture allowances" for some meat and poultry products, flour, pasta, ***Cannabis*** **(this only includes plant material but does not include products containing *Cannabis*)** and dry pet food. (see Chapter 2, Table 2-3. "Moisture Allowances") These allowances are based on the premise that when the average net weight of a sample is found to be less than the labeled weight, but not by an amount that exceeds the allowable limit, either the lot is declared to be within the moisture allowance or more information must be collected before deciding lot compliance or noncompliance.

Test procedures for flour, some meat, and poultry are based on the concept of a "moisture allowance" also known as a "gray area" or "no decision" area (see Section 2.3.8. "Moisture Allowances"). When the average net weight of a sample is found to be less than the labeled weight, but not more than the boundary of the "gray area," the lot is said to be in the "gray" or "no decision" area. The gray area is not a tolerance. More information must be collected before lot compliance or noncompliance can be decided.

Appropriate enforcement should be taken on packages found short weight and outside of the "moisture allowance" or "gray area."

(Amended 2002)

…Table 2-3.
Moisture Allowances

Verifying the labeled net weight of packages of:	Moisture Allowance is:	Notes
Flour	3 %	
Dryet food	3 %	Dry pet food means all extruded dog and cat foods and baked treats packaged in Kraft paper bags and/or cardboard boxes with a moisture content of 13 % or less at time of pack.
Pasta products	3 %	Pasta products means all macaroni, noodle, and like products packaged in kraft paper bags, paperboard cartons, and/or flexible plastic bags with a moisture content of 13 % or less at the time of pack.
Borax	see Section 2.4. Borax	
Cannabis	**3 %**	***Cannabis* means plant material only, and not products containing *Cannabis*, whether containing more than 0.3% Total Delta-9 THC (also known as cannabis, Marijuana or Marihuana) or containing 0.3% or less Total Delta-9 THC (also known as Hemp).**
Wet Tare Only1		
Fresh poultry	3 %	Fresh poultry is defined as poultry above a temperature of − 3 °C (26 °F) that yields or gives when pushed with the thumb.
Franks or hot dogs	2.5 %	

Bacon, fresh sausage, and luncheon meats	0 %	For packages of bacon, fresh sausage, and luncheon meats, there is no moisture allowance if there is no free-flowing liquid or absorbent material in contact with the product and the package is cleaned of clinging material. Luncheon meats are any cooked sausage product, loaves, jellied products, cured products, and any sliced sandwich-style meat. This does not include whole hams, briskets, roasts, turkeys, or chickens requiring further preparation to be made into ready-to-eat sliced product. When there is no free-flowing liquid inside the package and there are no absorbent materials in contact with the product, Wet Tare and Used Dried Tare are equivalent.
1Wet tare procedures must not be used to verify the labeled net weight of packages of meat and poultry packed at an official United States Department of Agriculture (USDA) facility and bearing a USDA seal of inspection. The Food Safety and Inspection Service (FSIS) adopted specific sections of the 2005 4th edition of NIST Handbook 133 by reference in 2008 but not the "Wet Tare" method for determining net weight compliance. FSIS considers the free-flowing liquids in packages of meat and poultry products, including single-ingredient, raw poultry products, to be integral components of these products (see Federal Register, September 9, 2008 [Volume 73, Number 175] [Final Rule – pages 52189-52193]).		

Previous Action:
2022: Assigned - Cannabis Task Group

Original Justification:
Since *Cannabis* and *Cannabis*-containing products were first legalized by various states, the industry has undergone an unprecedented expansion. Even though these products haven't received Federal approval at this time, more and more states have supported *Cannabis* and *Cannabis*- containing products for medicinal or adult use under their own laws. This has resulted in boutique markets developing across the country with restrictive state boundaries for lack of clarity and uniformity in commercialization of these products.

Cannabis and *Cannabis*- containing products are unique in many aspects; they have a niche as medicine, have resulted in the development of adult use markets, and have an incredible array of different manufacturing and industrial applications. Some of these products contain controlled substances which presents a special concern for the safety and welfare of consumers if misused or mishandled. Further, they are subject to strict regulations by multiple government agencies. *Cannabis* and *Cannabis*- containing products and applications range from non-food to food products for human and animal consumption through inhalation, ingestion, and/or topical or dermal application. They can be used as ingredients in other commodities, changing in most cases the product identity to C*annabis* products. Some *Cannabis* is very susceptible to environmental conditions easily losing or gaining moisture with consequences impacting net quantity, degradation of active cannabinoids, and/or microbial proliferation depending on the situation. These are just some of the reasons there are many concerns and uncertainty surrounding the moisture allowance of *Cannabis*.

In the retail *Cannabis* trade, insufficient attention and guidance is given to moisture migration in or out of some *Cannabis* packaging and as a result, the contents of some *Cannabis* flower packaging have been found to be underweight, resulting in the patient/consumer paying for weight that they are not receiving. For instance, underweight complaints are the #1 consumer complaint in Oregon. See attached table for data from multiple stores of four brands and the incidence of underweight contents.

Preview: If you were shopping any one of 3 stores of a popular brand you'd have a 71% chance of buying a supposedly 1.75g package that is 21.6% underweight, meaning you have a 71% chance of being ripped off by

$5 (assuming a $10/g price). The lowest incidence of underweight? 54%. The lowest percent underweight? 2.75%

For the fairness and safety of *Cannabis* consumers, a 3% +/- weight variance based on enforcement of acceptable moisture range needs to be established. A 3% allowance aligns with other known commodities and with California regulations that outline +/- 3%.

Why 3%? Consistent with other items in NIST handbook, aligns with California. If the boundaries are too wide, it exposes the program to diversion.

Is underweight really an issue? I filed Public Records requests with every state that allows *Cannabis* flower commerce. Each of them told me they keep no official records on underweight complaints. However, Oregon went on record telling me underweight is one of their largest complaints (attached). As for one other state, see attached data from Colorado that recorded 69 separate container purchases from 18 separate stores within 4 brands.

The submitter asked that this be a Voting Item in 2022.

Comments in Favor:

Regulatory:
- None

Industry:
- None

Advisory:
- None

Comments Against:

Regulatory:
- None

Industry:
- None

Advisory:
- None

Neutral Comments:

Regulatory:
- None

Industry:
- None

Advisory:
- None

Item Development:

NCWM 2022 Interim Meeting: The Committee designated this item as Assigned at the 2022 NCWM Interim Meeting and removed it from Block 3 (B3). The Committee referred it back to the NCWM Cannabis Task Group to conduct a study relative to moisture loss allowance for Cannabis.

The Committee referred it back to the NCWM Cannabis Task Group to establish data supporting the moisture loss allowance the Task Group recommended. The Committee heard concerns that should the current moisture loss allowance be accepted without a study, the NCWM would be setting a precedence for future moisture loss allowance requests. The Committee considered comments urging the Committee to move forward with the +/- 3 % moisture loss allowance but believes it would be imprudent to accept a moisture loss allowance without supporting data.

The Committee is recommending the NCWM Cannabis Task Group to follow NIST Handbook 130, NCWM, Interpretations and Guidelines section 2.5.6 Guidelines for NCWM Resolution of Requests for Recognition of Moisture Loss in Other Packaged Products to establish the moisture allowances (loss and gain).

A request was made to the Cannabis Task Group for information and data supporting their proposed moisture loss allowance, but as of the time of this writing it was not received.

The Committee assigned Voting status to items B3: PAL-22.1, B3: PAL 22.2 and B3: MOS-22-2 because they heard support for these items and believe they are fully developed.

NCWM 2022 Annual Meeting: This item was originally included in Item Block 3 (B3) but was removed by the Committee at the 2022 Annual meeting. Its status remains "Assigned". The other items were "Voting" items.

The Committee heard from the Cannabis Task Group that work on studying moisture loss has begun. Cannabis Task Group Co-Chair Charlie Rutherford informed the Committee that the Task Group is working with the State of Michigan, a packaging company, and a cannabis provider to study moisture loss.

The Committee heard from Dave Sefcik, NIST, OWM during the open hearings. Mr. Sefcik shared the following with the Committee: "In contrast to hemp, marijuana remains a Schedule I substance under the Controlled Substances Act. NIST does not have a regulatory or policy role related to the production, sale, distribution, or use of cannabis (including hemp and marijuana). NIST participates in the National Conference of Weights and Measures as part of NIST's statutory mission to promote uniformity in state laws, regulations, and testing procedures."

The Committee considered the written NIST, OWM analysis published on the NCWM website prior to the NCWM 2022 Annual Meeting.

Regional Associations' Comments:

WWMA 2021 Annual Meeting: Ms. Wendy Hahn, (County of Stanislaus, CA) - Provided testimony regarding an editorial change in PAL 22.2 10.XX. (b) to change the word "that" to "than". Ms. Hahn also expressed concern that the Items concerned with percentages of THC were of a more qualitative nature and not necessarily within the purview of weights and measures. Mr. Kurt Floren, (County of Los Angeles, CA) – Mr. Floren addressed the comments and concerns on quality issues as a general matter is not our purview in weights and measures. He mentioned how quality issues are a purview of weights and measures in matters of fuel with octane levels and viscosity of oils that must meet standards. He mentioned that this would be similar in Cannabis, in that THC levels are a part of the identity of the product, and that it is an important component in determining the value and allowing for value comparison. Mr. Floren stated that States are in different stages of regulation, and there is going to be a need for uniform standards. The goal of these regulations is to create acceptable uniformity that can be applied to this unique product. Mr. Charlie Rutherford, (Co-Chair of Cannabis TG, CPR^2)- Provided testimony that supported Mr. Kurt Floren's comments by drawing a comparison of THC content to the proof of alcohol and it being an important aspect of value comparison. He mentioned that cannabis is a unique industry with a high black-market value and that it is unique with regards to water activity and that regulations regarding water activity are needed to help avoid manipulation. Ms. Cadence

Matijevich (State of Nevada) - Provided testimony that the State of Nevada's Department of Agriculture does not have authority over cannabis packaging and labeling regulations, that it is under the purview of the Nevada Cannabis Commission, but that they are willing to participate in drafting regulations. Mr. Joe Moreo (County of Trinity, CA) - Provided testimony that different species of Cannabis should also be provided in the definition of the Cannabis and Cannabis Products. He suggested including Cannabis indica and Cannabis ruderalis. Ms. Lisa Warfield, (NIST OWM) - Provided testimony that was based on the OWM Analysis that was submitted as the supporting documentation.

The Committee recommends this Item be Assigned to the Cannabis Task Group. We recommend the National NCWM L&R Committee consider the following:

- The need to establish an authority in the Uniform Weights and Measures law to provide jurisdictions with authority to enforce the proposed regulations.
- Conduct outreach to state authorities and the industry groups to gain a deeper understanding of the issues pertaining to this item.
- Conduct a survey of the jurisdictions, where the following items are addressed:
- Have Directors consult with their department's attorney to determine if adding the definition and other Cannabis proposed requirements to the uniform packaging and labeling regulation or method of sale for commodities regulations will cause a conflict with other state laws or regulations.
- Establishing the method of sale by weight and establishing minimum load requirement to NIST Handbook 44 are of course within weights and measures authority but some of the labeling and method of sale requirements may not be within the current regulatory authority of some weights and measures programs.
- The most significant question is if state's weights and measure law authorize the director to adopt rules and regulations that require ingredient labeling, safety warnings, potency declarations and if they allow the director to establish and enforce water activity limits and verify potency labeling.

Many of the State's weights and measures laws may not give the state director authority to regulate the types of Cannabis labeling. Amended language will be required to the Uniform Weights and Measures Law to add the needed authority. The following proposed language from the OWM analysis supporting documentation is recommended by the Committee:

Section 11. Powers and Duties of the Director

The Director shall:

(c) for Cannabis and Products Containing Cannabinoid(s)

(1) Prescribe by regulation:

i. reasonable variations in quantity caused by the loss or gain of moisture during current good distribution practice or by unavoidable deviations in current good manufacturing practice and procedures for moisture determination;

ii. labeling requirements for and defining reasonable variations in water activity that occur in current good manufacturing practice and current good distribution practice and procedures for the measurement of water activity;

iii. labeling requirements for and define reasonable variations in levels of cannabinoid: delta-9 THC, delta-8 THC (potency) that occur in current good manufacturing practice and current good distribution practice and procedures for the measurement of potency; and

iv. packaging and labeling requirements that may include, among other requirements, the characteristics of the packaging (e.g., color) and type of packaging (e.g., tamper evident, childproof), requirements for identity, ingredients, product lot code and date of packaging, contact information of the packer, special symbols or warnings, and potency. The requirements may also include prohibitions on packaging that may be misleading or confusing.

(2) The Director may prescribe by regulation, programs that utilize accredited testing laboratories and may enter into agreements to utilize conformity assessment programs and other technical services to ensure compliance with any of the prescribed requirements.

PAL 22.1-: The agenda item title should be corrected to: **B3: PALS -22.1. Section 2. Definitions 2.XX Cannabis and Cannabis-Containing Products.**

The Committee recommends that the Task Group consider altering the definition of "Cannabis and Cannabis Containing Products" utilizing the minor edits presented in the OWM Analysis supporting documentation. The Committee also recommends including the comments from Joe Moreo during open hearing testimony that other species of the Cannabaceae family such as, Cannabis indica and Cannabis ruderalis may need to be included in the definition.

2.XX. Cannabis and Cannabis-Containing Products – Cannabis is a genus of flowering plants in the family Cannabaceae, of which Cannabis sativa, Cannabis indica, Cannabis ruderalis is are a species. This definition includes products that contain 0.3 percent or less of Total Delta-9 THC (also known as Hemp) and products that contain more than 0.3 percent of Total Delta-9 THC (also known as Cannabis, Marijuana or Marihuana).

PAL 22.2-: The agenda item title should be corrected to: **Section 10. Exemptions, 10.XX Cannabis and Cannabis-Containing Products.**

The Committee recommends that the Cannabis TG consider altering the proposed language for this item. The intent of the item and the language is unclear, and the Committee recommends that the Cannabis TG review the language and the questions posed in the OWM analysis supporting documentation, to clarify intent and comprehensively address exemptions.

MOS 22.2- The Committee feels that this item is mostly developed but has concerns regarding the parts that address water activity. The Committee recommends that Cannabis TG review the OWM analysis supporting documentation and address questions regarding water activity including test procedures.

NET 22.1- The agenda item title should be corrected to: **B3: NET-22.1. HB133, Section 1.2.6. Deviations Caused by Moisture Loss or Gain and Section 2.3.8. Table 2-3 Moisture Allowances**.

The Committee recommends that this item be further developed. The Committee recommends reviewing the OWM analysis supporting documentation and addressing the concerns with testing procedure, testing equipment, and the need for technical studies regarding moisture loss and gain.

SWMA 2021 Annual Meeting: Dr. Matthew Curran (State of Florida) - Commented on the misinformation provided on the correlation between water activity and moisture content. He had provided a general overview of the two subjects and how they could be confused with one another. He wanted to provide information about the whole purpose of the block item and the work that the task group has done to develop it. He also wanted to address concerns from others in Weights and Measures(W&M) who have stated that labeling of THC content is not a W&M issue; however, in his state complaints have already begun questioning content and quality of cannabis products in various forms. He encouraged the committee and the attendees to move these items forward as a voting item. He is concerned that not moving forward on this subject could be a detriment to the consumers due to a lack of regulations in the market.

Mr. Tim Chesser (State of Arkansas) - Spoke in favor of this group item, except for declaration of net quantity of active ingredients, specifically THC content. He does not believe that it is a Weights and Measures issue and, if passed, his state would strike the statement.

Mr. Charlie Rutherford (ASTM D37 Cannabis and NCWM Cannabis Task Group representative) - Wanted to make clear that he did not represent a water activity meter company. He clarified that his group had completed the outreach

recommended by OWM. He brought to light the potential for these products to be distributed on the black market due to their high value.

The SWMA L & R Committee recommends the block as a voting item, with the following language changes to the following sections:

PAL-22.1

The committee wants to consider the suggestion from the OWM to change from the symbol for percent (%) to the written word percent. In addition, change the word "section" to "definition". The suggested language would read as follows:

2.XX. *Cannabis* and *Cannabis*-Containing Products – *Cannabis* is a genus of flowering plants in the family Cannabaceae, of which *Cannabis* sativa is a species. This definition includes products containing more than 0.3 percent Total Delta-9 THC (also known as Cannabis, Marijuana or Marihuana) and products containing 0.3 percent or less Total Delta-9 THC (also known as Hemp).

PAL-22.2

10.XX. *Cannabis* and *Cannabis*-Containing Products- Any *Cannabis* or *Cannabis*-containing products, with the exception of commodities listed under Section 10.9 Textile Products, Threads and Yarns and other non-food products not intended for human or animal application, shall bear on the outside of the package the following:

(a) On the principal display panel

(i) The statement "Contains *Cannabis.*"

(b) On any panel or surface of the package

(i) The statement "Contains more that 0.3% Total Delta-9 THC" or "Contains 0.3% Total Delta-9 THC or less."

(ii) A declaration of the number of milligrams of each marketed cannabinoid per serving or application.

MOS-22.2

1.XX.X. Water Activity-When unprocessed *Cannabis*, is kept, offered, or exposed for sale, sold, bartered, or exchanged, or ownership transfers, the water activity shall be 0.6 (± 0.05).

2.XX.X. Water Activity-When unprocessed *Cannabis*, is kept, offered, or exposed for sale, sold, bartered, or exchanged, or ownership transfers, the water activity shall be 0.6 (± 0.05).

The Committee believes this Item Block 3 (B3) is fully developed and recommends it to go to the NCWM L & R Committee with a Voting status. The Committee recommends the Cannabis Task Group (CTG) take into consideration recommendations from the OWM analysis, i.e., the survey to State Directors, this could help identify the need for development of items in other sections of the Handbooks, i.e., Powers and Duties of the Director.

CWMA 2022 Annual Meeting: No comments were heard.

NEWMA 2022 Annual Meeting: John McGuire, Chairman NEWMA L&R Committee, NJ – Noted that the NCWM Cannabis Work Group, NCWM L&R Committee and the NEWMA L&R Committee recommends removing this block and making them individual items to ensure each item is fully considered.

Tina Butcher, NIST OWM – (submitted comments):

"As a non-regulatory metrology institute, NIST, defers to federal agencies with regulatory authority under the Controlled Substances Act (CSA) for the scheduling of drugs or other substances. NIST does not have a policy role related to the production, sale distribution, or use of cannabis (including hemp and marijuana)."

"While the 2018 Farm Bill removed hemp from the list of controlled substances under Schedule 1 of the CSA, marijuana remains on that list. NIST must respect that distinction even as it exercises its statutory authority to develop and disseminate national weights and measures standards for the production, distribution and sale of products in the commercial marketplace."

"NIST remains committed to providing technical assistance to the weights and measures community. OWM has provided key technical points for the community to consider in its deliberations of cannabis-related proposals, and OWM would be happy to provide any necessary clarification. OWM comments are intended to encourage technically sound application of legal metrology laws, regulations, and practices to the measurement and sale of these products."

James Cassidy, Co-Chair of the NCWM Cannabis Task Group, Massachusetts – Statement for what was the entire Block 3 and in order to keep these items moving he, on behalf of the NCWM Cannabis Task Group recommend that these items be removed as a block item and become individual voting items to facilitate the items for voting when they are ready. Mr. Cassidy noted that his Co-Chair of the work group continues to work on this item dealing with moisture content and notes that moisture in the case of cannabis is the opposite of what weight and measures is familiar with (moisture loss vs. moisture content). He related an analogy as to how a humidor operates to protect cigars, so cannabis needs to have a certain moisture content to be a viable product and needs to be tested that way.

Mr. Cassidy questioned NIST's role in publishing these items as follows:

Tina Butcher, NIST OWM - "Question: Will NIST publish cannabis-related content in the NIST Handbooks?"

"Answer: Once the National Conference of Weights and Measures votes and passes specific language, it is NIST's intent to publish the content, subject to legal review, reflecting that NIST does not have a policy role as to marijuana's status as a Schedule 1 controlled substance."

No additional comments received during the open hearing.

NEWMA L&R Committee recommends this item continues to be an assigned item.

NET-22.1
Regional recommendation to NCWM on item status: ☒ Recommend as a Voting Item on the NCWM agenda ☐ Recommend as an Information Item on the NCWM agenda ☐ Recommend as an Assigned Item on the NCWM agenda *(To be developed by an NCWM Task Group or Subcommittee)* ☐ Recommend as a Developing Item on the NCWM agenda *(To be developed by source of the proposal)* ☐ Recommend Withdrawal of the Item from the NCWM agenda *(In the case of new proposals, do not forward this item to NCWM)* ☐ No recommendation from the region to NCWM *(If this is a new proposal, it will not be forwarded to the national committee by this region)*
Comments and justification for the regional recommendation to NCWM: *(This will appear in NCWM reports)*
Craig VanBuren, Michigan and member of the NCWM Cannabis Task Group commented that his state is collecting data and is hopeful it will be ready for review by the 2023 NCWM Interim meeting, but certainly by the 2023 Annual Meeting. He believes it is ready for voting status pending results of the data. Charlie Rutherford, ASTM and NCWM Cannabis Task Group commented he appreciates the nearly unanimous support for this item from the CWMA. Doug Musick and Loren Minnich, Kansas, support the item and believe it is ready for voting status. Ivan Hankins, Iowa concurs. Based on comments from open hearings, the Committee believes the item is fully developed and ready for voting status. The Committee is aware once the data is collected, changes may occur to the original item, or the item may be deescalated if necessary.

Additional letters, presentation and data may have been submitted for consideration with this item. Please refer to www.ncwm.com/publication-15 to review these documents.

NET-22.2 Section 3. X. Volumetric Test Procedure for Viscous and Non-Viscous Liquids by Portable Digital Density Meter.

Source:
Mr. Ronald Hayes (retired)

Purpose:
Allow the use of digital density meters for package checking testing of viscous and non-viscous liquids.

Item Under Consideration:
Amend Handbook 133, Checking the Net Contents of Packaged Goods, as follows:

Notes:

(2) When checking liquid products using a volumetric or gravimetric procedure, the temperature of the samples must be maintained at the reference temperature □ 2 °C (□ 5 °F), **except when 3.X. Gravimetric Test Procedure for Viscous and Non-Viscous Liquids by Portable Digital Density Meter is used.**

3.X. Gravimetric Test Procedure for Viscous and Non-Viscous Liquids by Portable Digital Density Meter

This test procedure can be used to determine the net contents of most package goods labeled in fluid volume. Manufacturer's instructions must be reviewed prior to use, to determine if the meter is suitable for testing the intended product.

This procedure is also useful for ensuring product quality for commodities (e.g., DEF, Antifreeze) that have a density requirement in their respective specifications.

This test procedure is suitable for measuring the density of homogenous liquids including dairy products such as milk and half & half; petroleum products such as fuel, motor oil, transmission fluid, paint thinner, brake fluid, diesel exhaust fluid, automotive coolant; pulp-free juices, wine, distilled spirits, water, mouth wash, alcohol, syrups, cooking oils, solvents, cleaning supplies, chemicals, as well as other viscous and non-viscous liquids. All products tested shall be free of suspended gas, air, sediment, suspended matter.

This test procedure may be used as a substitute for testing non-viscous liquids gravimetrically using a flask (refer to 3.2. Gravimetric Test Procedure for Non-Viscous Liquids), the volumetric flask test procedure (refer to 3.3. Volumetric Test Procedure for Non-Viscous Liquids) or testing viscous fluids by the volumetric headspace procedure (refer to 3.4. Volumetric Test Procedures for Viscous Fluids – Headspace).

NOTE: This shall not be used for liquids with suspended solids such as orange juice with pulp, buttermilk, liquids requiring "shake before use", paint, or carbonated products (soda, beer, etc.) or substances not approved by the digital density meter manufacturer.

Prior to using for compliance testing, the official's metrological laboratory should perform a comparison between the densities obtained between Sections 3.2. Gravimetric Test Procedure for Non-Viscous Liquids or 3.3. Volumetric Test Procedure for Non-Viscous Liquids, and the digital density meter.

This test procedure can also be a time saver for screening products for proper fill and for quality control purposes.

3.X.1. Test Equipment

A scale that meets the requirements in Chapter 2, Section 2.2. "Measurement Standards and Test Equipment."

Note: To verify that the scale has adequate resolution for use, it is first necessary to determine the density of the liquid. Using the density, convert the labeled volume to weight. Based on the labeled volume, determine the MAV using Table 2-6 "Maximum Allowable Variations for Packages Labeled by Liquid and Dry Volume" found in Appendix A. Using the density, convert the MAV from volume to weight. Next verify that the scale division is no larger than MAV/6 for the package size under test. The smallest graduation on the scale must not exceed the weight value for MAV/6.

Example:

Assume the inspector is using a scale with 1 g (0.002 lb) increments to test packages labeled 1 L (33.8 Fl oz) that have an MAV of 29 mL (1 Fl oz). Also, assume the inspector finds that the weight of 1 L of the liquid is 943 g (2.078 lb).

Density: 1 L = 943 g (2.078 lb)

MAV: 29 mL (1 Fl oz)

Convert Density into mL and Fl oz:

943 g ÷ 1000 mL= 0.943 g/mL (2.07 8 lb ÷ 33.8 Fl oz = 0.061 4 lb/Fl oz)

Convert MAV from Volume (mL/Fl oz) to Weight:

29 mL × 0.943 g/mL = 27.347 g (1 Fl oz × 0.061 4 lb/Fl oz = 0.064 lb)

MAV in Weight/6

27.347 g ÷ 6 = 4.557 g 0.064 lb ÷ 6 = 0.010 lb

In this example, the 1 g (0.002 lb) scale division is smaller than the MAV/6 value of 4.557 g (0.010 lb) so the scale is suitable for making a density determination.

Low pressure air pump– (e.g., an aquarium air pump)

Syringe (glass or plastic with Luer fitting 5mL or larger)

Note: Plastic syringe should be free of any lubricating substances

Distilled or deionized water

Cleaning agents (See Table 3.X4. Cleaning Agents)

Waste container

Barometer for obtaining the prevailing barometric pressure, with an accuracy of ±3.0 mmHg

Thermometer for measuring air temperature with a tolerance of ±1°C (2°F)

Portable digital density meter meeting a minimum requirement of:

Measuring Range	
Density	**0 – 3 g/cm^3**
Temperature	**0 – 40 °C (32 – 104 °F)[a]**
Viscosity	**0 – 1000 mPa·s**
Accuracy[b]	
Density	**0.001 g/cm^3**
Temperature	**0.2 °C (0.4 °F)**
Repeatability s.d.	
Density	**0.0005 g/cm^3**
Temperature	**0.1 °C (0.1 °F)**
Resolution	
Density	0.0001 g/cm^3
Temperature	0.1 °C (0.1 °F)
Sample Volume	**2 mL**
Sample Temperature	**max. 100 °C (212 °F)**

Footnotes
[a] Filling at higher temperatures possible.
[b] Viscosity < 100 mPa·s, density < g/cm^3

1 **3.X.2. Test Procedure**

2

Follow Section 2.3.1. "Define the Inspection Lot." Use a "Category A" sampling plan in the inspection. Select a random sample.

Bring the sample packages and their contents to a temperature between the reference temperature and ambient temperature.

Packages may be gently rolled to mix contents. Avoid shaking liquids. Shaking some products such as flavored milk will entrap air that will affect density measurements.

The digital density meter must at ambient temperature. Avoid causing condensation within the unit. Condensation could cause instrument malfunction and harm.

Using distilled or deionized water, validate the digital density meter per the manufacturer's calibration instructions. The digital density meter shall calibrate within allowable density range (±0.0005g/cm3). The digital density meter shall be validated once each day prior to usage.

Ensure the digital density meter is clean prior to testing. Any residual liquid should be drained, and the unit should be flushed with a small amount of the sample to be tested. Flush and discard the sample two times before taking a measurement.

Follow the manufacturer's instructions to select the correct method, when using a meter with built in correction factors, and measure the density of the sample using the built-in pump or syringe. Fill the sample slowly and gently. If gas or air bubbles are present drain sample and refill.

Note: Use of a syringe may be desirable to allow sample specimen to achieve ambient temperature prior to introduction of specimen into testing cell and for viscous specimens.

Once the digital density meter has stabilized (maintained reading ± 0.2 °C (± 0.5 °F) for 10 seconds) record density and temperature as indicated on instrument.

Apply density coefficient of expansion (Alpha) also known as the density correction factor (DCF), to correct to the reference temperature. See Table X.1. Reference Temperatures of Liquids. If the Alpha correction is not known, then factor can be calculated using the below formula.

Note: Some digital density meters may be programmed to automatically apply this correction.

Calculating the Temperature Coefficient Alpha

Temperature coefficient Alpha = $\left|\frac{\rho^1-\rho_2}{T^1-T_2}\right|$

ρ_1 …. ***density at temperature*** **T_1**
ρ_2 …. ***density at temperature*** **T_2**
T_1 …. ***temperature at initial measurement***
T_2 …. ***temperature at second measurement***

Note: If the density correction factor is not known but the volume correction factor (VCF) is known, the DCF can be calculated from the VCF using the following formula.

Density Temperature Factor Alpha = Absolute Value of Beta × Density.
Apply viscosity correction if viscosity > 85 centipoise at 21 °C (70 °F) by ~~adding~~ subtracting the value in Table X. Density Measurement to your density measurement. After this correction, this value is the density of the substance in in the vacuum at the prescribed reference temperature.
Note: Some digital density meters may be pre-programmed to automatically apply. See Table X. Viscosity Corrections of Common Materials

Apply the apparent density correction by applying one of the following steps:
(1) multiplying the density by 0.999; or
(2) multiplying the density by the Apparent Mass Factor from Table X.3.; or
(3) calculate apparent density by using the following.
Converting True Density into Apparent Density
The apparent density $Paap$ is defined as:

$$Paap = \frac{Ptrue,sample - Pair}{1 - \frac{Pair}{8.0\ g/\mathrm{cm3}}}$$

Where:

Paap = apparent density of the sample

Psteel = 8.0 g/cm^3

Pair = true density of air

Ptrue,sample = true density of the sample

The apparent density is smaller than the true density and can be calculated from the true density considering the buoyancy of the sample in air and the weight and density of a reference weight in steel.

*** Pair = true density of air as calculated from equation in Table X.0.**
After application of this factor or calculation, the new value is density of the substance in air.

Drain the instrument and repeat Steps 6–10 on a second specimen of the same package for verification of first measurement.

Compare the two readings, they must agree within 0.0003 g/cc. Calculate the average density of the two specimens from the sample. If the difference of two readings is greater than 0.0003 g/cc, discard results and repeat testing of sample. Air or undissolved gas will cause erroneous measurement errors. The user of the test procedure shall always visually inspect for undissolved gas in the measurement tube for a valid test.

Repeat testing for the second (or subsequent) package(s) of the lot.

Calculate the Average Product Density of sample 1 and sample 2. The two results must agree within 0.0005 g/cc. If the difference between the densities of the two packages exceeds 0.0005

g/cc, use the volumetric procedure in Section 3.3. "Volumetric Test Procedure for Non-Viscous Liquids."

Determine the Average Used Dry Tare Weight of the sample according to provisions of Section 2.3.5. "Procedures for Determining Tare."

Calculate the "nominal gross weight" using the following formula:

Nominal Gross Weight = (Average Product Density [in weight units]) × (Labeled Volume) + (Average Used Dry Tare Weight)

Weigh the remaining packages in the sample.

Subtract the nominal gross weight from the gross weight of each package to obtain package errors in terms of weight. All sample packages are compared to the nominal gross weight.

To convert the average error or package error from weight to volume, use the following formula:

Package Error in Volume = Package Error in Weight ÷ Average Product Density Per Volume Unit of Measure

The digital density meter must be stored clean. After final use of the day or extended period of time, the instrument shall be drained and cleaned following the manufacturer's recommended cleaning procedures and using two cleaning agents. The first cleaning agent removes sample residue, and the second cleaning agent removes the first cleaning agent. See Table X.4. Cleaning Agents for examples of cleaning agents recommended by a digital density meter manufacturer.
NOTE: If the unit will be immediately used to measure another sample of similar composition, the unit may be drained and flushed with new sample three times before the next analysis.

22. **Connect digital density meter to a low-pressure air source, such as an aquarium air pump, to dry the unit's measurement cell.**

3.X.3. Evaluation of Results

Follow the procedures in Chapter 2, Section 2.3.7. "Evaluate for Compliance" to determine lot conformance.

Table X.0. Density Measurement

Calculate the density of air at the temperature of test using the following equation:

ρ_{air}, g/mL = 0.001293[273.15/T][P/760]

where:

T = temperature, K, and

P = barometric pressure, torr.

°C	mmHg	d_{air}, g/mL
15.56	760	0.001223314

Table X.1. Viscosity Corrections of Common Materials

Material	Viscosity in Centipoise	Correction g/cc
Water	1 cP	
Milk	3 cP	
SAE 10 Motor Oil	85–140 cP	0.0003
SAE 20 Motor Oil	140–420 cP	0.0006
SAE 30 Motor Oil	420–650 cP	0.0007
SAE 40 Motor Oil	650–900 cP	0.0007
Castrol Oil	1,000 cP	0.0008
Karo Syrup	5,000 cP	0.0008
Honey	10,000 cP	0.00085

Table X.2. Apparent Mass Factor

Elevation, ft	sea level	1500	3000	4500	6000
Barometer, mmHg	760	720	680	640	600
density, g/cc	Apparent Mass Factor				
0.500	0.9977	0.9979	0.9980	0.9981	0.9982
0.600	0.9981	0.9982	0.9983	0.9984	0.9985
0.700	0.9984	0.9985	0.9986	0.9987	0.9988
0.800	0.9986	0.9987	0.9988	0.9989	0.9989
0.900	0.9988	0.9989	0.9989	0.9990	0.9991
1.000	0.9989	0.9990	0.9991	0.9991	0.9992

1.100	0.9991	0.9991	0.9992	0.9992	0.9993
1.200	0.9991	0.9992	0.9992	0.9993	0.9993
1.300	0.9992	0.9993	0.9993	0.9993	0.9994
1.400	0.9993	0.9993	0.9994	0.9994	0.9994
1.500	0.9993	0.9994	0.9994	0.9994	0.9995
Elevation or prevailing barometric pressure at the location of measurement.					

Table X.3. Cleaning Agents		
Commodity	Cleaning Liquid 1	Cleaning Liquid 2
Petroleum products	Toluene, petroleum naphtha, petroleum ether, n-nonane, cyclohexane	Ethanol
Battery acid	Tap water	Ultra-pure (bi-distilled or deionized) water
Liquid soap and detergent, shampoo	Tap water	Ultra-pure (bi-distilled or deionized) water
Salad dressing, mayonnaise	Petroleum naphtha, dish washing agent in water	Ethanol
Suntan lotion	Tap water	Ethanol
Spirits	Tap water	Ultra-pure (bi-distilled or deionized) water
Grape juice, syrup	Warm tap water	Ultra-pure (bi-distilled or deionized) water
Milk*	Tap water, enzymatic lab cleaner	Ultra-pure (bi-distilled or deionized) water

***NOTE: Do not introduce ethanol or other alcohols into instrument without first flushing all milk products from instruments.**

Previous Action:

2022: Voting – Returned to Committee

Original Justification:

Current test procedures are slow and awkward due to the need of using borosilicate glassware for package checking. Digital density meters are fast, use small samples size (2 ml) and have built in thermometers.

Fast and accurate.

Using digital density meters equipped with built-in API density tables will not require the cooling samples to 60 F.

No need to "wet down" volumetric flasks before each measurement

Most non-food products may be recovered without contamination.

Only small sample size (2 ml) of the product is needed for testing.

No need for partial immersion thermometer or volumetric flasks.
Current method in "Section 3.4 Volumetric Test Procedures for Viscous Fluids – Headspace" does not work for plastic oblong bottles often used for motor oil.
Eliminates the entrapment of air in testing viscous fluids (i.e. motor oil, DEF, antifreeze, syrups, etc.)The submitter requested that this be a Voting Item in 2022.

A NIST intern had done an investigation on the use portable density meters and NIST published a report in 2006 based only on that intern's study. The study is incomplete as the report references data in the appendix which does not exist. Therefore, the information is questionable and not in step with available technology

The submitter requested that this be a Voting Item in 2022.

Comments in Favor:

Regulatory:

- Six regulators supported the item as voting.

Industry:

- None

Advisory:

- None

Comments Against:

Regulatory:

- None

Industry:

- None

Advisory:

- None

Neutral Comments:

Regulatory:

- None

Industry:

- None

Advisory:

- Mr. Sefcik stated that OWM has engaged its Lab Metrology program to provide significant input and feedback in determining and assessing any technical gaps. OWM has provided a revised copy of the Item Under Consideration which is available on the NCWM website. In addition, OWM has provided in it detailed analysis a clear indication on what we propose changing and reasoning behind it. Even with the proposed changes, we believe the item still needs to be vetted as we consider these substantial changes.
- Mr. Sefcik reiterated the concern that limited testing analysis has been provided by the submitter and questions regarding the proper calibration and validation methods of the device, limitations of the devices use, and whether adding a step for using a Viscometer to determine viscosity before determining the density is needed.

Item Development:

NCWM 2022 Interim Meeting: The Committee assigned Voting status for this item at the 2022 Interim Meeting.

The Committee believed the latest proposal was fully developed, addressed previous concerns and was therefore ready for a vote.

Additionally, the Committee believed the item provides a tool to Weights and Measures Officials that will improve efficiency during inspections while maintaining current testing accuracy levels.

Note: The Committee removed Table X.1. Density Coefficient Factor (Alpha) because it has not been validated. The Committee spoke to the original submitter, and they agreed that the proposal can still go forward as a Voting item without the table; it is not necessary for it to be included for field use.

The Committee received additional information on this item from NIST, OWM after the meeting stating the item is being reviewed by NIST, OWM. NIST, OWM submitted proposed changes and comments to the Committee for their consideration. These proposed changes and comments will be provided online to membership before the annual meeting.

NCWM 2022 Annual Meeting: The Committee assigned Voting status to this item at the 2022 Interim Meeting because they believed that previous concerns had been addressed and it was fully developed.

The submitter of the item provided new information and requested the following changes:

- Change “Volumetric” to “Gravimetric” in the title
- Amend the “minimum requirement” table to add additional requirements (2022 Publication 16, page L&R 74.
- Correct an error to the viscosity formula by removing the word “adding” and inserting the word “subtracting” 3.X.2. Test Procedure.
- Insert into “Measuring Range” table, the “Resolution” which includes Density of 0.0001 g/cm^3 and Temperature of 0.1 °C (0.1 °F), which was inadvertently left out in prior publications. This table is under Test Equipment 3.X.1.

Additionally, the Committee believed that Table X.1. Density Coefficient Factor (Alpha) was removed from the proposal during the 2022 Interim meeting by the Committee because it had not been validated. The Committee recommends that the submitter validate Table X.1. Density Coefficient Factor (Alpha) and reinsert it into the proposal and resubmit to the Committee for consideration.

The Committee also reviewed the NIST OWM Analysis of the item and considered comments during open hearings from NIST OWM. The use of this equipment has great potential to facilitate package testing for many viscous and non-viscous liquids, as well as other weights and measures inspection areas. Some concerns with the item under consideration is the limited testing analysis provided by the submitter comparing the digital density meter to the current NIST Handbook 133 volumetric test procedure. Data on only five items were submitted which is insufficient to statistically validate results to ensure the test procedure will be defensible for use in official inspections. Before this procedure can be determined for use as an Enforcement procedure, the proper calibration and validation methods of the device, limitations of the devices use, and whether adding a step for using a Viscometer to determine viscosity before determining the density would need to be considered.

It was also noted that none of the four Regions moved the item forward as a Voting Item.

Based on the above information, the Committee deescalated the item to Informational status with the intent of forming a task group to further develop the item.

During the voting session the Committee was strongly urged to return this item to Voting status by membership who were prepared to put forth a formal motion to amend the Committee report.

After deliberation the Committee agreed to amend the item based on the above bulleted proposed changes. Following the NCWM's democratic process the Committee returned this item to Voting status.

This change was announced by the Committee Chair and as requested by membership; he provided the reasons the Committee believed that the Item was not fully developed. The reasons were:

> The NIST, OWM analysis identified areas that needed to be addressed before the item should be used for regulatory purposes.
>
> Adding Table X.1. Density Coefficient Factor (Alpha) back into the procedures was a substantive change requiring time for membership to review before voting.
>
> Concern that proceeding with the test procedure without addressing the NIST, OWM concerns could negatively impact regulatory actions.

The item was voted upon and only received 20 yea votes in the House of Representatives.

Since it did not receive the required minimum 27 votes it was returned to the Committee.

Regional Associations' Comments:

WWMA 2021 Annual Meeting: Mr. Ronald Hayes, (Retired, Missouri) – Provided testimony for support of this Item, it is resubmitted from a past Item with updated language.

Mr. Hayes indicated there are three volunteers who are testing this procedure for validation. Believes the process and technology are sound and is twice as accurate as the current method for some products.

If approved this method would significantly decrease inspection times. Mr. Ivan Hankins, (State of Iowa) – Asked for clarification on how this will replace the way tests are currently conducted. Mr. Hayes responded saying this method will reduce tests times which would be better for field personnel.

Mr. Hayes expanded that he has tested this in dairies, with the new method taking minutes and the old method taking hours. Mr. Kevin Schnepp, (CDFA-DMS) – Mr. Schnepp supported the continuing development of this Item but asked to see the aggregated data that supported the proposal.

He also asked how often the unit needed to be calibrated, for the different products outlined in the proposal. Mr. Hayes responded that the data is being compiled into a report and provided information on the procedures on how to validate the calibration.

Mr. Hayes clarified on how to calibrate the equipment. Ms. Lisa Warfield, (NIST OWM) – Supports the development of this test procedure and applauds Mr. Ronald Hayes for working on this. OWM submitted an analysis and agrees these devices may be used in audit testing.

Ms. Warfield made statements that highlighted items provided in the OWM analysis supporting documentation. Mr. Ronald Hayes responded to items in the OWM analysis, particularly barometric pressure by stating that this can be corrected for by using a correction factor listed in the agenda item.

Ms. Lisa Warfield stated that the word approximate must be removed from all tables. Mr. Hayes replied that he believed that this had been accomplished but it is still documented in table X2. Mr. Hayes also replied that he is looking for collaboration and continued support from NIST in this matter.

The Committee recommends that this Item be Assigned. The Committee recommends that L&R National Chair create a Task Group headed by Mr. Hayes that can work on gathering and assessing data to advance this proposal for use as an audit tool and eventually an enforcement tool.

SWMA 2021 Annual Meeting: No comments were heard during open hearings. NIST OWM provided a written analysis documenting their support of the development of this item.

The Committee recommends this as a Developing item. Studies should continue until such time that sufficient evidence can be provided showing that these devices provide density values equivalent to those measured found using existing test methods.

CWMA 2022 Annual Meeting: Mr. Ron Hayes the item's submitter asked Mr. Upschulte to read an update during Open Hearings. Mr. Hayes believes this proposal is fully developed and has been working with NIST to address their suggestions and concerns.

Lisa Warfield, NIST Technical Advisor commented that the item should be deescalated to Developing status or as an Assigned item to a task group through NCWM to collect data to verify accuracy and consistency of measuring devices. She stated that the use of this equipment has great potential to facilitate testing in package checking as well as other weights and measures inspection areas but that for it to be used in regulatory action it is essential to validate the traceability of measurements made using the equipment.

Lastly, Ms. Warfield stated that the title to this section is incorrect and should read *3.X. Gravimetric Test Procedure for Viscous and Non-Viscous Liquids by Portable Digital Density Meter.*

Charlie Stutesman, Kansas commented that if the item is deescalated, the committee should recommend what still needs developed. He believes if the submitter feels the item is ready for voting status, it should be voted up or down. On the other hand, he would also support the formation of a task group at the national level. Ivan Hankins, Iowa commented that he agrees with Mr. Stutesman and believes the voting status should remain on this item.

The Committee discussed this item at length and believes digital density meters are currently and will continue to be useful devices in weights and measures inspections. The Committee believes this item can be strengthened by increasing data for validation and thinks assigning the item to a task force could be beneficial to finish development of this item.

It was recommended as an Assigned Item on the NCWM agenda

NEWMA 2022 Annual Meeting: David Sefcik, NIST OWM – As the Committee is aware, the current item under consideration was provided to the National L&R 1 day before the interim. Significant updates and changes were done on this item. In addition, at the Interim in January, the L&R Committee made additional modifications. Recognized and commended the submitter and for working tirelessly to make changes on this item prior to the NCWM (2022) Interim Meeting. However, it is OWM's belief that this item requires more time for the members to review and evaluate it. NIST OWM and we believe others, need additional time to adequately consider the most recent version. This is a highly technical procedure! It is too important of an item not to spend the time to properly evaluate it. OWM asked its lab metrology staff to assist with a review of the proposal to help determine and assess any technical gaps. Of greatest concern is the limited testing analysis provided by the submitter comparing the digital density meter to the current Handbook 133 volumetric test procedure. Data on only 4 items were submitted which is insufficient to statistically validate results to ensure the test procedure will be defensible for use in official inspections. He reminded the NEWMA L&R Committee they had recommended previously a task group be formed for further development and OWM echoes this recommendation.

Jim Willis, NY – Echoed Mr. Sefcik's comments and recommendation. Noted that he found it confusing when reading the proposed item. The item needs more review and time to consider and recommends caution moving forward to properly vet the item.

John Gaccione – Westchester County, NY – A question and comment: When was this submitted? (answered by David Sefcik, NIST OWM) just before the NCWM (2022) interim meeting and the National L&R Committee recommended additional changes. Mr. Gaccione agrees with the comments of Mr. Sefcik and Mr. Willis stating additional time is needed to evaluate the item.

No additional comments during the open hearing.

NEWMA L&R Committee recommends this item be Assigned to a newly formed portable digital density meter task group.

NET-22.2
Regional recommendation to NCWM on item status: ☒ Recommend as a Voting Item on the NCWM agenda ☐ Recommend as an Information Item on the NCWM agenda ☐ Recommend as an Assigned Item on the NCWM agenda *(To be developed by an NCWM Task Group or Subcommittee)* ☐ Recommend as a Developing Item on the NCWM agenda *(To be developed by source of the proposal)* ☐ Recommend Withdrawal of the Item from the NCWM agenda *(In the case of new proposals, do not forward this item to NCWM)* ☐ No recommendation from the region to NCWM *(If this is a new proposal, it will not be forwarded to the national committee by this region)*
Comments and justification for the regional recommendation to NCWM: *(This will appear in NCWM reports)*

Ron Hayes retired, and developer of this item commented he has been working with NIST's David Sefcik to address concerns. He stated this technology has been used for more than 50 years. He explained the changes made and believes it is ready for voting status. Ivan Hankins, Iowa, supports this item moving forward with voting status. Doug Rathbun, Illinois commented he is concerned this item is not fully developed if there is additional data that needs to be collected. Doug Musick, Kansas commented digital density meter technology is already in use in Kansas. He wants to see a final version move forward as a voting item. Mr. Musick further commented he believes NIST should be supporting this item and helping move it forward. Why aren't they? This item is well-established technology and would make the process of enforcement much more efficient. Mr. Hayes' most recent version to address NIST concerns is below. He noted that if the Alpha version of "Table X.2. Density Coefficient Factor" prohibits voting status for this item, it should be removed from the model language and could be used as reference in an appendix. The Committee asked the developer if the dashes in the table indicate the information is to be determined. Mr. Hayes indicated that this information is forthcoming. After considerable discussion, the Committee believes the item is fully developed and believes information for the table will continue to be added over time. However, the content of the Alpha table should not impede this item from voting status.

NET-22.2 –Section 3.1.1 Test Methods and 3.X. Gravimetric Test Procedure for Viscous and Non-Viscous Liquids by Portable Digital Density Meter.

Preamble under the Item Under Consideration:

Amend NIST Handbook 133, Checking the Net Contents of Packaged Goods, to modify Note 2 in Section 3.1.1. Test Methods and Section 3.X. Gravimetric Test Procedure for Viscous and Non-Viscous Liquids by Portable Digital Density Meter. Add acompliance test procedure for 3.X. Gravimetric Test Procedure for Viscous and Non-Viscous Liquids by Portable Density Meter as follows:

3.1. Scope

3.1.1. Test Methods

Notes:

(2) When checking liquid products using a volumetric or gravimetric procedure for **density determination**, the temperature of the samples must be maintained at the reference temperature ± 2 °C (± 5 °F), **except when using Section 3.X. Gravimetric Test Procedure for Viscous and Non-Viscous Liquids by Portable Digital Density Meter, where a correction factor is used to correct the density to the reference temperature.**

3.X. Gravimetric Test Procedure for Viscous and Non-Viscous Liquids by Portable Digital Density Meter

Use the following procedure for packages labeled in fluid volume.

Most portable digital density meters are suitable for measuring the density of homogenous liquids free of suspended gas, air, sediment, and suspended matter. Portable digital dentity meters should not be used for products such as orange juice with pulp, buttermilk, liquids requiring "shake before use", paint, carbonated products such as soda and beer, or substances not approved by the digital density meter manufacturer.

The suitability of a given meter for use with specific product types is determined based upon the specifications of the manufacturer, the intended application, and verification by a recognized laboratory.

A portable digital density meter must meet the following criteria:

- **Influence of viscosity on density result is automatically corrected for highly viscous samples.**
- **Bar Code reading technology (RFID) for inputting test methods.**
- **Built in data storage for storing test results.**
- **Printing capabilities to print test results.**
- **Resolution of 4 decimal places with an accuracy to 0.001 g/cm^3. Instrument has a measurement mode setting set to the most "accurate" mode (e.g., precise mode) as defined by the manufacturer.**

Note: Typically, portable digital density meters manufactured after 2??? meet this criteria, but user of the instruments should verify with the manufacturer.

The portable digital density meter shall be verified and approved in accordance with the manufacturers and other recognized calibration procedures before being put into service. The portable digital density meter must only be used in a manner for which it was designed and calibrated. This device must be routinely recertified according to your agency's measurement assurance policies. Refer to NIST HB 130 Section 11 (h) of Weights and Measures Law and NIST HB 133 Chapter 1, Section 1.7. Good Measurement Practices for additional guidance.

Verify the accuracy (calibration) of the PDDM before each initial daily use, before each use at new location, or when there is any indication of abnormal equipment performance (e.g., erratic indications). Recheck the PDDM accuracy (calibration) if it is found that the sample does not pass, to confirm that the test equipment is not at fault".

Users must consult with the manufacturers to ensure the brand and model automatically correct for viscosity for viscosities greater than 100 mPa·s. Viscosities less than 100 mPa·s do not require a viscosity correction.

This test procedure may be used as an alternative test procedure for the following Sections:

- **Section 3.2. Gravimetric Test Procedure for Non-Viscous Liquids.**
- **Section 3.3. Volumetric Test Procedure for Non-Viscous Liquids.**
- **Section 3.4. Volumetric Test Procedures for Viscous Fluids – Headspace.**

Note: Portable Digital Density Meters can also be used as a timesaver for screening products for product quality and product identification .

3.X.1. Test Equipment

- **A scale that meets the requirements in Chapter 2, Section 2.2. "Measurement Standards and Test Equipment."**

  To verify the scale has adequate resolution, use the following steps.

  - **Determine the density of the liquid.**
  - **Using the density, convert the labeled volume to weight.**
  - **Based on the labeled volume, determine the MAV using Table 2-6 "Maximum Allowable Variations for Packages Labeled by Liquid and Dry Volume" found in Appendix A.**
  - **Using the density, convert the MAV from volume to weight.**
  - **Next verify that the scale division is no larger than MAV/6 for the package size under test.**
  - **The smallest graduation on the scale must not exceed the weight value for MAV/6.**

    Example:

    Assume the inspector is using a scale with 1 g (0.002 lb) increments to test packages labeled 1 L (33.8 fl oz) that have an MAV of 29 mL (1 fl oz). Also, assume the inspector finds that the weight of 1 L of the liquid is 943 g (2.078 lb).

    Density: ***1 L = 943 g (2.078 lb)***
    MAV: ***29 mL (1 fl oz)***

    - ***Convert the Density into mL and Fl oz:***

      943 g ÷ 1000 mL= 0.943 g/mL
      (2.07 8 lb ÷ 33.8 Fl oz = 0.061 4 lb/fl oz)

    - ***Convert MAV from Volume (mL/fl oz) to Weight:***

      29 mL × 0.943 g/mL = 27.347 g
      (1 Fl oz × 0.061 4 lb/fl oz = 0.064 lb)

    MAV in Weight/6: ***27.347 g ÷ 6 = 4.557 g*** ***0.064 lb ÷ 6 = 0.010 lb***

In this example, the 1 g (0.002 lb) scale division is smaller than the MAV/6 value of 4.557 g (0.010 lb) so the scale is suitable for making a density determination.

- **Low pressure air pump (small) – (e.g., an aquarium air pump)**
- **Syringe (glass or plastic with a Luer fitting 5 mL or larger). The syringe should be free of any lubricating substances)**
- **Distilled or deionized water**
- **Cleaning agents (See Table 3.4. Cleaning Agents)**
- **Waste container**
- **Barometer for obtaining the prevailing barometric pressure, with an accuracy of ± 3.0 mmHg**
- **Thermometer for measuring air temperature with a tolerance of ± 1 °C (2 °F)**
- **Portable digital density meter meeting a minimum requirement of:**

Measuring Range	
Density	0 – 3 g/cm^3
Temperature	0 – 40 °C (32 – 104 °F)[a]
Viscosity	0 – 1000 mPa·s
Accuracy[b]	
Density	0.001 g/cm^3
Temperature	0.2 °C (0.4 °F)
Repeatability s.d.	
Density	0.0005 g/cm^3
Temperature	0.1 °C (0.1 °F)
Resolution	
Density	0.0001 g/cm^3
Temperature	0.1 °C (0.1 °F)
Sample Volume	2 mL
Sample Temperature	max. 100 °C (212 °F)
Footnotes [a.] Filling at higher temperatures possible. [b.] Viscosity < 100 mPa·s, density < g/cm^3	

3.X.2. Test Procedure

1. **Follow Section 2.3.1. "Define the Inspection Lot." Use a "Category A" sampling plan in the inspection. Select a random sample**

2. **Bring the packages and their contents to a temperature, between the reference and ambient temperatures**

   Note: Some packages (e.g., flavored milk) may need to be gently rolled to mix the contents. Avoid shaking liquids, since shaking some products to mix them will entrap air that will affect density measurements.

3. **The portable digital density meter must be near ambient temperature and above the dew point of the ambient air to avoid causing condensation within the unit. Condensation must be avoided and could cause the digital density meter to malfunction and cause potential damage.**

4. **Using distilled or deionized water or other reference standard(s), validate the digital density meter per the manufacturer's calibration instructions. The portable digital density meter shall be validated to verify the accuracy (calibration) of the portable density meter before each initial daily use, before each use at new location, or when there is any indication of abnormal equipment performance (e.g., erratic indications). Recheck the portable density meter accuracy (calibration) if it is found that the sample does not pass, to confirm that the test equipment is not at fault. The digital density meter shall be calibrated using a standard sample, within an allowable density range of ± 0.0005 g/cm^3.**

5. **Select the first 2 random sample packages selected from the lot for density determination.**

6. **Ensure the portable digital density meter is clean prior to testing. Any residual liquid should be drained, and the unit should be flushed with a small amount of the sample to be tested. Flush and discard the sample two times before taking a measurement.**

7. **To test the first package of the sample, follow the manufacturer's instructions to select the correct method, when using a meter with built in correction factors, and measure the density of the sample using a syringe or the built-in pump. Fill the specimen of the sample slowly and gently. If gas or air bubbles are present drain sample and refill. If the correction factor is not known, refer to step 9.**

Note: Most instruments have built in stored correction factors Where are these built in values coming from and how can we determine the accuracy. Should we require the official or metrologogist to validate these values before using.

Note: Use of a syringe may be desirable to allow sample specimen to achieve ambient temperature prior to introduction of specimen into testing cell and for viscous specimens.

8. **Once the temperature reading on the portable digital density meter has stabilized (maintained reading ± 0.2 °C (± 0.5 °F) for 10 seconds), record density and temperature as indicated on instrument. Instruments have a measurement mode setting that shall be set in the most "accurate" mode (e.g., precise mode) as defined by the manufacturer.**

9. **Apply the density coefficient of expansion (Alpha) also known as the density correction factor, to correct to the reference temperature. See Table X.2. Density Coefficient Factor (Alpha) If the Alpha correction is not known, then the factor can be calculated using the below formula.**

After this correction, this value is the density of the substance in the vacuum at the prescribed reference temperature.Calculating the Temperature Coefficient Alpha

Temperature coefficient Alpha = $\left|\frac{\rho_1 - \rho_2}{T_1 - T_2}\right|$

ρ_1 …. density at temperature T_1

ρ_2 …. density at temperature T_2

T_1 …. temperature at initial measurement

T_2 …. temperature at second measurement

Notes:

- **If the density correction factor is not known but the volume correction factor is known, the density correction factor can be calculated from the volume correction factor using the following formula.**
- **Density Temperature Factor Alpha = Absolute Value of Beta × Density.**

Note: Influence of viscosity on density result will be automatically corrected by the portable digital density meter for highly viscous samples.

10. Apply the apparent density correction by applying one of the following steps:

(1) multiplying the density by 0.999; or

(2) multiplying the density by the Apparent Mass Factor from Table X.4.; or

(3) calculate apparent density by using the following:

Converting True Density into Apparent Density

The apparent density is defined as:

$$Paap = \frac{Ptrue,sample - Pair}{1 - \frac{Pair}{8.0\ g/cm3}}$$

Where:

Paap = apparent density of the sample

Psteel = 8.0 g/cm3

Pair = true density of air

Ptrue,sample = true density of the sample

The apparent density is smaller than the true density and can be calculated from the true density considering the buoyancy of the sample in air and the weight and density of a reference weight in steel.

*** Pair = true density of air as calculated from equation in Table X.1. Density Measurement.**

After application of this factor or calculation, the new value is density of the substance in air.

11. **Drain the instrument and repeat Steps 7–10 on a second specimen of the same package for verification of first measurement.**

12. **Note: It is not necessary to fully clean the cell between measurements for the second specimen of the same sample. Simply flush the cell using the same sample at least two times before taking your second measurement. Compare the two specimen readings, they must agree within 0.0003 g/cm^3. Calculate the average density of the two specimens from the sample. If the difference of two readings is greater than 0.0003 g/cm^3, discard results and repeat testing of sample. Air or undissolved gas will cause erroneous measurement errors. The user of the shall always visually inspect for undissolved gas in the measurement tube for a valid test.**

13. **Drain the instrument and repeat testing for the second (or subsequent) package of the sample, repeating Steps 6–12.**

14. **Calculate the Average Product Density of sample 1 and 2. The two results must agree within 0.0005 g/cm^3. If the difference between the densities of the two packages exceeds 0.0005 g/cm^3, use the volumetric procedure in Section 3.3. "Volumetric Test Procedure for Non-Viscous Liquids", or you may continue the testing of all the subsequent sample packages selected from the lot using Steps 6-13.**

15. **Determine the Average Used Dry Tare Weight of the sample according to provisions of Section 2.3.5. "Procedures for Determining Tare."**

16. **Calculate the "nominal gross weight" using the following formula:**

    Nominal Gross Weight = (Average Product Density [in weight units]) × (Labeled Volume) + (Average Used Dry Tare Weight)

17. **Weigh the remaining packages in the sample.**

18. **Subtract the nominal gross weight from the gross weight of each package to obtain package errors in terms of weight. All sample packages are compared to the nominal gross weight.**

19. **To convert the average error or package error from weight to volume, use the following formula:**

    Package Error in Volume = Package Error in Weight ÷ Average Product Density Per Volume Unit of Measure

20. **3.X.3. Evaluation of Results**
    Follow the procedures in Chapter 2, Section 2.3.7. "Evaluate for Compliance" to determine lot conformance.

    3.X.4. Cleaning and Storage of Digital Density Meter

    Anytime the portable digital density meter is used to test a different commodity, or if the digital density meter use is done for the day and going to be stored after final use, the instrument shall be drained and cleaned following the manufacturer's recommended cleaning procedures and using two cleaning agents. The first cleaning agent removes sample residue, and the second cleaning agent

removes the first cleaning agent. See Table X.5. Cleaning Agents for examples of cleaning agents recommended by a digital density meter manufacturer.

NOTE: If the unit will be immediately used to measure another sample of similar composition (e.g., milk with different fat contents, different viscosity oils), the unit may be drained and flushed with the new sample three times before the next analysis.

If the density meter is not going to be used within 2 days, it is recommended that the measuring cell be dried using an external low-pressure air source. Bypassing the internal pump may be necessary to dry the measuring cell. After a thorough cleaning, connect the portable digital density meter to a low-pressure air source, (e.g., aquarium air pump) to dry the unit's measurement cell. This will ensure no buildup of deposits in the measuring cell and no long-term drift of the instrument calibration. To determine if the measuring cell is "dry", the density will display an air value of 0.0012 g/cm$^{3.}$ See Table X.1. Air Density Calculation. If this value is not achieved, additional cleaning may be necessary.

Note: The digital density meter must be properly stored to avoid the possibility of any water residue within the measuring cell from freezing.

Table X.1. Air Density Calculation		
Calculate the density of air at the temperature of test using the following equation		
ρ_{air}, g/mL = 0.001293[273.15/T][P/760]		
Where:		
T = temperature, K, and		
P = barometric pressure, torr.		
°C	mmHg	d_{air}, g/mL
15.56		

Table X.2. Density Coefficient Factor (Alpha)

Notice: This Table is currently under review. Do not use without validation.

Ron to add a new columns indicating the source of alpha values verified at a specific temperature range.

Note: Do not use these alpha values if they are outside the accepted temperature range as shown.

Product	alpha/°C	Typical Density at 20°C, g/cm^3	Reference Temperature, °C
Petroleum Products			
Benzene	0.00125	0.989	15.56
n-Heptane	0.00124	0.684	15.56
Gasoline	0.00095	0.74	15.56
Kerosene, jet fuel	0.00099	0.81	15.56
Oil (unused engine oil)	0.0007	-	15.56
Paint Thinner	-	-	15.56
Paraffin oil	0.000764	-	15.56
n-Pentane	0.00158	-	15.56
Toluene	0.00108	-	15.56
-	-	-	-
Generalized Petroleum Products (ASTM D1250 Table 54B)	-	-	-
-	-	-	-
Distilled Spirits	-	-	15.56
-	-	-	-
Other Liquids and Wine			
Acetic acid	0.0011	-	20
Acetone	0.00143	0.799	20
Alcohol, ethyl (ethanol)	0.00109	0.789	20
Alcohol, methyl	0.00149	0.792	20
Ammonia	0.00245	-	20
Aniline	0.00085	1.022	20

Ether	**0.0016**	**-**	**20**
Ethyl acetate	**0.00138**	**-**	**20**
Ethylene glycol	**0.00057**	**1.115**	**20**
Isobutyl alcohol	**0.00094**	**-**	**20**
Glycerin (glycerol)	**0.0005**	**1.261**	**20**
Olive oil	**0.0007**	**-**	**20**
Sulfuric acid, concentrated	**0.00055**	**-**	**20**
Turpentine	**0.001**	**-**	**20**
Water	**0.00018**	**0.9982**	**20**
-	-	-	-
Diesel Exhaust Fluid	**0.00022**	**1.08805**	**20**
-	-	-	-
Dairy Products	**alpha/°C**	**Typical Density at 4°C, kg/L**	**Reference Temperature, °C**
Homogenized milk	**0.00025**	**1.033**	**4**
Skim milk, pkg	**0.00019**	**1.036**	**4**
Fortified skim	**0.00019**	**1.041**	**4**
Half and half	**0.00044**	**1.027**	**4**
Half and half, fort.	**0.00044**	**1.031**	**4**
Light cream	**0.00056**	**1.021**	**4**
Heavy cream	**0.00088**	**1.008**	**4**

Table X.3. Viscosity Corrections of Common Materials Note: Values for Viscosity and Corrections are published in XXXX.		
Material	**Viscosity in Centipoise (at 20° C)**	**Correction g/cc**
Water	1 cP	
Milk	3 cP	
SAE 10 Motor Oil	85–140 cP	0.0003
SAE 20 Motor Oil	140–420 cP	0.0006
SAE 30 Motor Oil	420–650 cP	0.0007
SAE 40 Motor Oil	650–900 cP	0.0007
Castrol Oil	1,000 cP	0.0008
Karo Syrup	5,000 cP	0.0008
Honey	10,000 cP	0.00085

Table X.4. Apparent Mass Factor					
Elevation, ft	**sea level**	**1500**	**3000**	**4500**	**6000**
Barometer, mmHg	**760**	**720**	**680**	**640**	**600**
density, g/cc	**Apparent Mass Factor**				
0.500	0.9977	0.9979	0.9980	0.9981	0.9982
0.600	0.9981	0.9982	0.9983	0.9984	0.9985
0.700	0.9984	0.9985	0.9986	0.9987	0.9988
0.800	0.9986	0.9987	0.9988	0.9989	0.9989
0.900	0.9988	0.9989	0.9989	0.9990	0.9991
1.000	0.9989	0.9990	0.9991	0.9991	0.9992
1.100	0.9991	0.9991	0.9992	0.9992	0.9993
1.200	0.9991	0.9992	0.9992	0.9993	0.9993
1.300	0.9992	0.9993	0.9993	0.9993	0.9994
1.400	0.9993	0.9993	0.9994	0.9994	0.9994
1.500	0.9993	0.9994	0.9994	0.9994	0.9995
Elevation or prevailing barometric pressure at the location of measurement.					

Table X.5. Cleaning Agents

(Examples of cleaning agents recommended by digital density meter manufacturers. Verify the proper cleaning agent for the digital density meter used based on manufacturers recommendation.)

Commodity	Cleaning Liquid 1	Cleaning Liquid 2
Petroleum products	Toluene, petroleum naphtha, petroleum ether, n-nonane, cyclohexane	Ethanol
Battery acid	Tap water	Ultra-pure (bi-distilled or deionized) water
Liquid soap and detergent, shampoo	Tap water	Ultra-pure (bi-distilled or deionized) water
Salad dressing, mayonnaise	Petroleum naphtha, dish washing agent in water	Ethanol
Suntan lotion	Tap water	Ethanol
Spirits	Tap water	Ultra-pure (bi-distilled or deionized) water
Grape juice, syrup	Warm tap water	Ultra-pure (bi-distilled or deionized) water
Milk*	Tap water, enzymatic lab cleaner	Ultra-pure (bi-distilled or deionized) water
*NOTE: Do not introduce ethanol or other alcohols into instrument without first flushing all milk products from instruments.		

Additional letters, presentation and data may have been submitted for consideration with this item. Please refer to www.ncwm.com/publication-15 to review these documents.

OTH – OTHER ITEMS

OTH-22.1 A Uniform Regulation for E-commerce Products

Source:

NCWM Packaging and Labeling Subcommittee (PALS)

Purpose:

Provide an update of the activities of PALS which works on direction from and reports to the L&R. This is to propose a new regulation for Handbook 130 covering sites and products which are sold through e-commerce.

Item Under Consideration:

Adopt a Handbook 130, Uniform Regulation for E-commerce Products, as follows:

A. Uniform Labeling Regulation for E-commerce Products

1. Background

The Uniform Labeling Regulation for E-commerce Products was adopted during the 1XXth Annual Meeting of the National Conference on Weights and Measures (NCWM) in 202X.

The National Conference has adopted a model e-commerce labeling regulation to assist those states authorized to adopt such a regulation under provisions of their weights and measures laws. The consumer benefit of having clear and consistent information on all product descriptions would allow for consistent and more informed comparisons between similar and different products. The manufacturer benefit would be less complexity in ensuring e-commerce site and product labeling provide required information.

The process of amending and revising this Regulation will be a continuing one in order to keep it current with practices in the e-commerce industry and make it compatible with appropriate federal and state regulations.

Nothing contained in this regulation should be construed to supersede any labeling requirement specified in federal law.

2. Status of Promulgation

Uniform Labeling Regulation for E-commerce Products

Preamble

The purpose of this regulation is to provide accurate and adequate identity and net quantity information for products sold via e-commerce to help facilitate purchaser confidence in e-commerce purchases. This regulation establishes requirements for e-commerce sites offering products for purchase, product labeling, and for receipts which detail the identity, quantity and price the consumer paid upon product delivery.

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Section 1. Application

This regulation shall apply to products and transactions which occur when purchasers are not present to purchase a consumer or non-consumer product in person.

This regulation specifically establishes requirements for web-based sales (including smartphone and computer applications) and other sites/programs which offer products for sale and permit consumers to make purchases without being physically present to inspect and select individual products and commodities in-person. This regulation also applies to any product information which shall accompany the transactions including labeling and receipts.

This regulation shall not apply to:

(a) inner wrappings not intended to be individually sold to the customer

(b) shipping containers or wrapping used solely for the transportation of any commodities or products

(c) shipping containers and inner wrappings for products or commodities purchased in quantity by manufacturers, packers, or processors in industrial proportions, or to wholesale or retail distributors who subsequently distribute or offer for sale products and commodities

(d) auxiliary containers or outer wrappings used to deliver packages of such commodities to retail customers if such containers or wrappings bear no printed matter pertaining to any particular commodity.

Section 2. Definitions

The following definitions apply to this regulation:

2.1 Product -- An article, commodity or substance that is manufactured, grown, harvested, mined or refined for sale.

2.2 Consumer Product – A product sold or offered for sale in packaged or bulk form which is intended for personal use in a home or residence

2.3 Non-Consumer Product -- A product sold or offered for sale which is intended for use by a business or institution customer for industrial use or wholesale distribution.

2.4. E-commerce – The process of offering for sale, transacting sales, and delivery of consumer product(s) or non-consumer product(s) when the purchaser is not physically present at the point of purchase. E-commerce includes on-line sales made using websites and phone applications, catalog sales and sales transacted through 3rd parties when the purchaser is not physically present.

2.5. E-commerce Product – A consumer product or non-consumer product offered for sale through e-commerce.

2.6. E-commerce Site – The site, program or interface through which customers make product purchases by means of E-commerce . An e-commerce site may be a manufacturer website, a retail website, a delivery service site, phone applications offered by manufacturers, retailers, delivery services, 3rd party providers or other interface in which the customer is physically not present to inspect and select products.

2.7. Customer – A person or entity purchasing an e-commerce product for their own use, the use of another person, or a business.

2.8 Person – The term "person" means either singular or plural and shall include any individual, partnership, company, corporation, association, or society engaged in e-commerce activity.

2.9. Package. – Except as excluded by Section 1, the term "package," whether standard package or random package, means any consumer product or non-consumer product which is:

(a) enclosed in a container or wrapped in any manner in advance of wholesale or retail sale; or

(b) whose weight, measure or count has been determined in advance of wholesale or retail sale.

2.10. E-commerce Package – Any consumer product or non-consumer product with a defined net quantity been which is sold through e-commerce and is:

(a) enclosed in a container or wrapped in any manner in advance of on-line sale; or

(b) not enclosed prior to on-line sale and wrapped or packaged for shipment or delivery after sale, or

(c) not enclosed prior to on-line sale and does not require wrapping or packaging for delivery after sale.

2.11. E-commerce Standard Package – Any package sold or offered for sale via e-commerce where lots or shipments of the package have identical net content declarations.

2.12. E-commerce Random Quantity Package – Any package sold or offered for sale via e-commerce where lots or shipments of the package have varying net content declarations.

2.13. Sale from Bulk. – The term "sale from bulk" means the sale of products are not pre-packaged and where the quantity is determined at the time of sale.

2.14. E-commerce Bulk Product – A product sold or offered for sale via e-commerce where the product is not packaged at time of purchase. An e-commerce bulk product may or may not be wrapped upon its sale to facilitate shipment or delivery.

2.15. E-commerce Non-Consumer Package – Any non-consumer product that is sold or offered for sale which has been packaged prior to sale on an e-commerce site.

2.16. E-Commerce Package Label. – Any written, printed, or graphic matter affixed to, applied to, attached to, blown into, formed, molded into, embossed on, or contained within a package containing any consumer or non-consumer product for purposes of branding, identifying, or providing information with respect to the product or to the contents of the package.

2.17. E-commerce Receipt. -- A complete record of a transaction involving the purchase of one or more e-commerce products purchased at the same time from the same E-commerce site. E-commerce receipts may be either electronic or paper as described in this regulation.

2.18. SI or SI Units – SI or SI Units means the International System of Units as established in 1960 by the General Conference on Weights and Measures (CGPM) and interpreted or modified for the United States by the Secretary of Commerce

2.19. U.S. Customary Units – Units based upon the inch, foot, gallon, and the pound commonly used in the United States of America. US Customary units include units for weight, liquid measure, linear measure, area measure, volume measure and dry measure. The NIST Handbook 130 Uniform Packaging and Labeling Regulation details use of U.S. Customary units for consumer packages.

Section 3. Required Declarations for E-commerce Sites Offering Products for Sale

Consumer and Non-Consumer Products are being purchased through e-commerce sites whereby the customer makes purchase decisions based upon the product information provided on the website, phone application or other remote means. Because customers make e-commerce purchase decisions based on available information provided on these sites or venues, customers should expect the information provided to be sufficiently complete in order to make informed purchase decisions and accurate value comparisons. To that end, certain price and FPLA-required label information must be provided to purchasers on the E-commerce site where a product is offered for sale. The elements of the FPLA information required by this regulation are also present in regulations promulgated by other Federal agencies such as EPA, FTC and the Department of Agriculture.

Non-Consumer Products are also purchased through use of e-commerce sites. In order for a site user to make value comparisons and a purchase decision, certain product information must be present for a purchaser to make informed product selections and purchases.

3.1. E-commerce Site Requirements for Standard Packages. – The following shall apply to e-commerce sites on which standard packages are offered for sale:

(a) Declaration of Identity. – The product declaration of identity shall appear on the e-commerce site in a conspicuous and prominent location. Wherever applicable, the product brand name shall be combined with the declaration of identity. This information shall be provided separately from and in addition to any picture or image of the product.

(b) Declaration of Net Quantity. – The declaration of net quantity shall appear on the e-commerce site in a prominent location and in a conspicuous manner which clearly communicates the package net quantity. This information shall be provided separately from and in addition to any picture or image of the product. This information shall be provided in both U.S. customary and SI units unless the product is exempt from the Fair Packaging and Labeling Act requirements and meets existing labeling requirements for that product.

(c) Product Price. –The price of the product shall appear on the e-commerce site in a conspicuous and prominent location. Added cost information (if any) for shipping, delivery, taxes, and other services shall be provided to the customer prior to the completion of check-out and payment.

(d) Product Photo or Product Representation. – The e-commerce site shall provide a photo or visual representation of the product to help consumers confirm the identity of the item they intend to purchase. While a product photo or representation may depict certain required information, required information shall appear separately from the picture/representation. Any information provided in the picture/product representation shall not conflict with information required by this regulation.

(e) Brand Name or Product Manufacturer. – The e-commerce site shall provide the name of the manufacturer, distributor or the brand of any product offered for sale, where applicable.

3.2. E-commerce Site Requirements for Random Quantity Packages. – The following shall apply to e-commerce sites on which random content packages are offered for sale:

(a) Declaration of Identity. – The product declaration of identity shall appear on the e-commerce site in a conspicuous and prominent location. Wherever applicable, the product brand name shall be combined with the declaration of identity. This information shall be provided separately from and in addition to any picture or image of the product.

(b) Unit Price. – The unit price of the product shall appear on the e-commerce site in a conspicuous and prominent location. This information shall be provided separately from and in addition to any picture or image of the product.

(c) Net Quantity Information. – For each product offered for sale in random quantity packages, a range of potential product net quantities and an estimated maximum possible item net weight shall be displayed to customers on the e-commerce site in a conspicuous and prominent location.

(d) Product Price – For each product offered for sale in random quantity packages, a range of potential product prices and an estimated maximum possible item price shall be displayed to customers on the e-commerce site in a conspicuous and prominent location. Added cost information (if any) for shipping, delivery, taxes, and other services shall be provided to the customer prior to the completion of check-out and payment.

(e) Product Photo or Product Representation. – The e-commerce site shall provide a photo or representative visual representation of the product to help customers confirm the identity of the item they intend to purchase. While a product photo or representation may depict certain required information, required information shall appear separately from the picture/representation. Any information provided in the picture/product representation shall not conflict with information required by this regulation.

(f) Brand Name or Product Manufacturer. – The e-commerce site shall provide the name of the manufacturer, distributor or the brand when it is different from the person or entity responsible for the website.

3.3. Bulk Product E-commerce Site Requirements. – The following shall apply to e-commerce sites on which products from bulk are offered for sale:

Declaration of Identity. – The bulk product declaration of identity shall appear on the e-commerce site in a conspicuous and prominent location. Brand name (if applicable) may be combined with the declaration of identity. This information shall be provided separately from and in addition to any picture or image of the bulk product.

Unit Price. – The unit price of the product shall appear on the e-commerce site in a conspicuous and prominent location. This information should be provided separately from and in addition to any picture or image of the bulk product.

Net Quantity Information. – An estimated minimum and/or maximum possible product net quantity, if applicable to any product offered for sale from bulk, shall be provided on the e-commerce site in a conspicuous and prominent location.

Product Price – For products offered for sale limited to minimum and/or maximum per-order quantities, an estimated minimum or maximum possible product price, where applicable, shall be provided to the customer on the e-commerce site in a conspicuous and prominent location. Added cost information (if any) for shipping, delivery, taxes, and other services shall be provided to the customer prior to the completion of check-out and payment.

Product Photo or Product Representation. – The e-commerce site shall provide a photo or visual representation of the bulk product to help customers confirm the identity of the item they intend to purchase. While a product photo or representation may depict certain required information, required information shall appear separately from the picture/representation. Any information provided in the picture/product representation shall not conflict with information required by this regulation.

3.4. Non-Consumer Product E-commerce Site Requirements. – The following shall apply to e-commerce sites on which non-consumer products are offered for sale:

(a) Packaged Non-Consumer E-commerce Products. – If the non-consumer product is packaged as a standard package, the requirements of Section 3.1. E-commerce Site Requirements for Standard Packages shall apply. If the non-consumer product is packaged as a random content package, the requirements of Section 3.2. E-commerce Site Requirements for Random Quantity Packages shall apply.

(b) E-commerce Products Purchased from Bulk. – If the non-consumer product is not packaged at the time of purchase, the requirements for Section 3.3. Bulk Product E-commerce Site Requirements shall apply.

Section 4. Required Information for E-commerce Products Upon Delivery.

4.1. Standard Package E-commerce Delivery Requirements. – The information below shall be provided within, upon or together with each standard package delivered to / received by a customer in an e-commerce transaction. Products which are labeled to be compliant with the ULPR meet the requirements for Declaration of Identity, Net Quantity and Responsibility. Products which are not labeled for retail sale as prescribed by the UPLR must provide the following:

(a) Declaration of Identity. – The product declaration of identity shall be prominently placed on the product or package or on written materials attached to or within the package. Where multiple products are delivered concurrently, it shall be clear which information applies to each product. Although the declaration of identity may also appear on a receipt or invoice, a receipt or invoice alone is not an adequate means to provide this information.

(b) Declaration of Net Quantity – The declaration of net quantity must be prominently placed on the product or package or on written materials attached to or within the package. Where multiple products are delivered concurrently, it must be clear which information applies to each product. Although the declaration of net quantity may also appear on a receipt or invoice, a receipt by itself is not an adequate means to provide this information.

(c) Declaration of Responsibility. – The declaration of responsibility, including name and address, must be prominently placed on the product or package or on written materials provided attached to or within the package. Where multiple products are delivered concurrently, it must be clear which information applies to each product.

(d) Product Price. – The total price of the product shall be provided to the customer, either on a receipt or invoice or by appearing upon, within, or with the delivered standard package.

4.2. Random Quantity Package E-commerce Delivery Requirements. – The following shall apply to the information provided within, upon, or together with each random quantity package delivered to/received by a customer in an e-commerce transaction:

(a) Declaration of Identity. – The product declaration of identity shall be prominently placed on the product or package or on written materials attached to or within the package. Where multiple products are delivered concurrently, it shall be clear which information applies to each product. Although the declaration of identity may also appear on a receipt or invoice, a receipt or invoice alone is not an adequate means to provide this information.

(b) Unit Price. – The unit price of the product shall be provided to the customer, either on a receipt or invoice, by marking or labeling upon the package(s) or by other written documentation included with the delivered product, and must be in the same units of measure as displayed on the website.

(c) Net Quantity Information. – The actual net quantity of the product shall be prominently marked or displayed on the product or on written materials attached to or within the package and must be in the same units of measure as displayed on the website. Where multiple products are delivered concurrently, it shall be clear which information applies to each product. Although the declaration of net quantity may also appear on a receipt or invoice, a receipt or invoice alone is not an adequate means to provide this information.

(d) Product Price. – The actual charged price for the product must be prominently marked upon the product or be recorded and displayed on documentation within the package. Where multiple products are delivered concurrently, it shall be clear which information applies to each product. The product receipt shall provide the purchaser with cost information including the cost of the product and any applicable additional charges. Although the price information may also appear on a receipt or invoice, it must also be provided as specified above with the product package.

(e) Declaration of Responsibility. – The declaration of responsibility, including name and address, shall be prominently marked upon the product or package or recorded and displayed on documentation within the package. Where multiple products are delivered concurrently, it shall be clear which information applies to each product. Although the declaration of responsibility may also appear on a receipt or invoice, a receipt or invoice alone is not an adequate means to provide this information.

4.3. Bulk Product E-commerce Delivery Requirements – The following shall apply to the information provided on or with bulk products delivered to / received by a customer in an e-commerce sale:

Declaration of Identity. – The bulk product declaration of identity shall be provided to the customer on a transaction receipt. A Declaration of Identity may also be marked upon or on written documentation attached to the bulk product, but this does not preclude it from being displayed on the receipt.

Unit Price. – The unit price of the product shall be provided to the customer on the transaction receipt. The Unit Price may also be displayed upon the product or its packaging, but this does not preclude it from being recorded on the receipt.

Declaration of Net Quantity. – The actual net quantity of the product delivered shall be provided to the customer on the transaction receipt. Actual net quantity shall be documented for the transaction as the customer was not present when the product(s) was selected. The Declaration of Net Quantity may be displayed upon the product or its packaging, but this does not preclude it from being recorded on the receipt.

Product Price. – The total price charged for the product shall be provided to the customer on the transaction receipt.

4.4. Non-consumer Product E-commerce Delivery Requirements. – The following shall apply to the information provided on or with a non-consumer product delivered to / received by a customer in an e-commerce sale:

(a) Packaged Non-Consumer E-commerce Products. – If the non-consumer product is packaged as a standard package, the requirements in Section 4.1. Standard Package E-commerce Delivery Requirements shall apply. If the non-consumer product is packaged as a random quantity package, the requirements of Section 4.2. Random Quantity Package E-commerce Delivery Requirements apply.

(b) E-commerce Products Purchased from Bulk – If the non-consumer product is not packaged at the time of purchase, the requirements for Section 4.3. Bulk Product E-commerce Delivery Requirements shall apply.

Section 5. Unit Pricing Requirements on E-Commerce Sites for Products Offered for Sale

5.1. Products Subject to Unit Pricing on E-commerce Sites

(a) Unit Price Information is required for bulk products and random weight packages offered for sale on an e-commerce site.

(b) Unit Price Information is optional for standard packages offered for sale on e-commerce sites.

5.3 Required Unit Price Information

The Unit Price must be consistent with the required method of sale for the product.

(b) Units of Measure. - The declaration of the unit price of a particular commodity in all package sizes offered for sale in a retail establishment shall be uniformly and consistently expressed in terms of:

(1) 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.

(2) 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) 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) Price per individual unit or multiple units if the net quantity of contents of the commodity is in terms of count.

(5) 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.

(c) Exemptions – The following exemptions from unit pricing requirements above are permitted:

(1) Small Packages. – Commodities shall be exempt from these provisions when packaged in quantities of less than 28 g (1 oz) or 29 mL (1 fl oz) or when the total retail price is 50 cents or less.

(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.

(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.

(4) Variety and Combination Packages. – Variety and Combination Packages as defined in Section 2.9 and Section 2.10 in the Uniform Packaging and Labeling Regulation [Section XX *NOTE*] shall be exempt from these provisions.

Section XX NOTE: See "Uniform Packaging and Labeling Regulation

(d) The Unit Price must be in consistent units for similar products. When different brands or package sizes of the same consumer commodity are expressed in more than one unit of measures, the e-commerce site must unit price the items consistently. For example, some juices may be labeled by the fluid ounce, pint, quart and gallon. Unit pricing similar liquid products by the fluid ounce, others by the pint and still others by the gallon does not facilitate value comparison. E-commerce sites must determine the most effective units for ensuring value comparison of similar products with varying product sizes.

(e) Unit Pricing Expressions the nearest cent when a dollar or more. If the unit price is under a dollar, it must be listed to the tenth of a cent or the whole cent, but both methods cannot be used simultaneously. The e-commerce site must accurately and consistently use the same method of rounding up or down to compute the unit price to the whole cent.

(f) The unit price information must be presented adjacent to the product price information. When present, unit price information is to be provided in a manner so that it is adjacent to all other product pricing information.

Section 6. Declaration of Quantity– E-commerce Products

6.1. E-commerce Site Requirements – Any e-commerce package offered for sale on an e-commerce site shall be displayed or represented on the e-commerce site with a separate Declaration of Quantity statement which details the quantity of product that the package contains in metric (SI) and US Customary units of measure and/or in count consistent with the requirements for packages intended for retail sale prescribed in the Uniform Packaging and Labeling Regulation (Reference appropriate UPLR section(s)). The Declaration of Quantity must be accurately displayed in relevant units to facilitate value comparison. The declaration shall not be misleading or deceptive.

6.2. E-commerce Package Requirements – E-commerce standard, random quantity packages, and pre-packaged non-consumer packages delivered to customers shall have an accurate Declaration of Net Quantity on the package label. In the event one of these e-commerce packages does not have a label, the Declaration of Net Quantity shall appear upon or in documentation within the package.

6.3. E-commerce Bulk or Unpackaged Product Requirements – E-commerce bulk and non-consumer products which are not packaged prior to purchase, at the time of delivery to the customer, must be accompanied by an accurate Declaration of Net Quantity on a printed transaction receipt. This printed receipt shall include the product identity, unit price, net quantity, and actual charged price in a clear and non-misleading manner for all bulk or non-packaged products. Electronic receipts may be used in place of paper receipts if the information required for a paper receipt is printed upon or contained in each individual bulk and/or non-packaged product. Electronic receipts may be provided in place of printed receipts if the customer specifies an electronic receipt is preferred.

6.4. Measurement Systems:--The International System of Units (SI), known as the metric system and the U.S. customary system of weights and measures are recognized as proper systems to be used in the declaration of quantity for e-commerce products. Units of both systems may be combined in a dual declaration of quantity. Numerical count is permitted for products when the product statement of identity and numerical count are fully informative of the product's contents.

6.5. Largest Whole Common Unit. – This regulation requires that the quantity declaration for similar types and sizes of products be in terms of the largest whole common unit. With respect to a particular product offered for sale, the declaration shall be in terms of the largest common whole unit of weight or measure with any remainder expressed:

(a) SI Units. – in decimal fractions of such largest whole unit.

(b) U.S. Customary Units. –

(1) in common or decimal fractions of such largest whole unit; or

(2) where appropriate, the next smaller whole unit or units with any further remainder in terms of common or decimal fractions of the smallest unit present in the quantity declaration.

6.6. Terms: Weight, Liquid Measure, Dry Measure, or Count. – The declaration of the quantity of a particular E-commerce product shall be expressed in terms of liquid measure if the commodity is liquid, in terms of dry measure if the commodity is dry, in terms of weight if the commodity is solid, semisolid, viscous, or a mixture of solid and liquid, or in terms of 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 declaration of quantity may be expressed in its traditional terms if such traditional declaration gives accurate and adequate information as to the quantity of the commodity.

6.7. SI Units: Mass and Measure. – A declaration of quantity for an e-commerce product or package shall be expressed in units according to the provisions of the UPLR (add appropriate reference), the applicable Method of Sale Regulation (add appropriate reference) or the applicable regulation(s) of another regulatory agency. Generally, declarations are to follow the requirements detailed below:

in units of mass shall be in terms of the kilogram, gram, or milligram;

in units of liquid measure shall be in terms of the liter or milliliter, and shall express the volume at 20 °C, except in the case of petroleum products or distilled spirits, for which the declaration shall express the volume at 15.6 °C, and except also in the case of a commodity that is normally sold and consumed while frozen, for which the declaration shall express the volume at the frozen temperature, and except also in the case of malt beverages or a commodity that is normally sold in the refrigerated state, for which the declaration shall express the volume at 4 °C;

in units of linear measure shall be in terms of the meter, centimeter, or millimeter;

in units of area measure shall be in terms of the square meter, square decimeter, square centimeter or square millimeter;

in units of volume other than liquid measure shall be in terms of the liter and milliliter, except that the terms cubic meter, cubic decimeter, and cubic centimeter will be used only when specifically designated as a method of sale;

Shall be expressed in units so that the numerical declaration is greater than the number one "1" and less than number one thousand "1000". While a common unit is required for similar products of similar size, when the product size range results in numerical declarations which are less than one or exceed 1000, then added units are permitted.

Examples:

500 g, not 0.5 kg

1.96 kg, not 1960 g

750 mL, not 0.75 L

750 mm or 75 cm, not 0.75 m

SI declarations should be shown in three digits except where the quantity is below 100 grams, milliliters, centimeters, square centimeters, or cubic centimeters where it can be shown in two digits. In either case, any final zero appearing to the right of the decimal point need not be shown; and the declaration of net quantity of contents shall not be expressed in mixed units.

Example:

1.5 kg, not 1 kg 500 g

Only those symbols as detailed in Section 6.5. Largest Whole Common Unit may be employed in the quantity statement on a package of commodity.

6.8. U.S. Customary Units: Weight and Measure. – A declaration of quantity for an e-commerce product or package shall be expressed in units according to the provisions of the UPLR (add appropriate reference), the applicable Method of Sale Regulation (add appropriate reference) or the applicable regulation(s) of another regulatory agency. Generally, declarations are to follow the requirements detailed below

(a) in units of weight shall be in terms of the avoirdupois pound or ounce;

(b) in units of liquid measure shall be in terms of the United States gallon of 231 cubic inches or liquid quart, liquid pint, or fluid ounce subdivisions of the gallon and shall express the volume at 68 °F, except in the case of petroleum products or distilled spirits, for which the declaration shall express the volume at 60 °F, and except also in the case of a commodity that is normally sold and consumed while frozen, for which the declaration shall express the volume at the frozen temperature, and except also in the case of a commodity that is normally sold in the refrigerated state, for which the declaration shall express the volume at 40 °F, and except also in the case of malt beverages, for which the declaration shall express the volume at 39.1 °F;

(c) in units of linear measure shall be in terms of the yard, foot, or inch;

(d) in units of area measure shall be in terms of the square yard, square foot, or square inch;

(e) in units of volume measure shall be in terms of the cubic yard, cubic foot, or cubic inch; and

(f) in units of dry measure, shall be in terms of the United States bushel of 2150.42 in^3, or peck, dry quart, and dry pint subdivisions of the bushel.

(g) Any generally accepted symbol and abbreviation of a unit name may be employed in the quantity statement on a package of commodity

Section 7. Declaration of Identity: E-commerce Products

7.1. E-commerce Site Requirements – Any e-commerce package offered for sale on an e-commerce site shall be represented or displayed on the e-commerce site with a separate Declaration of Identity statement which details the specific product that the package contains in ordinary terms expressed in the English language. The declaration of identity needs to be specific enough to distinguish between similar types and varieties of products. A manufacturer brand name is not a statement of identity. The declaration shall not be misleading or deceptive.

7.2. The identity declaration shall be in terms of:

(a) the name specified in or required by any applicable federal or state law or regulation or, in the absence of this;

(b) the common or usual name or, in the absence of this;

(c) the generic name or other appropriate description, including a statement of function (such as "cleaning powder").

(d) Manufacturer catalog number or part number may be provided in addition to 7.2(a), (b) or(c) if that number helps identify and distinguish products or commodities offered for sale.

7.3. E-Commerce Package Requirements – The same Declaration of Identity shall appear on the product label, on the product, attached to the product or within the product package in a clear and non-misleading fashion when delivered to the purchaser.

Section 8. Declaration of Responsible Party: E-commerce Products

8.1. E-commerce Packages. – Any e-commerce package offered for sale on an e-commerce site which is not owned or operated by the person responsible for the manufacture, packaging, labeling or distributing of the e-commerce package shall specify conspicuously either 1) on the label of the e-commerce package or 2) on documentation within the e-commerce package if there is no label, marking of the name and address of the product manufacturer, packer, or distributor. The name shall be the actual corporate name, or, when not incorporated, the name under which the business is conducted. The address shall include street address, city, state (or country if outside the United States), and ZIP Code (or the mailing code, if any, used in countries other than the United States); however, the street address may be omitted if it is listed in any readily accessible, well-known, widely published, and publicly available resource, including but not limited to a printed directory, electronic database, or website.

If a person manufactures, packs, or distributes a commodity at a place other than his principal place of business, the label may state the principal place of business in lieu of the actual place where the commodity was manufactured or packed or is to be distributed, unless such statement would be misleading. Where the commodity is not manufactured by the person whose name appears on the label, the name shall be qualified by a phrase that reveals the connection such person has with such commodity, such as "Manufactured for and packed by ," "Distributed by ," or any other wording of similar import that expresses the facts.

8.2. E-commerce Bulk Products and Select Random Quantity Packages. – All responsibility for bulk e-commerce products and e-commerce random quantity packages bearing no Declaration of Responsible Party information shall be that of the person or entity responsible for the e-commerce site.

8.3. E-commerce Site Requirements. – The operator of an e-commerce site offering products for sale shall comply with at least one of the following requirements regarding each product offered for sale:

(a) The e-commerce site shall provide the name and address of the product manufacturer, packer or distributor.

(b) The e-commerce site shall provide the name and website address of the product manufacturer, packer, or distributor.

(c) The e-commerce site shall provide the product brand name or the name of the product manufacturer, distributor, or packer, when product manufacturer, distributor or packer address information is displayed on the package label at the time the product is delivered to the purchaser.

(d) When the e-commerce site owner or operator is the also the product manufacturer, packer or distributor, the e-commerce site shall clearly and conspicuously display its name, address and contact information on both the e-commerce site and on the transaction receipt.

Section 9. Product Photograph or Accurate Product Depiction/Representation: E-commerce Site Requirements

9.1. E-commerce Packages. Any e-commerce package offered for sale on an e-commerce site shall be represented on the site with a current photograph of the package offered for sale. As an alternative, a detailed and accurate photographic depiction or representation of the package may be displayed. This picture or graphical representation shall be sufficiently sized, detailed and clear to enable the customer to distinguish this package or product from similar packages including varying sizes, varieties and product functions. When a consumer can customize an e-commerce package, a photographic representation of the customized product can be provided in addition to the required pre-customized product.

9.2. E-commerce Random Weight Packages. – E-commerce random weight products offered for sale on an e-commerce site shall be accompanied on the site by a representative picture or photographic depiction of product (packaged or unpackaged) which is being offered for sale. This picture or photographic depiction shall be sufficiently sized, detailed, and clear to enable the customer to see the product and the pictured item shall be representative of the product being offered for sale. When a consumer can customize an e-commerce random weight package, a photographic representation of the customized product can be provided in addition to the required pre-customized product.

9.3. E-commerce Bulk Products and Select Random Quantity Packages. – Bulk products offered for sale on an E-commerce site shall be accompanied on the site by a representative picture or photographic depiction of the unpackaged product which is being offered for sale. Products packaged in random quantity packages shall be displayed on the site with a representative depiction of a representative package, a clear and conspicuous statement explaining that packaged products are of random quantity, and instructions to customers regarding the means to specify a maximum or minimum package quantity in ordering and purchasing the product. The picture(s) or photographic depiction(s) shall be sufficiently sized, detailed, and clear to enable the customer to see the product and the pictured item shall be representative of the product being offered for sale. When a consumer can customize bulk or random quantity package, a photographic representation of the customized product can be provided in addition to the required pre-customized product.

9.4. E-commerce Non-Consumer Packages. – Non-consumer products offered for sale on an e-commerce site shall be accompanied on the site by a representative picture or photographic depiction of the product which is being offered for sale. This picture or photographic depictions shall be sufficiently sized, detailed, and clear to enable the customer to see the product and the pictured item shall be representative of the product being offered for sale. When a consumer can customize an non-consumer package, a photographic representation of the customized product can be provided in addition to the required pre-customized product.

9.5. Pictures on Receipts: Transaction receipts are not required to provide pictures or photographic depictions

Section 10. Prominence and Placement of Required Information on E-commerce Sites: Offering E-commerce Products for Sale

10.1. General Requirements. – All information required to appear on the e-commerce site which offers products for sale shall appear thereon in the English language and shall be prominent, definite, plain, and conspicuous as to size and style of letters and numbers and as to color of letters and numbers in contrast to color of background. Any required information that is either in hand lettering or hand script shall be entirely clear and equal to printing in legibility.

(a) Location. – The required e-commerce site declarations below must be present in the top 50% the screen in which the product is offered for sale:

(a) identity,

(b) net quantity,

(c) product price,

(d) brand or manufacturer name and

(e) package picture or photographic representation/depiction.

(b) Style of Type or Lettering – The required e-commerce site declarations shall be in such a style of type or lettering as to be boldly, clearly, and conspicuously presented with respect to other type, lettering, or graphic material on the screen.

(c). Color Contrast. – The required e-commerce site declarations shall be in a color that contrasts conspicuously with its background.

(d) Package Picture or Photographic Representation. – The product picture or photographic depiction shall be in the actual colors of the package or product. Slight variations in color shading are acceptable.

10.2. Combined Declarations of Required Information. – One or more of the required e-commerce site declarations can be combined if the resulting statement is clear and not misleading. This shall not apply to product photograph or photographic representation. Combined declarations shall be of a consistent size same size and font, excepting the product price which may be in a larger size and a different font.

(a) Combined Declarations of Required Information – The declarations of identity, net quantity, product price and/or brand or manufacturer name can be combined into a single statement on an e-commerce site provided the information is clear and not misleading. A combined statement may appear on a single line or multiple lines as illustrated below:

Examples:

1 kg (2.2 LB) Brand X Laundry Detergent $4.99

Brand X

Laundry Detergent

1 kg (2.2 LB)

$4.99

(b) Free Area – The area surrounding a required individual or a combined declaration on an e-commerce site shall be free of printed information:

(i) above and below, by a space equal to at least the height of the lettering in the declaration; and

(ii) to the left and right, by a space at least equal to twice the width of the letter "N" of the style and size of type

10.3. Alternate Languages. – An e-commerce site may provide product information in one or more languages in addition to English. When an e-commerce site does provide any required product information in an additional language, all the required information specified in this regulation must be provided in that additional language or languages.

Section 11. Prominence and Placement: Delivered E-commerce Packages, Products and Receipts

11.1. General Requirements – All information required to appear on an e-commerce package, product, or receipt shall appear thereon in the English language and shall be prominent, definite, plain, and conspicuous

as to size and style of letters and numbers and as to color of letters and numbers in contrast to color of background. Any required information that is either in hand lettering or hand script shall be entirely clear and equal to printing in legibility.

11.2. Packages Intended for Sale in Retail Locations–A package properly labeled to comply with the retail shelf requirements of the UPLR will also comply with the e-commerce package label requirement.

11.3. Orientation of Required Declarations. – The required declarations on packages, products, or receipts shall be presented in such a manner as to be generally consistent to the orientation of the label or package.

Section 12. Effective Date

This regulation shall become effective 6 months after adoption for businesses having annual revenues in equal to or in excess of $50 million and 18 months for businesses with annual revenues under $50 million.

Comments in Favor:

Regulatory:
-

Industry:
-

Advisory:
-

Comments Against:

Regulatory:
-

Industry:
-

Advisory:
-

Neutral Comments:

Regulatory:
-

Industry:
-

Advisory:
-

Item Development:

NCWM 2021 Interim Meeting: The Committee gave an Assigned status to this item at the 2022 Interim Meeting and believes that more outreach to online retailers is needed. The Committee is uncertain that the impacted industry has had an opportunity to review and engage in the process.

The Committee also considered adding an effective date to the proposal to address this concern but determined it would be better for PALS to reach out to retailers first and then consider the need for an effective date based on the feedback received.

The Committee replaced the original proposal with new language provided by PALS on January 9, 2022. The new language also includes a new section, "Section 11. Powers and Duties of the Director." This new section is not a priority item and must be submitted as a separate agenda item by PALS for consideration by the NCWM.

Additional recommendations include:

- reach out to all stakeholders including online retailers, producers, consumer groups, trade associations, and engage them in the PALS work
- consider comments submitted in January by NIST OWM to the PALS Chairman and L&R Committee
- reach out to other federal agencies with authority to regulate online retailers
- broaden the definition of current section 2.12. E-commerce Consumer Commodity.
- conduct mock inspections of these e-commerce websites to help develop the item
- prepare a presentation which illustrates how to apply the requirements
- consider making the suggested amendments to section 5 "Unit Pricing Requirements for Products Offered for Sale on an E-commerce Site" outlined in the OWM analysis supporting documentation
- develop an EPO, develop a best practice guide for web design, develop a presentation on how to apply the requirements for E-commerce websites and add a section for unit pricing requirements
- consider adding an effective date to provide sufficient time for online retailers to prepare for regulation

NCWM 2022 Annual Meeting: The Committee heard from Chris Guay, Chairman of the PALS on the plan to address the recommendations the Committee made at the 2022 Interim meeting to further develop the item.

Weights and Measures Law, Section 11. Powers and Duties was added to the original proposal, but in accordance with NCWM policies, the Chairman of the PALS was informed it must be submitted on a NCWM Form 15 to be considered. It will not be considered with this item but, if submitted on a NCWM Form 15 it will be considered as a separate item.

Regional Associations' Comments:

WWMA 2021 Annual Meeting: Mr. Chris Guay, (PALS Subcommittee Chair) – Gave a presentation on this item. Recommended this Item as Developing. Mr. Kurt Floren, (County of Los Angeles, CA) – Mr. Floren pointed out several editorial changes, and suggested that this becomes a Voting Item. Mr. Kevin Schnepp, (CDFA-DMS) – Mr. Schnepp also suggested editorial changes. Ms. Lisa Warfield, (NIST OWM) – Ms. Warfield recommends that PALS reach out to other stakeholders. She also suggested that a broader definition of section 2.12:

"**any commodity offered or exposed for sale by weight, measure or count from bulk or in packaged form**.".

Ms. Warfield also suggested mock inspections of these e-commerce websites to help develop the item and recommends that PALS consider developing a presentation which illustrates how to apply the requirements to a mockup of different ecommerce websites.

The Committee recommends that this Item be Assigned to the PALS Subcommittee. The Committee recommends that PALS develop a proposed amendment to Section 12 "Powers and Duties of the Director" in the Uniform Weights and Measures Law to authorize the Director to adopt regulations that encompass the various aspects necessary to ensure ecommerce websites and other regulated sales outlets comply with legal metrology requirements. The Committee also recommends that PALS consider making the suggested amendments to section 5 "Unit Pricing Requirements for Products Offered for Sale on an E-commerce Site" outlined in the OWM analysis supporting documentation. The Committee recommends that PALS provides stakeholder outreach to Federal agencies, major e-commerce retailers, smaller e-commerce retailers, trade associations and consumer groups. The Committee also recommends that PALS consider Ms. Warfield's comments to develop material for e-commerce websites and conduct

practical applications of the regulation, to develop a presentation which illustrates how to apply the requirements to different e-commerce websites.

SWMA 2021 Annual Meeting: Mr. Chris Guay (PALS Subcommittee Chair) – Gave a presentation of the work done by the group. Dr. Matthew Curran (State of Florida) commented on the need for these regulations for accountability and enforcement. NIST OWM provided written analysis that suggested this item be developing. They recommended reaching out to other stakeholders, amend the powers and duties of State Directors, develop an EPO, develop a best practice guide for web design, develop a presentation on how to apply the requirements for E-commerce websites and add a section for unit pricing requirements.

The Committee recommends this item be Assigned to PALS for further development using the guidance from NIST OWM written analysis

CWMA 2022 Annual Meeting: Chris Guay, chair of the task force, commented that the item is fully developed, and he believes the item needs to be reclassified as Informational because the item has Assigned status and no one from industry has been able to comment on it during open hearings.

Lisa Warfield, NIST Technical Advisor commented that there is additional information regarding this item in Publication 16.

Charlie Stutesman, Kansas commented that he believes the item should be escalated as a voting item so it can be discussed and vetted throughout the fall regional meetings.

Mr. Guay commented that he believes the item should be made Informational rather than Voting because there has not been the opportunity for companies to come forward and speak to the model regulation.

The Committee recommends this item be classified as an Informational item to all more input from industry, particularly during open hearings.

NEWMA 2022 Annual Meeting: John McGuire, Acting Chairman NEWMA L&R Committee, NJ – Noted that NCWM website has new information posted on this item under the NCWM L&R supporting documents. He has yet to review the material to determine what changes, if any, were made.

David Sefcik, NIST OWM – stated that NIST OWM supports the work being done by PALS. NIST OWM is working on edits and clarification for this item. NIST OWM will assist PALS in reaching out to stakeholders once they are determined by PALS. NIST OWM plans to include an announcement in the Federal Register Notice for the 2022 NCWM Annual Meeting, and in addition to other agenda items will include that an Ecommerce regulation is being developed.

Jason Flint, NJ – Stated that Section 5, 5.2., Unit Pricing should be mandatory not voluntary.

No additional comments during the open hearing.

NEWMA L&R Committee recommends this item continues to be Assigned to PALS. NEWMA L&R requests that PALS revisit or re-review and discuss whether Unit Pricing should be mandatory or voluntary.

OTH-22.1
Regional recommendation to NCWM on item status: ☐ Recommend as a Voting Item on the NCWM agenda ☒ Recommend as an Information Item on the NCWM agenda ☐ Recommend as an Assigned Item on the NCWM agenda *(To be developed by an NCWM Task Group or Subcommittee)* ☐ Recommend as a Developing Item on the NCWM agenda *(To be developed by source of the proposal)* ☐ Recommend Withdrawal of the Item from the NCWM agenda *(In the case of new proposals, do not forward this item to NCWM)* ☐ No recommendation from the region to NCWM *(If this is a new proposal, it will not be forwarded to the national committee by this region)*
Comments and justification for the regional recommendation to NCWM: *(This will appear in NCWM reports)*
Chris Guay, PALS commented the version included in the L&R agenda is the current version. Any revisions from the four regions will be made and will be available in Publication 15 prior to the 2023 NCWM Interim Meeting. He reviewed the changes that had been made since the last version of the item including new definitions, table of contents, and proposed effective dates. Mr. Guay believes the item has been fully developed and pending any substantive changes from the regions it is ready for voting status. Craig VanBuren, Michigan commented he supports the item moving forward as a voting item and supports its content. Doug Musick, Kansas supports the item, but he isn't sure there should be a distinction between larger and smaller companies for an implementation date. Ivan Hankins, Iowa; Craig VanBuren, Michigan, and Doug Rathbun, Illinois support the item moving forward with voting status. The Committee believes this item is fully developed and should be given Informational status for industry to have ample opportunity to provide input.

Additional letters, presentation and data may have been submitted for consideration with this item. Please refer to www.ncwm.com/publication-15 to review these documents.

OTH-07.1 D Fuels and Lubricants Subcommittee

Source:
NCWM Fuels and Lubricants Subcommittee (FALS)

Purpose:
Provide an update of the activities of this Subcommittee which works on direction from and reports to the L&R Committee. The mission of FALS is to assist the L&R Committee in the development of agenda items that affect Handbook 130, Uniform Fuels and Automotive Lubricants Inspection Law and Uniform Fuels and Automotive Lubricants Regulation. The Subcommittee consists of regulators and associate members who have subject matter expertise in fuels and lubricants. The Subcommittee will be called upon to aid in the development, provide guidance, and help establish NCWM position on items concerning fuels and lubricants.

Item Under Consideration:
Mr. Bill Striejewske provided the following written report on the activities of the Fuels and Lubricants Subcommittee (FALS) which reports and provides recommendations to the Laws and Regulations Committee.

For more information or to provide comment, please contact the FALS Chair:

Ms. Vanessa Benchea

Florida Department of Agriculture and Consumer Services/Division of Consumer Services

(813) 868-8263, **Vanessa.Benchea@fdacs.gov**

The Fuels and Lubricants Subcommittee (FALS) met on Sunday, July 10, 2022, at the 2022 NCWM Annual Meeting in Tacoma, WA, to review items related to fuel and automotive fluid standards that appear on the L&R agenda. The Subcommittee discussed Item Block 6, which has been assigned to the subcommittee, with a brief update and comments from members of the Focus Group working on the block. This is discussed in more detail below. There were also brief discussions of Item Block 4, which had been submitted by FALS, as well as MOS-22.5, an item concerning biodiesel labeling that is of interest to the Subcommittee. Finally, two issues initially discussed during the FALS meeting at the 2022 Interim Meeting were discussed.

Item Block 6 Transmission Fluid Focus Group (B6: MOS-21.1. Section 2.36.2. Labeling and Identification of Transmission Fluid and B6: FLR-21.2. Section 3.14.1. Labeling and Identification of Transmission Fluid): The Focus Group was originally formed because while the model regulation in NIST Handbook 130 is sufficient, there is no licensing system for transmission fluid as there is with engine oils. Chair Striejewske read an update from FG Chair Joanna Johnson (Automotive Oil Change Association), as she was not able to attend the Annual Meeting. In summary, the group has reached agreement that (1) designating transmission fluid "obsolete" is impractical for a variety of reasons, including lack of a comprehensive and consistent standards setting organization mechanism, and therefore the original amendment approach should no longer be pursued; and (2) that they should switch focus to developing other potential consumer protection language for labels. The latter, for instance, may involve exploring general references to checking one's owner's manual for transmission fluid recommendations. This summary was supported by FG members who were in attendance at the FALS meeting

Regional Associations' Comments:
NCWM 2022 Annual Meeting:

No action was taken by the Committee.

Regional Associations' Comments:

WWMA 2021 Annual Meeting: The Committee heard a report from the FALS Subcommittee Chair Striejewske. The Committee supports the work of FALS.

SWMA 2021 Annual Meeting: The Committee heard comments from Mr. Randy Jennings on behalf of Chair Striejewske. The Committee supports the work of FALS.

CWMA 2022 Annual Meeting: Kristy Moore, Growth Energy commented that she believes someone from the Central region should lead FALS since the current chair has resigned.

The item was recommended as a Developing Item on the NCWM agenda.

NEWMA 2022 Annual Meeting: No comments were heard during the open hearing.

OTH-07.1
Regional recommendation to NCWM on item status: ☐ Recommend as a Voting Item on the NCWM agenda ☐ Recommend as an Information Item on the NCWM agenda ☐ Recommend as an Assigned Item on the NCWM agenda *(To be developed by an NCWM Task Group or Subcommittee)* ☒ Recommend as a Developing Item on the NCWM agenda *(To be developed by source of the proposal)* ☐ Recommend Withdrawal of the Item from the NCWM agenda *(In the case of new proposals, do not forward this item to NCWM)* ☐ No recommendation from the region to NCWM *(If this is a new proposal, it will not be forwarded to the national committee by this region)*
Comments and justification for the regional recommendation to NCWM: *(This will appear in NCWM reports)*
Mike Harrington, Iowa and member of FALS commented there hasn't been any activity since the Annual Meeting. The new FALS chairperson is Vanessa Benchea.

Additional letters, presentation and data may have been submitted for consideration with this item. Please refer to www.ncwm.com/publication-15 to review these documents.

OTH-11.1 D Packaging and Labeling Subcommittee

Source:
NCWM Packaging and Labeling Subcommittee (PALS)

Purpose:
Provide an update of the activities of this Subcommittee which reports to the L&R Committee. The mission of PALS is to assist the L&R Committee in the development of agenda item, NCWM positions and new standards related to packaging and labeling. The Subcommittee will also be called upon to provide important and much needed guidance to the regulatory and consumer packaging communities on difficult questions. PALS will report to NCWM L&R Committee. The Subcommittee is comprised of a Chair, eight voting members, and anyone interested in packaging and labeling standards.

Item Under Consideration:
Chairman Guay updated the Committee on the work of PALS related to Item E commerce as detailed in the item OTH-22.1.

Mr. Guay informed the Committee that PALS is drafting a letter on behalf of the NCWM in response to a Federal Register notice announcing Alcohol and Tobacco Tax and Trade Bureau, Regulations and Rulings Division planned changes to product net quantity labeling and fill requirements for wine and distilled spirits. (Docket Number TTB-2022-0004 Standards of Fill for Wine and Distilled Spirits). Comments are due July 25, 2022.

A draft copy of the letter was sent to the Committee for review and comment.

Original Justification:

This item is to provide a report on the activities of the Packaging and Labeling Subcommittee which reports and provides recommendations to the Laws and Regulations Committee.

For more information or to provide comment, please contact the PALS Chair:

Mr. Chris Guay
CGGT
513-652-6597, guay.cb@gmail.com

PALS is comprised of four voting regulatory officials (one from each region) and four voting members from industry (retailers and manufacturers) in addition to its Chair and NIST Technical Advisor. Members of NCWM can participate in the PALS meetings by contacting Chair Guay. PALS work is being developed through monthly webinar meetings and at the NCWM meetings. PALS members are responsible for providing updates at their Regional Meetings. Chair Guay added PALS will be developing proposals and in addition providing guidance and recommendations on existing proposals as assigned by the NCWM L&R Committee. He stressed the importance of having key federal agencies (FDA, FTC, and USDA) participating.

Item Development:
NCWM 2020 Interim Meeting: PALS Chair, Mr. Chris Guay, reported that PALS is continuing to draft a proposed regulation and accompanying "Best Practice" document regarding products sold via e-commerce. The focus of this document is to help provide more clarity on the information necessary for consumers to make informed product choices on-line and for consumers to confirm receipt of the products ordered. PALS currently believes certain information is better included in a regulation while other information is better provided as guidance or Best Practice document. The Subcommittee will work on development of this proposed regulation and proposed guidance in the spring of 2020 with a target to have a draft proposal prepared by the 2020 NCWM Annual meeting. Separately, PALS believes the text of "Recommended Best Practice" for quantity expressions is complete. PALS is developing an illustrative appendix with graphics support being provided by the NCWM office. PALS is planning to have the "Recommended Best Practice" Document for quantity related expressions appearing on a principal display panel and the proper declaration of net quantity completed by the summer of 2021. The document has been completed and the work continues as an illustrative appendix.

PALS reviewed the framework for a proposed Handbook 130 regulation regarding products sold through e-commerce. This regulation would focus on ensuring buyers have sufficient information to make an accurate product selection and value comparison at the time of purchase, while also ensuing the buyer can confirm the product purchased is the product they receive. PALS plans to make this proposal its priority for 2021.

NCWM 2021 Annual Meeting: PALS reviewed a developing draft regulation pertaining to websites which offer products for sale through e-commerce, and to products which are sold and delivered because of an e-commerce purchase. PALS received comments from those in attendance at the PALS work session and they believe the next step should be to forward this proposal to regions for broader stakeholder review and comment. PALS plans to submit a proposal for this item to obtain comments at the 2021 Fall Regional Association Meetings.

NCWM 2022 Annual Meeting:

No action was taken by the Committee.

Regional Associations' Comments:
WWMA 2021 Annual Meeting: The Committee heard a report from the PALS Subcommittee Chair Guay. The Committee supports the work of PALS.

SWMA 2021 Annual Meeting: Chris Guay (PALS) stated that they continue to work on PALS and will present their findings to the FDA for food safety as it relates to E-commerce. He also requested more involvement from stakeholders in their meetings to receive input as PALS moves forward on E-commerce regulation.

The Committee recognizes and supports the work of PALS.

CWMA 2022 Annual Meeting: Chris Guay, CGGC Consulting commented that the subcommittee will be focusing more on guidance documents rather than model language in the future.

The item was recommended as a Developing Item on the NCWM agenda.

NEWMA 2022 Annual Meeting: No additional comments were heard during the open hearing.

OTH-11.1
Regional recommendation to NCWM on item status: ☐ Recommend as a Voting Item on the NCWM agenda ☐ Recommend as an Information Item on the NCWM agenda ☐ Recommend as an Assigned Item on the NCWM agenda *(To be developed by an NCWM Task Group or Subcommittee)* ☒ Recommend as a Developing Item on the NCWM agenda *(To be developed by source of the proposal)* ☐ Recommend Withdrawal of the Item from the NCWM agenda *(In the case of new proposals, do not forward this item to NCWM)* ☐ No recommendation from the region to NCWM *(If this is a new proposal, it will not be forwarded to the national committee by this region)*
Comments and justification for the regional recommendation to NCWM: *(This will appear in NCWM reports)*
Chris Guay, Chair of PALS, commented the Subcommittee has been working to establish consistency between the handbooks and the FPLA. The Subcommittee is providing comments to federal agencies when and where appropriate.

Additional letters, presentation and data may have been submitted for consideration with this item. Please refer to www.ncwm.com/publication-15 to review these documents.

ITEM BLOCK 1 (B1) RENEWABLE DIESEL AND DIESEL

Source:
CC Consulting, LLC

Purpose:
Further refine the changes related to biodiesel made at the 2022 annual meeting. This proposal also includes needed updates related to renewable diesel.

B1: MOS-23.1 Sections 2.23. Biodiesel and biodiesel Blends that Contain Greater Than or Equal to 21% by Volume Biodiesel. and 2.40. Diesel Fuel.

Item under Consideration:
Amend Handbook 130, Uniform Regulation for the Method of Sale of Commodities as follows:

2.31. Biodiesel and Biodiesel Blends that contain greater than or equal to 21 % by volume biodiesel.

2.31.1. Identification of Product. – Biodiesel shall be identified by the term "Biodiesel" with the designation "B100." ~~**Biodiesel**~~ Blends **that contain greater than 20 % by volume biodiesel** shall be identified by the term "Biodiesel Blend."

2.31.2. Labeling of Retail Dispensers.

2.31.2.1. Labeling of Grade Required. – Biodiesel and biodiesel blends **that contain greater than 20 % by volume biodiesel** shall be identified in accordance with both EPA and FTC requirements.

~~**2.31.2.2. Automotive Fuel Rating. Biodiesel and biodiesel blends shall be labeled with its automotive fuel rating in accordance with 16 CFR 306.**~~

2.31.2.3. Biodiesel Blends. – When biodiesel blends greater than 20 % by volume are offered by sale, each side of the dispenser where fuel can be delivered shall have a label conspicuously placed that states "Consult Vehicle Manufacturer Fuel Recommendations." The lettering of this legend shall not be less than 6 mm (1/4 in) in height by 0.8 mm (1/32 in) stroke; block style letters and the color shall be in definite contrast to the background color to which it is applied.

2.31.3. Documentation for Dispenser Labeling Purposes. – The retailer shall be provided, at the time of delivery of the fuel, a declaration of the volume percent biodiesel on an invoice, bill of lading, shipping paper, or other document. This documentation is for dispenser labeling purposes only; it is the responsibility of any potential blender to determine the amount of biodiesel in the diesel fuel prior to blending.

~~**2.31.4. Exemption.** Biodiesel blends that contain less than or equal to 5 % biodiesel by volume are exempt from the requirements of Sections 2.31.1. Identification of Product, 2.31.2. Labeling of Retail Dispensers, and 2.31.3. Documentation for Dispenser Labeling Purposes when it is sold as diesel fuel.~~
(Added 2008) (Amended 2022**, and 20XX**)

2.40. Diesel Fuel. – Shall meet the following requirements, based on the biodiesel concentration of the fuel:

(a) Diesel fuel that contains less than or equal to 5 % by volume biodiesel shall meet the latest version of ASTM D975, "Standard Specifications for Diesel Fuels" and shall be sold as diesel fuel.

(b) Diesel fuel that contains greater than or equal to 6 % by volume biodiesel and that contains less than or equal to 20 % by volume shall meet the latest version of ASTM D7467, "Standard Specifications for Diesel Fuel Oil, Biodiesel Blend (B6 to B20)."

(c) Only fuel additive registered with the U.S. EPA may be used to additize diesel fuel, and the final product shall meet the latest version of ASTM D975 and/or ASTM D7467.

2.40.1. Premium Diesel Fuel. – All diesel fuels identified on retail dispensers as premium, super, supreme, or premier must conform to the following minimum requirements.

(a) **Cetane Number.** – A minimum cetane number of 47.0 as determined by the latest version of ASTM D613, "Standard Test Method for Cetane Number of Diesel Fuel Oil."

NOTE: ASTM D613, "Standard Test Method for Cetane Number of Diesel Fuel Oil" is the referee method; however, the following methods can be used to determine cetane number: the latest version of ASTM D6890, "Standard Test Method for Determination of Ignition Delay and Derived Cetane Number" (DCN) of Diesel Fuel Oils by Combustion in a Constant Volume Chamber"; and ASTM D7668, "Standard Test Method for Determination of Derived Cetane Number (DCN) of Diesel Fuel Oils–Ignition Delay and Combustion Delay Using a Constant Volume Combustion Chamber Method."

(b) **Low Temperature Operability.** – A cold flow performance measurement which meets the latest version of ASTM D975, "Standard Specification for Diesel Fuel," tenth percentile minimum ambient air temperature charts and maps by the latest version of either ASTM D2500, "Standard Test Method for Cloud Point of Petroleum Products and Liquid Fuels" or ASTM Standard D4539, "Standard Test Method for Filterability of Diesel Fuels by Low-Temperature Flow Test (LTFT)." The latest version of ASTM D6371, "Standard Test Method for Cold Filter Plugging Point of Diesel and Heating Fuels" may be used when the test results are a maximum of 6 °C below the Cloud Point. Low temperature operability is only applicable October 1 to March 31 of each year.

(c) **Lubricity.** – A maximum wear scar diameter of 460 micrometers as determined by the latest version ASTM D6079, "Standard Test Method for Evaluating Lubricity of Diesel Fuels by the High-Frequency Reciprocating Rig (HFRR)."

NOTE: The latest version of ASTM D6079, "Standard Test Method for Evaluating Lubricity of Diesel Fuels by the High-Frequency Reciprocating Rig (HFRR)" is the referee method; however, the latest version of ASTM D7688, "Standard Test Method for Evaluating Lubricity of Diesel Fuels by the High-Frequency Reciprocating Rig (HFRR) by Visual Observation" can be used.

(d) **Corrosion.** – A minimum rating of B+ as determined by the most recent version of NACE TM0172, "Determining Corrosive Properties of Cargoes in Petroleum Product Pipelines."

NOTE: The latest recent version of NACE TM0172 "Determining Corrosive Properties of Cargoes in Petroleum Product Pipelines" is the referee method. The latest version of ASTM D7548 "Standard Test Method for Determination of Accelerated Iron Corrosion in Petroleum Products" can be used.

(e) **Filter Blocking Tendency (FBT)** – A maximum of 2.2 by the latest version of ASTM D2068, "Standard Test Method for Determining Filter Blocking Tendency", following procedure B.

(f) **Injector Deposit Control.** – Maximum power loss in keep-clean mode of 2 % by the latest version of Coordinating European Council, CEC F-98-08, "Direct Injection, Common Rail Diesel Engine Nozzle Coking Test."

2.40.2. Use of Other Diesel Terminology. – For any terms other than premium, super, supreme, or premier included in the diesel fuel product or grade name and/or advertisements and claims displayed on dispensers, pump toppers, pole signs and bollard signs which imply improved performance, the product must have a clearly-defined fuel property with a substantiated functional benefit. Such property must be measurable utilizing industry accepted test methodologies developed by recognized standards organizations such as ASTM, SAE, and CEC to allow verification of the improved performance.

2.40.3 Labeling requirements – Diesel fuel containing more than 5 % by volume of biodiesel or more than 5 % by volume of renewable diesel shall be identified in accordance with both EPA and FTC requirements.

(Added 2021) **(amended 20XX)**

B1: FLR-23.1 Sections 1.9. Biodiesel Blend., 1.27. Fuel Oil., 1.XX. Renewable Diesel., 3.3.2. Automotive Fuel Rating., 3.15. Biodiesel and Biodiesel Blends Containing Greater than 20% by Volume Biodiesel.,

Item Under Consideration:
Amend the Uniform Fuels and Automotive Lubricants Regulation as follows:

1.8. Biodiesel. – A fuel comprised of at least 99 % by volume mono-alkyl esters of long chain fatty acids derived from vegetable oils or animal fats, designated B100 or B99.
(Amended 2018)

1.9. Biodiesel Blend. – A fuel comprised of a blend of biodiesel with hydrocarbon diesel fuel **and containing greater than 20 % by volume biodiesel**.
(Amended 2018**, and 20XX**)

1.15. Diesel Fuel. – A refined hydrocarbon suitable for use as a fuel in a compression-ignition (diesel) internal combustion engine that may contain a combination of biodiesel, renewable diesel, and fuel additives.
(Amended 2018)

1.27. Fuel Oil. – Refined oil middle distillates, heavy distillates, or residues of refining, or blends of these, suitable for use as a fuel for heating or power generation. **The fuel may be refined from petroleum or biomass and may contain biodiesel and fuel additives.**

1.56. Wholesale Purchaser Consumer. – Any person who is an ultimate consumer of gasoline, fuel methanol, ethanol flex fuel, diesel fuel, biodiesel, biodiesel blends, fuel oil, kerosene, aviation turbine fuels, natural gas, compressed natural gas, or liquefied petroleum gas and who purchases or obtains the product from a supplier and receives delivery of that product into a storage tank.
(Added 1998) (Amended 1999 and 2014)

1.XX Renewable Diesel. – A refined middle distillate hydrocarbon produced from biomass and suitable for use as a fuel in a compression-ignition (diesel) internal combustion engine.

Section 2. Standard Specifications

2.2. Diesel Fuel. – Shall meet the following requirements, based on the biodiesel concentration of the fuel:

(a) Diesel fuel that contains less than or equal to 5 % by volume biodiesel shall meet the latest version of ASTM D975, "Standard Specifications for Diesel Fuels" and shall be sold as diesel fuel.

(b) Diesel fuel that contains greater than or equal to 6 % by volume biodiesel and that contains less than or equal to 20 % by volume shall meet the latest version of ASTM D7467, "Standard Specifications for Diesel Fuel Oil, Biodiesel Blend (B6 to B20)."

(c) Only fuel additive registered with the U.S. EPA may be used to additize diesel fuel, and the final product shall meet the latest version of ASTM D975 and/or ASTM D7467.
(Amended 2003 and 2018)

2.2.1. Premium Diesel Fuel. – All diesel fuels identified on retail dispensers as premium, super, supreme, or premier must conform to the following minimum requirements:

(a) **Cetane Number.** – A minimum cetane number of 47.0 as determined by the latest version of ASTM D613, "Standard Test Method for Cetane Number of Diesel Fuel Oil."

NOTE: ASTM D613, "Standard Test Method for Cetane Number of Diesel Fuel Oil" is the referee method; however, the following methods can be used to determine cetane number: the latest version of ASTM D6890, "Standard Test Method for Determination of Ignition Delay and Derived Cetane Number" (DCN) of Diesel Fuel Oils by Combustion in a Constant Volume Chamber"; and ASTM D7668, "Standard Test Method for Determination of Derived Cetane Number (DCN) of Diesel Fuel Oils—Ignition Delay and Combustion Delay Using a Constant Volume Combustion Chamber Method."
(Note added 2019)

(b) **Low Temperature Operability.** – A cold flow performance measurement which meets the latest version of ASTM D975, "Standard Specification for Diesel Fuel," tenth percentile minimum ambient air temperature charts and maps by the latest version of either ASTM D2500, "Standard Test Method for Cloud Point of Petroleum Products and Liquid Fuels" or ASTM D4539, "Standard Test Method for Filterability of Diesel Fuels by Low Temperature Flow Test, (LTFT)." The latest version of ASTM D6371, "Standard Test Method for Cold Filter Plugging Point of Diesel and Heating Fuels" may be used when the test results are a maximum of 6 °C below the Cloud Point. Low temperature operability is only applicable October 1 to March 31 of each year.

(c) **Lubricity.** – A maximum wear scar diameter of 460 micrometers as determined by the latest version ASTM D6079, "Standard Test Method for Evaluating Lubricity of Diesel Fuels by the High-Frequency Reciprocating Rig (HFRR)."

NOTE: The latest version of ASTM D6079, "Standard Test Method for Evaluating Lubricity of Diesel Fuels by the High-Frequency Reciprocating Rig (HFRR)" is the referee method; however, the latest version of ASTM D7688, "Standard Test Method for Evaluating Lubricity of Diesel Fuels by the High-Frequency Reciprocating Rig (HFRR) by Visual Observation" can be used.
(Note added 2019)

(d) **Corrosion.** – A minimum rating of B+ as determined by the latest version of NACE TM0172, "Determining Corrosive Properties of Cargoes in Petroleum Product Pipelines."

NOTE: The latest version of NACE TM0172 "Determining Corrosive Properties of Cargoes in Petroleum Product Pipelines" is the referee method. The latest version of ASTM D7548 "Standard Test Method for Determination of Accelerated Iron Corrosion in Petroleum Products" can be used.
(Added 2019)

(e) **Filter Blocking Tendency (FBT).** – A maximum of 2.2 by the latest version of ASTM D2068, "Standard Test Method for Determining Filter Blocking Tendency", following procedure B.
(Added 2019)

(f) **Injector Deposit Control.** – Maximum power loss in keep-clean mode of 2 % by the latest version of Coordinating European Council, CEC F-98-08, "Direct Injection, Common Rail Diesel Engine Nozzle Coking Test."
(Added 2019)

2.2.2. Use of Other Diesel Terminology. – For any terms other than premium, super, supreme, or premier included in the diesel fuel product or grade name and/or advertisements and claims displayed on dispensers, pump toppers, pole signs and bollard signs which imply improved performance, the product

must have a clearly-defined fuel property with a substantiated functional benefit. Such property must be measurable utilizing industry accepted test methodologies developed by recognized standards organizations such as ASTM, SAE, and CEC to allow verification of the improved performance.
(Added 2019)
(Amended 2003 and 2019)

2.5. Fuel Oils. – Shall meet the latest version of ASTM D396, "Standard Specification for Fuel Oils."

2.6. Kerosene (Kerosine). – Shall meet the latest version of ASTM D3699, "Standard Specification for Kerosine."

2.17. Biodiesel Blendstock. – Biodiesel intended for blending with diesel fuel shall meet the latest version of ASTM D6751, "Standard Specification for Biodiesel Fuel Blend Stock (B100) for Middle Distillate Fuels." Any blend stock less than 99 % by volume biodiesel (no more than 1 % by volume diesel fuel). Any blend stock less than 99 % by volume shall not be used as a commercial blend stock for biodiesel blends without the permission of the Director.
(Added 2004) (Amended 2018)

Section 3. Classification and Labeling for Sale.

3.1. General Considerations.

3.1.1. Documentation. – When products regulated by this rule are sold, an invoice, bill of lading, shipping paper, or other documentation must accompany each delivery other than a retail sale. This document must identify the quantity, the name of the product, the particular grade of the product, the applicable automotive fuel rating, and oxygenate type and content (if applicable), the name and address of the seller and buyer, and the date and time of the sale. Documentation must be retained at the retail establishment for a period not less than one year.
(Amended 2008)

3.1.2. Retail Dispenser Labeling. – All retail dispensing devices must identify conspicuously the type of product (exception: gasoline and gasoline-oxygenate blends), the particular grade of the product (exception: No. 2 Diesel), and the applicable automotive fuel rating.
(Amended 2018)

3.1.3. Grade Name. – The sale of any product under any grade name that indicates to the purchaser that it is of a certain automotive fuel rating or ASTM grade shall not be permitted unless the automotive fuel rating or grade indicated in the grade name is consistent with the value and meets the requirements of Section 2, Standard Specifications.

3.1.4. Nozzle Requirements for Automotive Gasoline, Gasoline-Oxygenate Blends, and Diesel Fuel Dispensers. – Each retail dispensing device from which fuel products are sold shall be equipped with a nozzle spout having a diameter that conforms with the latest version of SAE J285, "Dispenser Nozzle Spouts for Liquid Fuel Intended for Use with Spark-Ignition and Compression Ignition Engines."
(Added 2018)
(Amended 2018)

3.3. Diesel Fuel.

3.3.1. Labeling of Grade Required. – Diesel Fuel other than No 2-D shall be identified by grade.
(Amended 2018)

3.3.2. Automotive Fuel Rating. – Diesel fuel containing 6 % to 20 % by volume biodiesel **and/or containing 6% or greater renewable diesel** shall be labeled with its automotive fuel rating in accordance with the FTC "Automotive Fuel Ratings, Certification and Posting Rule," 16 CFR 306.
(Added 2018)

3.3.3. Delivery Documentation for Premium Diesel. – Before or at the time of delivery of premium diesel fuel, the retailer or the wholesale purchaser-consumer shall be provided on an invoice, bill of lading, shipping paper, or other documentation a declaration of all performance properties that qualifies the fuel as premium diesel fuel as required in Section 2.2.1. Premium Diesel Fuel.
(Added 1998) (Amended 1999)
(Amended 1998, 1999, 2008, 2012, and 2018)

3.6. Fuel Oils.

3.6.1. Labeling of Grade Required. – Fuel Oil shall be identified by the grades contained in the latest version of ASTM D396, "Standard Specification for Fuel Oils."
(Amended 2018)

3.6.2. Retail Fuel Oil. – Dispensers shall display the following legend:

"Warning – Not Suitable for Use in Unvented Heaters Requiring No. 1-K Kerosene."

The lettering of this legend shall not be less than 12.7 mm (1/2 in) in height by 1.5 mm (1/16 in) strokes (width of type), block style letters, and the color of lettering shall be in definite contrast to the background color to which it is applied.
(Added 2018)
(Amended 2008 and 2018)

3.15. Biodiesel and Biodiesel Blends containing greater than 20 % by volume biodiesel.

3.15.1. Identification of Product. – Biodiesel Blendstock shall be identified by the term "biodiesel" with the designation "B100" or "B99."
(Amended 2018)

3.15.2. Labeling of Retail Dispensers.

3.15.2.1. Labeling of Grade Required. – Biodiesel shall be identified by the grades No. 1-B S15**,** ~~**or**~~ No. 1-B S500**, No. 2-B S15**, or No. 2-B S500.
(Amended 2018)

3.15.2.2. Automotive Fuel Rating. – **Fuels meeting the above requirements and/or including greater than 5 % renewable diesel** ~~**Biodiesel and biodiesel blends diesel**~~ shall be labeled with its automotive fuel rating in accordance with the FTC Automotive Fuel Ratings, Certification and Posting Rule, 16 CFR 306.
(Amended 2018)

3.15.2.3. Biodiesel Blends. – When biodiesel blends greater than 20 % by volume are offered by sale, each side of the dispenser where fuel can be delivered shall have a label conspicuously placed that states "Consult Vehicle Manufacturer Fuel Recommendations." The lettering of this legend shall not be less than 6 mm (1/4 in) in height by 0.8 mm (1/32 in) stroke; block style letters and the color shall be in definite contrast to the background color to which it is applied.

3.15.3. Documentation for Dispenser Labeling Purposes. – The retailer shall be provided, at the time of delivery of the fuel, a declaration of the volume percent biodiesel on an invoice, bill of lading, shipping paper, or other document. This documentation is for dispenser labeling purposes only; it is the responsibility of any potential blender to determine the amount of biodiesel in the diesel fuel prior to blending.

~~**3.15.4. Exemption. Biodiesel blends that contain less than or equal to 5 % biodiesel by volume are exempted from the requirements of Sections 3.15.1. Identification of Product, 3.15.2. Labeling of Retail Dispensers, and 3.15.3. Documentation for Dispenser Labeling Purposes when it is sold as "diesel fuel" as required in Section 3.3. Diesel Fuel.**~~
(Added 2005) (Amended 2008 and 2018**, and 20XX**)

Section 4. Retail Storage Tanks and Dispenser Filters

4.1. Water in Gasoline-Alcohol Blends, Biodiesel Blends, Ethanol Flex Fuel, Aviation Gasoline, and Aviation Turbine Fuel. – No water phase greater than 6 mm (¼ in) as determined by an appropriate detection paste or other acceptable means, is allowed to accumulate in any tank utilized in the storage of gasoline-alcohol blend, biodiesel, biodiesel blends, ethanol flex fuel, aviation gasoline, and aviation turbine fuel.
(Amended 2008, 2012, and 2014)

4.2. Water in Gasoline, Diesel, Gasoline-Ether, and Other Fuels. – Water shall not exceed 25 mm (1 in) in depth when measured with water indicating paste or other acceptable means in any tank utilized in the storage of diesel, gasoline, gasoline-ether blends, and kerosene sold at retail except as required in Section 4.1. Water in Gasoline-Alcohol Blends, Biodiesel Blends, Ethanol Flex Fuel, Aviation Gasoline, and Aviation Turbine Fuel.
(Amended 2008, 2012, and 2014)

4.3. Dispenser Filters.

4.3.1. Engine Fuel Dispensers.

(a) All gasoline, gasoline-alcohol blends, gasoline-ether blends, ethanol flex fuel, and M85 methanol dispensers shall have a 10 micron or smaller nominal pore-sized filter.

(b) All biodiesel, biodiesel blends, diesel, and kerosene dispensers shall have a 30 micron or smaller nominal pore-sized filter.
(Amended 2014)

Previous Action:
New item in 2023

Original Justification:
The proposed changes provide additional clarity to changes made related to biodiesel approved at the 2022 annual meeting. The proposal also includes important information related to renewable diesel. The submitter recognizes that some may think no changes are needed.

Comments in Favor:

Regulatory:
•

Industry:
•

Advisory:
-

Comments Against:

Regulatory:
-

Industry:
-

Advisory:
-

Neutral Comments:

Regulatory:
-

Industry:
-

Advisory:
-

Item Development:
New

ITEM BLOCK 1
Regional recommendation to NCWM on item status: ☐ Recommend as a Voting Item on the NCWM agenda ☐ Recommend as an Information Item on the NCWM agenda ☐ Recommend as an Assigned Item on the NCWM agenda *(To be developed by an NCWM Task Group or Subcommittee)* ☒ Recommend as a Developing Item on the NCWM agenda *(To be developed by source of the proposal)* ☐ Recommend Withdrawal of the Item from the NCWM agenda *(In the case of new proposals, do not forward this item to NCWM)* ☐ No recommendation from the region to NCWM *(If this is a new proposal, it will not be forwarded to the national committee by this region)*
Comments and justification for the regional recommendation to NCWM: *(This will appear in NCWM reports)*

Chuck Corr, Iowa RFA and submitter of the items reviewed the changes which he indicated are an extension to what was changed and approved at the 2022 NCWM Annual Meeting. Tamara Paik, Marathon commented she sees small differences between FTC rules and this proposed item. She believes there should be more consistency between the two. Prentiss Searles, API commented that there are some changes that can be made including consistent reference to CFR in section 3.3.2. (citation references which Mr. Corr considers as editorial in nature). Mike Harrington, Iowa commented he supports the item and indicated Iowa has passed legislation to incentivize B30, so higher blends are coming to the marketplace. Scott Fenwick, Clean Fuels Alliance America commented he is supportive of the concept and supports consistent language and uniformity with citations throughout the Handbook. Mr. Harrington also supports alignment and consistency across various sections of Handbook 130 as well as with FTC. The Committee believes that comments made regarding lack of consistency between FTC rules, EPA rules and what appears in the handbook are valid and should be further developed.

Additional letters, presentation and data may have been submitted for consideration with this item. Please refer to www.ncwm.com/publication-15 to review these documents.

ITEM BLOCK 2 (B2) GASOLINE

Source:
CC Consulting, LLC

Purpose:
Properly align the text with the EPA regulation citations approved at the 2022 annual meeting. These changes are important to retailers as all of these fuels are now subject to the EPA survey program.

B2: MOS-23.2 Section 2.20. Gasoline and Gasoline-Oxygenate Blends.

Item Under Consideration:
Amend Handbook 130 Uniform Regulation for the Method of Sale of Commodities as follows:

2.20. Gasoline and Gasoline-Oxygenate Blends.

2.20.1. Method of Retail Sale. – Type of Oxygenate must be Disclosed. – All automotive gasoline or automotive gasoline-oxygenate blends kept, offered, or exposed for sale, or sold at retail containing at least 1.5 mass percent oxygen shall be identified as "with" or "containing" (or similar wording) the predominant oxygenate in the engine fuel. For example, the label may read "contains ethanol" or "with MTBE." The oxygenate contributing the largest mass percent oxygen to the blend shall be considered the predominant oxygenate. Where mixtures of only ethers are present, the retailer may post the predominant oxygenate followed by the phrase "or other ethers" or alternatively post the phrase "contains MTBE or other ethers." In addition, gasoline-methanol blend fuels containing more than 0.15 mass percent oxygen from methanol shall be identified as "with" or "containing" methanol. This information shall be posted on the upper 50 % of the dispenser front panel in a position clear and conspicuous from the driver's position in a type at least 12.7 mm (1/2 in) in height, 1.5 mm (1/16 in) stroke (width of type).
(Amended 1996)

2.20.2. Product Transfer Document (PTD) Requirements. ~~Documentation for Dispenser Labeling Purposes.~~ – The retailer shall be provided, at the time of delivery of the fuel, on product transfer documents such as an invoice, bill of lading, shipping paper, or other documentation:

(a) Information that complies with 40 CFR 1090.1110 ***PTD requirements for gasoline, gasoline additives, and gasoline regulated blendstocks*** ~~**when the fuel contains ethanol**~~.

(b) For fuels **containing multiple oxygenates or oxygenates other than ethanol ~~that do not contain ethanol~~**, information that complies with **2.20.2(a) ~~40 CFR 1090.1110~~** and a declaration of the predominant oxygenate or combination of oxygenates present in concentrations sufficient to yield an oxygen content of at least 1.5 mass percent in the fuel. Where mixtures of only ethers are present, the fuel supplier may identify either the predominant oxygenate in the fuel (i.e., the oxygenate contributing the largest mass percent oxygen) or alternatively, use the phrase "contains MTBE or other ethers."

(c) ~~**Gasoline**~~ **For fuels** containing more than 0.15 mass percent oxygen from methanol **information that complies with 2.20.2(a) and a declaration identifying the fuel ~~shall be identified~~** as "with" or "containing" methanol.

(Added 1984) (Amended 1985, 1986, 1991, 1996, 2014 and 2022**, and 20XX**)

2.20.3. EPA Labeling Requirements. – Retailers and wholesale purchaser-consumers of gasoline shall comply with the EPA pump labeling requirements for gasoline containing greater than 10 volume percent (v%) up to 15 volume percent (v%) ethanol (E15) under 40 CFR 1090.1510 ***E15 labeling provisions***. (For additional information, refer to Section 2.30.2. FTC Labeling Requirements.)
(Added 2018) (Amended 2022, 2022, **and 20XX)**

B2: FLR-23.2 Sections 2.1. Gasoline-Oxygenate Blends, 3.2. and Automotive Gasoline and Automotive Gasoline-Oxygenate Blends (Including Racing Gasoline).

Item under Consideration:
Amend Handbook 130 Uniform Fuels and Automotive Lubricants Regulation as follows:

2.1. Gasoline and Gasoline-Oxygenate Blends.

2.1.2. Gasoline-Ethanol Blends. – When gasoline is blended with denatured fuel ethanol, the denatured fuel ethanol shall meet the latest version of ASTM D4806, "Standard Specification for Denatured Fuel Ethanol for Blending with Gasolines for Use as Automotive Spark-Ignition Engine Fuel," and the blend shall meet the latest version of ASTM D4814, "Standard Specification for Automotive Spark-Ignition Engine Fuel," with the following permissible exceptions:

(a) The maximum vapor pressure shall not exceed the latest version of ASTM D4814, "Standard Specification for Automotive Spark-Ignition Engine Fuel," limits by more than 1.0 psi for blends from June 1 through September 15 as allowed by EPA per 40 CFR 1090.215(b) ***Gasoline RVP standards***.

(Amended 2016, 2018, 2019, 2022**, and 20XX**)

3.2. Automotive Gasoline and Automotive Gasoline-Oxygenate Blends (Including Racing Gasoline).

3.2.5. Product Transfer Document (PTD) Requirements. ~~Documentation for Dispenser Labeling Purposes.~~ For automotive gasoline, automotive gasoline-oxygenate blends or racing gasoline, the retailer shall be provided, at the time of delivery of the fuel, on product transfer documents such as an invoice, bill of lading, shipping paper, or other documentation:

(a) Information that complies with 40 CFR 1090.1110 ***PTD requirements for gasoline, gasoline additives, and gasoline regulated blendstocks*** ~~**when the fuel contains ethanol.**~~
(Added 2014) (Amended 2022**, and 20XX)**

(b) For fuels **containing multiple oxygenates or oxygenates other than ethanol ~~that do not contain ethanol~~**, information that complies with **2.20.2(a) ~~40 CFR 1090.1110~~** and a declaration of the predominant oxygenate or combination of oxygenates present in concentrations sufficient to yield an

oxygenate content of at least 1.0 % by volume in the fuel. Where mixtures of only ethers are present, the fuel supplier may identify either the predominant oxygenate in the fuel (i.e., the oxygenate contributing the largest mass percent oxygen) or alternatively, use the phrase "contains MTBE or other ethers."
(Added 2014) (Amended 2022**, and 20XX)**

(c) ~~**Gasoline**~~ **For fuels** containing more than 0.3 % by volume methanol **information that complies with 2.20.2(a) and a declaration identifying the fuel** ~~**shall be identified**~~ as "with" or "containing" methanol.
(Added 2014) (Amended 2018**, and 20XX**)
(Amended 1996, 2014, and 2018)

3.2.6. EPA Labeling Requirements. – Retailers and wholesale purchaser-consumers of gasoline shall comply with the EPA pump labeling requirements for gasoline containing greater than 10 volume percent (v%) up to 15 volume percent (v%) ethanol (E15) under 40 CFR 1090.1510 ***E15 labeling provisions***. (For additional information, refer to Section 3.8.2. FTC Labeling Requirements.)
(Added 2012) (Amended 2018, 2023, **and 20XX**)
(Amended 2018)

Previous Action:
New item in 2023

Original Justification:
The current text of this section misrepresents the contents of the EPA regulations cited. Some may see this as an unnecessary change. A careful review of the EPA regulation should resolve this concern.

The submitter requested that these be Voting items.

Comments in Favor:

Regulatory:
•

Industry:
•

Advisory:
•

Comments Against:

Regulatory:
•

Industry:
•

Advisory:
•

Neutral Comments:

Regulatory:
-

Industry:
-

Advisory:
-

Item Development:
New

ITEM BLOCK 2
Regional recommendation to NCWM on item status: ☒ Recommend as a Voting Item on the NCWM agenda ☐ Recommend as an Information Item on the NCWM agenda ☐ Recommend as an Assigned Item on the NCWM agenda *(To be developed by an NCWM Task Group or Subcommittee)* ☐ Recommend as a Developing Item on the NCWM agenda *(To be developed by source of the proposal)* ☐ Recommend Withdrawal of the Item from the NCWM agenda *(In the case of new proposals, do not forward this item to NCWM)* ☐ No recommendation from the region to NCWM *(If this is a new proposal, it will not be forwarded to the national committee by this region)*
Comments and justification for the regional recommendation to NCWM: *(This will appear in NCWM reports)*
Chuck Corr, Iowa RFA commented this proposal aligns Handbook 130 with the EPA regulation citations approved at the 2022 annual meeting and citations should be included in the title which he believes are editorial in nature. Doug Music and Loren Minnich, Kansas support the item. Mr. Minnich suggested that under section 2.20.2., (a) should be the head section and sections b and c become subsections ii and iii? Mr. Corr addressed the structure of that section by moving (a) into 2.20.2., and then "b" becomes "a" and "c" becomes "b" as listed below. He supports voting status for both items. Based on discussion during open hearings, the Committee believes this item is fully developed and ready for voting status using the following version:

B2: MOS-23.2 V Section 2.20. Gasoline and Gasoline-Oxygenate Blends.

2.20. Gasoline and Gasoline-Oxygenate Blends.

2.20.1. Method of Retail Sale. – Type of Oxygenate must be Disclosed. – All automotive gasoline or automotive gasoline-oxygenate blends kept, offered, or exposed for sale, or sold at retail containing at least 1.5 mass percent oxygen shall be identified as "with" or "containing" (or similar wording) the predominant oxygenate in the engine fuel. For example, the label may read "contains ethanol" or "with MTBE." The oxygenate contributing the largest mass percent oxygen to the blend shall be considered the predominant oxygenate. Where mixtures of only ethers are present, the retailer may post the predominant oxygenate followed by the phrase "or other ethers" or alternatively post the phrase "contains MTBE or other ethers." In addition, gasoline-methanol blend fuels containing more than 0.15 mass percent oxygen from methanol shall be identified as "with" or "containing" methanol. This information shall be posted on the upper 50 % of the dispenser front panel in a position clear and conspicuous from the driver's position in a type at least 12.7 mm (1/2 in) in height, 1.5 mm (1/16 in) stroke (width of type).
(Amended 1996)

2.20.2. Product Transfer Document (PTD) Requirements. ~~Documentation for Dispenser Labeling Purposes.~~ – The retailer shall be provided **information that complies with 40 CFR 1090.1110 *PTD requirements for gasoline, gasoline additives, and gasoline regulated blendstocks***, at the time of delivery of the fuel, on product transfer documents such as an invoice, bill of lading, shipping paper, or other documentation**. Additional declarations may be required for specific fuels**:

~~(a) Information that complies with 40 CFR 1090.1110 when the fuel contains ethanol.~~

(a) **~~(b)~~** For fuels **containing multiple oxygenates or oxygenates other than ethanol** **~~that do not contain ethanol, information that complies with 40 CFR 1090.1110 and~~** a declaration of the predominant oxygenate or combination of oxygenates present in concentrations sufficient to yield an oxygen content of at least 1.5 mass percent in the fuel. Where mixtures of only ethers are present, the fuel supplier may identify either the predominant oxygenate in the fuel (i.e., the oxygenate contributing the largest mass percent oxygen) or alternatively, use the phrase "contains MTBE or other ethers."

(b) **~~(c) Gasoline~~** **For fuels** containing more than 0.15 mass percent oxygen from methanol **a declaration identifying the fuel** **~~shall be identified~~** as "with" or "containing" methanol.
(Added 1984) (Amended 1985, 1986, 1991, 1996, 2014 and 2022**, and 20XX**)

2.20.3. EPA Labeling Requirements. – Retailers and wholesale purchaser-consumers of gasoline shall comply with the EPA pump labeling requirements for gasoline containing greater than 10 volume percent (v%) up to 15 volume percent (v%) ethanol (E15) under 40 CFR 1090.1510 ***E15 labeling provisions***. (For additional information, refer to Section 2.30.2. FTC Labeling Requirements.)
(Added 2018) (Amended 2022, 2022, **and 20XX)**

B2: FLR-23.2 V Sections 2.1. Gasoline-Oxygenate Blends, 3.2. and Automotive Gasoline and Automotive Gasoline-Oxygenate Blends (Including Racing Gasoline).

2.1. Gasoline and Gasoline-Oxygenate Blends.

2.1.2. Gasoline-Ethanol Blends. – When gasoline is blended with denatured fuel ethanol, the denatured fuel ethanol shall meet the latest version of ASTM D4806, "Standard Specification for Denatured Fuel

Ethanol for Blending with Gasolines for Use as Automotive Spark-Ignition Engine Fuel," and the blend

shall meet the latest version of ASTM D4814, "Standard Specification for Automotive Spark-Ignition Engine Fuel," with the following permissible exceptions:

(a) The maximum vapor pressure shall not exceed the latest version of ASTM D4814, "Standard Specification for Automotive Spark-Ignition Engine Fuel," limits by more than 1.0 psi for blends from June 1 through September 15 as allowed by EPA per 40 CFR 1090.215(b) ***Gasoline RVP standards***.

(Amended 2016, 2018, 2019, 2022**, and 20XX**)

3.2. Automotive Gasoline and Automotive Gasoline-Oxygenate Blends (Including Racing Gasoline).

3.2.5. Product Transfer Document (PTD) Requirements. ~~Documentation for Dispenser Labeling Purposes.~~ – For automotive gasoline, automotive gasoline-oxygenate blends or racing gasoline, the retailer shall be provided **information that complies with 40 CFR 1090.1110 *PTD requirements for gasoline, gasoline additives, and gasoline regulated blendstocks***, at the time of delivery of the fuel, on product transfer documents such as an invoice, bill of lading, shipping paper, or other documentation**. Additional declarations may be required for specific fuels**:

~~(a) Information that complies with 40 CFR 1090.1110 when the fuel contains ethanol. (Added 2014) (Amended 2022)~~

(a) **~~(b)~~** For fuels **containing multiple oxygenates or oxygenates other than ethanol ~~that do not contain ethanol~~**, **~~information that complies with 40 CFR 1090.1110 and~~** a declaration of the predominant oxygenate or combination of oxygenates present in concentrations sufficient to yield an oxygenate content of at least 1.0 % by volume in the fuel. Where mixtures of only ethers are present, the fuel supplier may identify either the predominant oxygenate in the fuel (i.e., the oxygenate contributing the largest mass percent oxygen) or alternatively, use the phrase "contains MTBE or other ethers."
(Added 2014) (Amended 2022**, and 20XX)**

(b) **~~(c) Gasoline~~** **For fuels** containing more than 0.3 % by volume methanol **a declaration identifying the fuel** **~~shall be identified~~** as "with" or "containing" methanol.
(Added 2014) (Amended 2018**, and 20XX**)
(Amended 1996, 2014, and 2018)

3.2.6. EPA Labeling Requirements. – Retailers and wholesale purchaser-consumers of gasoline shall comply with the EPA pump labeling requirements for gasoline containing greater than 10 volume percent (v%) up to 15 volume percent (v%) ethanol (E15) under 40 CFR 1090.1510 ***E15 labeling provisions***. (For additional information, refer to Section 3.8.2. FTC Labeling Requirements.)
(Added 2012) (Amended 2018, 2023, **and 20XX**)
(Amended 2018)

Additional letters, presentation and data may have been submitted for consideration with this item. Please refer to www.ncwm.com/publication-15 to review these documents.

ITEM BLOCK 3 (B3) CANNABIS

B3: PAL-22.1 Section 2. Definitions 2.XX *Cannabis* and *Cannabis*-Containing Products.

Source:
NCWM Cannabis Task Group

Purpose:
Establish a clear definition of *Cannabis* and *Cannabis*-containing products for use in Handbook 130 Uniform Packaging and Labeling Requirements.

Item Under Consideration:

Amend Handbook 130, Uniform Packaging and Labeling Regulation, as follows:

2.XX. *Cannabis* and *Cannabis*-Containing Products – Cannabis is a genus of flowering plants in the family Cannabaceae, of which *Cannabis sativa, indica, ruderalis* are species, and any hybridization thereof. This definition includes products that contain 0.3 percent or less of Total Delta-9 Tetrahydrocannabinol (THC) (also known as Hemp) and products that contain more than 0.3 percent of Total Delta-9 THC (also known as cannabis, marijuana or marihuana).

(Added 20XX)

Previous Action:

2022: Voting – Returned to Committee.

Original Justification:
Since *Cannabis* and *Cannabis*-containing products were first legalized by some states, the industry has undergone an unprecedented expansion. Even though these products haven't received Federal approval at this time, more and more states have supported *Cannabis* and *Cannabis*-containing products for medicinal or adult-use under their own laws. This has resulted in boutique markets developing across the country with restrictive state boundaries for lack of clarity and uniformity in commercialization of these products.

Cannabis and *Cannabis*-containing products are unique in many aspects; they have a niche as medicine, have resulted in the development of adult use markets, and have an incredible array of different manufacturing and industrial applications. Some of these products contain controlled substances which presents a special concern for the safety and welfare of consumers if misused or mishandled. Further, they are subject to strict regulations by multiple government agencies. *Cannabis* and *Cannabis*-containing products and applications range from non-food to food products for human and animal consumption through inhalation, ingestion, and/or topical or dermal application. They can be used as ingredients in other commodities, changing in most cases the product identity to *Cannabis* and *Cannabis*-containing products. Some *Cannabis* and *Cannabis*-containing products are very susceptible to environmental conditions easily losing or gaining moisture with consequences impacting net quantity, degradation of active cannabinoids, and/or microbial proliferation depending on the situation. These are just some of the reasons

there are many concerns and uncertainty surrounding the method of sale and commercialization of *Cannabis* and *Cannabis*-containing products.

Many states have already, or are in the planning stages of, codified packaging and labeling regulations that may differ from those proposed here. They may change yet again once the federal government establishes regulations for *Cannabis* and *Cannabis*-containing products. However, unifying the packaging and labeling requirements nationally through this proposal will eliminate the boutique markets currently developing. Much of industry has expressed the desire for uniformity and this will align with their needs in this regard.

The submitter requested that this be a Voting Item in 2022.

Note: The Committee heard testimony on each individual item in Block 3 (B3 (Cannabis). The comments heard are reported for each item, but the Committee will keep items PAL-22.1 PAL 22.2 and MOS-22.2 together as a block. Item NET-22.1 is removed from the block and will be considered separately.

Comments in Favor:

Regulatory:

- Co-Chair of the Cannabis Task Group and Matt Curran, Florida supported this item.

Industry:

- None

Advisory:

- None

Comments Against:

Regulatory:

- None

Industry:

- None

Advisory:

- Dave Sefcik provided a summary of the NIST, OWM analysis.
  OWM does not believe having a definition is needed. The reason is because Cannabis already has a known standard of identity. It is not necessary to add a definition to the handbook.

  Section 2 “Definitions” in the UPLR are used to define terms. The definition section is not intended to define Commodities. The Committee may not want to set a precedent of defining Commodities especially for a commodity with a known standard of identity.

  If it is decided to continue to move this item forward for Vote, the definition as stated in the PUB 16 should have the proper terminology associated with the name. Currently, the language specifies products that contain more or less than 0.3 % Delta -9 THC. THC is abbreviated and should be spelled out and called tetrahydrocannabinol.

Neutral Comments:

Regulatory:

- Mr. Joe Moreo, Trinity County, California requested that additional species of *C*annabis be included. which was made by the Committee and included adding "*indica, ruderalis* species and any "hybridization thereof" to the definition of Cannabis and *Cannabis*-Containing Products.

- Jason Flint, New Jersey, recommended that C in Cannabis be lower case on line 35.

Industry:

- None

Advisory:

- Dave Sefcik, NIST, OWM provided the following statement:

  "In contrast to hemp, marijuana remains a Schedule I substance under the Controlled Substances Act. NIST does not have a regulatory or policy role related to the production, sale, distribution, or use of cannabis (including hemp and marijuana). NIST participates in the National Conference of Weights and Measures (NCWM) as part of NIST's statutory mission to promote uniformity in state laws, regulations, and testing procedures."

Item Development:

NCWM 2022 Interim Meeting: The Committee assigned Voting status for this item.
The Committee heard unanimous support for this item from Regulators and Industry who shared the need for it.

NCWM 2022 Annual Meeting: The Committee heard support for this item from the Co-Chair of the Cannabis Task Group and Matt Curran, Florida.

The Committee also received requests for changes from Mr. Joe Moreo, Trinity County, California. He requested and the Committee amend the proposal and include additional species of *C*annabis be included. This change was made by the Committee and they added "*indica, ruderalis* species and any "hybridization thereof" to the definition of Cannabis and *Cannabis*-Containing Products. The Committee also removed the capitalization of the words cannabis, marijuana and marihuana. The Committee spelled out the acronym for "THC".

Regional Association's Comments:
CWMA 2022 Annual Meeting: Lisa Warfield, NIST Technical Advisor recommends this as a Developing item or Assigned to the Cannabis Task Group to obtain additional information that OWM has recommended in the analysis. She read the following statement from NIST OWM.

"Cannabis" Statement from NIST OWM:
As a non-regulatory metrology institute, NIST defers to federal agencies with regulatory authority under the Controlled Substances Act (CSA) for the scheduling of drugs or other substances. NIST does not have a policy role related to the production, sale, distribution, or use of cannabis (including hemp and marijuana).

While the 2018 Farm Bill removed hemp from the list of controlled substances under Schedule 1 of the CSA, marijuana remains on that list. NIST must respect that distinction even as it exercises its statutory authority to develop and disseminate national weights and measures standards for the production, distribution, and sale of products in the commercial marketplace.

NIST remains committed to providing technical assistance to the weights and measures community. OWM has provided key technical points for the community to consider in its deliberations of cannabis-related proposals, and OWM would be happy to provide any necessary clarification. OWM comments are intended to encourage technically sound application of legal metrology laws, regulations, and practices to the measurement and sale of these products.

NEWMA 2022 Annual Meeting: John McGuire, Chairman NEWMA L&R Committee, NJ – Noted that the NCWM Cannabis Work Group, NCWM L&R Committee and the NEWMA L&R Committee recommends removing this block and making them individual items to ensure each item is fully considered.

B3: PAL-22.2 Section 10. Requirements, 10.XX *Cannabis* and *Cannabis*-Containing Products.

Source:
NCWM Cannabis Task Group

Purpose:
Establish uniform packaging and labeling requirements for *Cannabis* and *Cannabis*-containing products.

Item Under Consideration:

Amend Handbook 130, Uniform Packaging and Labeling Regulation, as follows:

10.XX. *Cannabis* and *Cannabis*-Containing Products – Any *Cannabis* or *Cannabis*-containing products intended for human or animal consumption or application, shall bear on the outside of the package the following:

(a) On the principal display panel

(1) the statement "Contains *Cannabis*". The word *"Cannabis"* shall be capitalized and italicized; and

(2) the statement "Contains 0.3% or less Total Delta-9 THC" or "Contains more than 0.3% Total Delta- 9 THC"; and

(b) On back or side panel

(1) a declaration of the labeled cannabinoid per serving or application; and

(2) the quantity declaration shall be in milligrams.

Previous Action:
2022: Voting – Returned to Committee

Original Justification:
Since *Cannabis* and *Cannabis*-containing products were first legalized by some states, the industry has undergone an unprecedented expansion. Even though these products haven't received Federal approval at this time, more and more states have supported *Cannabis* and *Cannabis*-containing products for medicinal or adult-use under their own laws. This has resulted in boutique markets developing across the country with restrictive state boundaries for lack of clarity and uniformity in commercialization of these products.

Cannabis and *Cannabis*-containing products are unique in many aspects; they have a niche as medicine, have resulted in the development of adult use markets, and have an incredible array of different manufacturing and industrial applications. Some of these products contain controlled substances which presents a special concern for the safety and welfare of consumers if misused or mishandled. Further, they are subject to strict regulations by multiple

government agencies. *Cannabis* and *Cannabis*-containing products and applications range from non-food to food products for human and animal consumption through inhalation, ingestion, and/or topical or dermal application.

They can be used as ingredients in other commodities, changing in most cases the product identity to *Cannabis* and *Cannabis*-containing products. Some *Cannabis* and *Cannabis*-containing products are very susceptible to environmental conditions easily losing or gaining moisture with consequences impacting net quantity, degradation of active cannabinoids, and/or microbial proliferation depending on the situation. These are just some of the reasons there are many concerns and uncertainty surrounding the method of sale and commercialization of *Cannabis* and *Cannabis*-containing products.

Since *Cannabis* is being introduced as an ingredient into many commodities, having a statement on the principal display panel will allow consumers to be informed as to its contents. The amount and type of cannabinoids are a deciding factor to consumers when purchasing *Cannabis* and *Cannabis*-containing products. This would also provide regulators with the information necessary to ensure consumers are not being defrauded as these products carry a hefty price tag.

A declaration of marketed cannabinoids and their respective concentration will allow consumers to compare like products for value comparison. Both requirements will also act as a safety mechanism to alert consumers of the contents and aid them in selecting the desired product.

Many states have already, or are in the planning stages of, codified packaging and labeling regulations that may differ from those proposed here. They may change yet again once the federal government establishes regulations for *Cannabis* and *Cannabis*-containing products. However, unifying the packaging and labeling requirements nationally through this proposal will eliminate the boutique markets currently developing. Much of industry has expressed the desire for uniformity and this will align with their needs in this regard.

The submitter requested that this be a Voting Item in 2022.

Comments in Favor:

Regulatory:

- Matthew Curran, Florida supported the editorial change of italicizing and capitalizing "*C*annabis".
- Austin Shepard, San Diego County Weights and Measures supported the change to "Contains 0.3% or less Total Delta-9 THC" or "Contains more than 0.3% Total Delta-9 THC."

Industry:

- Charlie Rutherford, Co-Chair Cannabis Task Group supported the item.

Advisory:

- None

Comments Against:

Regulatory:

- None

Industry:

- None

Advisory:

- None

Neutral Comments:

Regulatory:

- None

Industry:

- None

Advisory:

- Dave Sefcik, NIST, OWM provided the following statement:

  "In contrast to hemp, marijuana remains a Schedule I substance under the Controlled Substances Act. NIST does not have a regulatory or policy role related to the production, sale, distribution, or use of cannabis (including hemp and marijuana). NIST participates in the National Conference of Weights and Measures (NCWM) as part of NIST's statutory mission to promote uniformity in state laws, regulations, and testing procedures"

- Mr. Sefcik provided a summary of the NIST, OWM analysis:
  OWM had previously noted our concerns with "*Cannabis"* being italicized. It is still not clear in the language whether this is a requirement that this term "Cannabis" appear in italics style for packaging and labeling requirements as stated in L&R page 127, Line2. As it is written, it could easily be implied that italics is required. If italics is required as part of labeling, is should explicitly say so. If not, this should also be clearly stated or the italics removed as to not cause confusion. As written, it can easily be implied capitalization and italics of the word cannabis is required on labeling.

  OWM also recommends formatting changes to align with HB 130 formatting. Specifically, L&R 127 Line 2 and 3 should have the number 1 and 2 in parenthesis, and Line 5 should break apart the sentence to include subsection (b) with a (1) and (2) points below it in parenthesis. This is available in our analysis.

  Lastly, there are grammar corrections needed to line 3 which states "less that" rather than "less than"… and subsection (b) in Line 5, uses the term "marketed" rather than "labeled".

Item Development:

NCWM 2022 Interim Meeting. The Committee assigned Voting status for this item.

The Committee heard support for this item from several Regulators and did not hear opposition to it. The Committee made a couple changes to the item in section **10.XX. *Cannabis* and *Cannabis*-Containing Products** and believes it is fully developed and ready for a vote.

NCWM 2022 Annual Meeting: The Committee removed the italicization of letter "C" in word "Containing" and made an editorial change to the language specifying the level of Total Delta-9 THC to harmonize with other sections.

The Committee changed the roman numerals to numerical and separated out paragraph (b) into 1 and 2.

The Committee considered the testimony from Dave Sefcik, NIST, OWM and the written NIST, OWM analysis provided to the Committee and published on the NCWM website

Regional Association's Comments:

CWMA 2022 Annual Meeting: Lisa Warfield, NIST Technical Advisor commented on the following:

PAL 22.2 Section 10 ~~Requirements~~ Exemptions 10.XX Cannabis and Cannabis Containing Products

After reviewing the 2022 Interim L&R Report OWM is recommending formatting changes that are easier to follow and apply. This also corrected some of the grammar (e.g., line 14 states "less that"). In (b) is uses the term "marketed", a proper term would be "of the labeled cannabinoid."

The Committee discussed Ms. Warfield's suggested changes and recommends the item remain a Voting item with the following revisions to the version appearing on the current agenda:

10.XX. *Cannabis* and *Cannabis*-Containing Products – Any *Cannabis* or *Cannabis*-containing products intended for human or animal consumption or application, shall ~~bear~~ appear on the outside of the package the following information:

(a) On the principal display panel

~~(i) The~~ a statement "Contains *Cannabis*";

(2) ~~(ii) The~~ a statement with either "contains less than 0.3 % total delta-9 THC" or "contains 0.3 % or more total delta-9 THC"; and

(b) On the back or side panel

(1) a declaration of the marketed labeled cannabinoid per serving or application; and

(2) the quantity declaration shall be in terms of milligrams.

This item was recommended as a Voting Item on the NCWM agenda.

NEWMA 2022 Annual Meeting: John McGuire, Chairman NEWMA L&R Committee, NJ – Noted that the NCWM Cannabis Work Group, NCWM L&R Committee and the NEWMA L&R Committee recommends removing this block and making them individual items to ensure each item is fully considered.

Tina Butcher, NIST OWM – (submitted comments):

"As a non-regulatory metrology institute, NIST, defers to federal agencies with regulatory authority under the Controlled Substances Act (CSA) for the scheduling of drugs or other substances. NIST does not have a policy role related to the production, sale distribution, or use of cannabis (including hemp and marijuana)."

"While the 2018 Farm Bill removed hemp from the list of controlled substances under Schedule 1 of the CSA, marijuana remains on that list. NIST must respect that distinction even as it exercises its statutory authority to develop and disseminate national weights and measures standards for the production, distribution and sale of products in the commercial marketplace."

"NIST remains committed to providing technical assistance to the weights and measures community. OWM has provided key technical points for the community to consider in its deliberations of cannabis-related proposals, and

OWM would be happy to provide any necessary clarification. OWM comments are intended to encourage technically sound application of legal metrology laws, regulations, and practices to the measurement and sale of these products."

No additional comments received during the open hearing.

NEWMA L&R Committee recommends this item continues to be a voting item.

B3: MOS-22.2 Section 1.XX. *Cannabis* and *Cannabis*-Containing Products and 2.XX. *Cannabis* and *Cannabis*-Containing Products.

Source:
NCWM Cannabis Task Group

Purpose:
Create a new section in the Uniform Regulation for the Method of Sale of Commodities in Handbook 130 for *Cannabis* and *Cannabis*-Containing Products. Given the nature of these products, they need to be included in both, the Food and Non-Food sections of this regulation.

Item Under Consideration:

Amend Handbook 130, Uniform Regulation for the Method of Sale of Commodities, as follows:

1.XX *Cannabis* and *Cannabis*-Containing Products – Cannabis is a genus of flowering plants in the family Cannabaceae, of which *Cannabis sativa, indica, ruderalis* are species, and any hybridization thereof. This definition includes products that contain 0.3 percent or less of Total Delta-9 Tetrahydrocannabinol (THC) (also known as Hemp) and products that contain more than 0.3 percent of Total Delta-9 THC (also known as cannabis, marijuana or marihuana).

1.XX.X. Unit

(a) **Volume – Products offered for sale in liquid form shall be sold by volume.**
(b) **Weight- Products offered for sale in non-liquid form shall be sold by weight. These products may also have a supplemental declaration of count or measure.**

1.XX.X.– Sale from Bulk

(a) When sold from bulk, all sales shall be based on net weight or net volume.

(b) When liquids are offered for sale from bulk, the reference temperature for measurement shall be 20 °C (68 °F). Products shall be delivered at a temperature within ± 2 °C (5 °F). Artificially heating liquids to temperatures higher than the specified limits is prohibited.

1.XX.X. Water Activity-When unprocessed *Cannabis*, is kept, offered, or exposed for sale, sold, bartered, or exchanged, or ownership transfers, the water activity shall be 0.60 (± 0.05) in accordance with latest version of ASTM D 8197, *Standard Specification for Maintaining Acceptable Water Activity (aw) Range (0.55 to 0.65) for Dry Cannabis Flower Intended for Human/Animal Use.*

The procedure for determining the water activity in Cannabis flower can be found in the latest version of ASTM D 8196 *Standard Practice for Determination of Water Activity (a_w) in Cannabis Flower.*

And

Section 2. Non-Food Products.

2.XX. *Cannabis* and *Cannabis*-Containing Products – Cannabis is a genus of flowering plants in the family Cannabaceae, of which *Cannabis sativa, indica, ruderalis* are species, and any hybridization thereof. This definition includes products that contain 0.3 percent or less of Total Delta-9 Tetrahydrocannabinol (THC) (also known as Hemp) and products that contain more than 0.3 percent of Total Delta-9 THC (also known as cannabis, marijuana or marihuana).

2.XX.X. Unit

(a) **Volume – Products offered for sale in liquid form shall be sold by volume.**

(b) **Weight- Products offered for sale in non-liquid form shall be sold by weight. These products may also have a supplemental declaration of count or measure.**

2.XX.X.– Sale from Bulk

(a) When sold from bulk, all sales shall be based on net weight or net volume.

(b) When liquids are offered for sale from bulk, the reference temperature for measurement shall be 20 °C (68 °F). Products shall be delivered at a temperature within ± 2 °C (5 °F). Artificially heating liquids to temperatures higher than the specified limits is prohibited.

2.XX.X. Water Activity-When unprocessed *Cannabis*, is kept, offered, or exposed for sale, sold, bartered, or exchanged, or ownership transfers, the water activity shall be 0.60 (± 0.05) in accordance with latest version of ASTM D 8197, *Standard Specification for Maintaining Acceptable Water Activity (aw) Range (0.55 to 0.65) for Dry Cannabis Flower Intended for Human/Animal Use.*

The procedure for determining the water activity in Cannabis flower can be found in the latest version of ASTM D 8196 *Standard Practice for Determination of Water Activity (a_w) in Cannabis Flower.*

Previous Action:
2022: Voting - Returned to Committee.

Original Justification: This proposal was drafted by the Method of Sale Focus Group within the NCWM Cannabis Task Group.

The ASTM International D37 Cannabis Committee has more than 900 members, the vast majority of which are industry stakeholders. The first two D37 standards passed through the consensus process related to water activity, one of which used all available data to establish an ideal range of 0.55 to 0.65 for *Cannabis* plant material. The proposal to the Method of Sale herein includes a water activity of 0.60 +/- 0.05. While industry has indicated they will reiterate their support for this water activity standard through the NCWM process it is important for the Committee and Membership to be made aware that approximately 900 industry members have already weighed in on and given their consensus support to this standard. Since *Cannabis* and *Cannabis*-Containing products were first legalized by some states, the industry has undergone an unprecedented expansion. Even though these products haven't received Federal approval at this time, more and more states have supported *Cannabis* and *Cannabis*-Containing products for medicinal or recreational use under their own laws. This has resulted in boutique markets developing across the country with restrictive state boundaries for lack of clarity and uniformity in commercialization of these products.

Cannabis and *Cannabis*-Containing products are unique in many aspects; they have a niche as medicine, have resulted in the development of adult use markets, and have an incredible array of different manufacturing and industrial applications. Some of these products contain controlled substances which presents a special concern for the safety and welfare of consumers if misused or mishandled.

Further, they are subject to strict regulations by multiple government agencies. *Cannabis* and *Cannabis*-Containing products and applications range from non-food to food products for human and animal consumption through inhalation, ingestion, and/or topical or dermal application.

They can be used as ingredients in other commodities, changing in most cases the product identity to *Cannabis* and C*annabis*-Containing products. Some *Cannabis* and *Cannabis*-Containing products are very susceptible to environmental conditions easily losing or gaining moisture with consequences impacting net quantity, degradation of active cannabinoids, and/or microbial proliferation depending on the situation.

These are just some of the reasons there are many concerns and uncertainty surrounding the method of sale and commercialization of *Cannabis* and *Cannabis*-Containing products.

As a new and rapidly developing industry and given the level of uncertainty and lack of uniformity, *Cannabis* and *Cannabis*-Containing products need a clear and consistent method of sale to provide equity and fairness in the marketplace.

Uniformity throughout the method of sale of *Cannabis* and *Cannabis*-Containing products would harmonize regulations across states so these products are not limited by their borders. Further, this would ensure clear and fair competition in the marketplace and provide accurate quantity information for consumers to make informed price and quantity comparisons.

Cannabis has proven to be susceptible to environmental changes, a source of controlled substances, of a high dollar value, and a safety risk for consumers if misused or mishandled. As a result, *Cannabis* and *Cannabis* products require a water activity standard that shall be maintained throughout the entire distribution process from extraction to retail sale.

Water activity is a measure of "free" water available in the plant material to fuel microorganism growth. It is reported on a scale from 0 to 1. The optimal water activity range for *Cannabis* has been determined through scientific studies to be 0.55-0.65 and correlates to an environment that is least conducive to the growth of destructive and harmful microorganisms (e.g., molds). If *Cannabis* was to be sold with as little water content as possible the product would not remain viable (i.e., loss or destruction of desired components, such as cannabinoids and terpenes) for as long and could subject the public to increased health and safety concerns. It would not be feasible to have a moisture allowance close to zero but a product viability and safety moisture content within the optimal water activity range.

A water activity between 0.55 and 0.65 in *Cannabis* typically correlates to a moisture content of 10-12%. (See attached Colorado MED report showing 14% of all flowers failed initial mold/yeast testing before being allowed on the market).

On the *Cannabis* cultivation side, recall that *Cannabis* flower is one of the most valuable materials in the US after precious metals or gems. Between the highest safe water activity (0.65) and the lowest possible water activity (0.04), *Cannabis* flower can fluctuate about 5% in weight.

This means that a jurisdiction not having the ability to test water activity through the supply chain stays exposed to bad actors who could manipulate water activity at key points to divert about 5% of any harvest in a way that will completely evade every track and trace system. In a world where oversight agencies are concerned about tracking every gram, leaving thousands of pounds at risk of diversion and the related tax loss to the much more lucrative black market is a hole that needs to be plugged.

In the retail *Cannabis* trade, Insufficient attention and guidance is given to moisture migration in or out of some *Cannabis* packaging and as a result, the contents of some *Cannabis* flower packaging have been found to be underweight, resulting in the patient/consumer paying for weight that they are not receiving. For instance, underweight complaints are the #1 consumer complaint in Oregon. For the fairness and safety of *Cannabis* consumers, a 3% +/- weight variance Containing on enforcement of acceptable moisture range needs to be established. As has been learned in other industries in which W&M has jurisdiction, if something can get out of a retail package during distribution, it can also get in. The ability to test packaged *Cannabis*-Containing products at retail for water activity becomes a safety and equity concern.

Solution: ASTM D8197-20 (1) establishes the ideal moisture range for *Cannabis* flower in terms of water activity of 0.60 +/- 0.05. (Exclusive free access to that and another water activity standard can be accessed at https://www.astm.org/NCWM.htm" https://www.astm.org/NCWM.htm and free access to an ASTM water activity eLearning course can be accessed by reaching out to Charlie@CPRSquaredinc.com). This correlates to a moisture content of 10-12 %, which narrows the range of weight variation that must be addressed in dealing with moisture loss.

More than 800 ASTM D37 members concluded that the ideal range for cannabis and hemp flower is 0.55-0.65 (the equivalent to 55-65% Relative Humidity). This was affirmed by the US Pharmacopeia's Expert Cannabis Panel in their Cannabis Paper (2) to mitigate mold growth and maintain the quality attributes.

Consumers/patients buying *Cannabis* products are looking for a desired effect. Those effects are in part determined by the presence of terpenes, which have different scents and provide various therapeutic effects. The presence of these terpenes is diminished as the plant dries and the effects the patient/consumer is expecting are also diminished from what is shown on the label (terpene testing).

The US Pharmacopeia has determined the same water activity of 0.60 +/- 0.05 to be ideal for maintaining these quality attributes (e.g., cannabinoid and terpene content) of *Cannabis* flower (attached).

The submitter mentioned the following possible opposing arguments:

- Patients and Consumers don't want to buy water when purchasing *Cannabis*. When it comes to *Cannabis*, they want to buy the right amount of water. The right amount of water (or moisture) helps safeguard the quality and integrity of the *Cannabis* components consumers are purchasing. These active components would degrade in overdried plant material. It could also be argued that by providing a constant moisture content through establishment of a water activity standard for the proper sale of unprocessed *Cannabis* there is a measure of ensuring proper quantity during purchase.
- W&M doesn't regulate quality. To the extent establishing an acceptable water activity range is monitoring quality, this is a positive by-product of monitoring equitable transactions, promoting health and safety and preventing diversion. Oversight of motor fuels is analogous in the sense that the attributes of motor fuel are a function of quality and samples are sent to a lab for testing these attributes.
- Equipment cost. The additional cost of water activity meter(s) should not be prohibitive. It could be easily offset by the revenue that would be saved by preventing over drying and diversion and/or by fees collected. This could be accomplished by random testing of *Cannabis* flower throughout the manufacturing and distributions processes. It should also be noted that setting a water activity standard in the MOS does not establish testing requirements nor frequency of testing requirements.
- Illegal activity. Not every state has legalized the sale and distribution of *Cannabis*, whether it contains more or less than 0.3 % THC. However, there are many states (and federal agencies) that have legalized the sale of *Cannabis* in some form or fashion or another. There are strong indication that federal and other state agencies are working to establish requirements for the sale of *Cannabis* and *Cannabis*-products.
- Some have expressed concern over this water activity applying to *Cannabis*-containing products, which resulted from confusion. The water activity proposed herein would not apply to *Cannabis*-containing products, rather it would only apply to *Cannabis* plant material. Traditional water activity levels applied

to food products would not be altered or affected by this proposal. The submitter requested that this be a Voting Item in 2022.

Comments in Favor:

Regulatory:
- None

Industry:
- None

Advisory:
- None

Comments Against:

Regulatory:
- None

Industry:
- None

Advisory:
- Dave Sefcik, NIST, OWM stated that OWM does not concur a Method of Sale is necessary for this Cannabis for the following reasons.

- The Uniform Weights and Measures Law, Section 16. Method of Sale as well as Table 6.4. in the UPLR already specifies these unit requirements for food and nonfood products. The MOS regulation typically defines unique commodities that fall outside the normal of how a particular commodity must be expressed in units of weight measure volume or count. Cannabis is not a unique commodity in this sense.

- A definition of Cannabis is being proposed here in the MOS for a commodity that has a known standard of identity. As stated earlier in the item under consideration to add a definition, a definition is not needed.

- This only leaves Water Activity as a consideration for inclusion within the MOS. Water Activity is used to measure the growth of microbes using ASTM D8196-20, Standard Practice for Determination of Water activity (a_w) in Cannabis, helping to ensure its safety. It is also used to identify the potency (THC level). In many states water activity testing would be conducted by an agency, other than weights and measures. Outside of fuel quality most weights and measures programs do not inspect and enforce quality and safety of most consumer commodities. W&M does not regulate quality. W&M strives for equity in the marketplace but has not been involved with the health and safety side of commodities.

- Linked to this is equipment cost. The Cannabis TG acknowledges that the additional cost of a water activity meter should not be cost prohibitive. And that it could be easily offset by revenue saved by fees collected. OWM notes that many state package checking inspection activities are not fee supported and would not be generating income by charging fees.

If the committee moves forward with the MOS, it is not necessary to list examples of products. This is not needed, and the MOS stands on its own merit. This is found in our analysis.

Neutral Comments:

Regulatory:

- Mr. Joe Moreo, Trinity County, California requested that additional species of *C*annabis be included in the item.

Industry:

- None

Advisory:

- Dave Sefcik, NIST, OWM provided the following statement:

  "In contrast to hemp, marijuana remains a Schedule I substance under the Controlled Substances Act. NIST does not have a regulatory or policy role related to the production, sale, distribution, or use of cannabis (including hemp and marijuana). NIST participates in the National Conference of Weights and Measures (NCWM) as part of NIST's statutory mission to promote uniformity in state laws, regulations, and testing procedures".

Item Development:

NCWM 2021 Interim Meeting: The Committee assigned Voting status for this item.

The Committee heard support for this item. The Committee also heard the need to define "Water Activity" which they included by citing the ASTM definition for Water Activity. The Committee sought and received copyright permission from ASTM to use their definition in the printed NIST Handbook materials.

2022 Annual Meeting: The Committee harmonized 1.XX and 2.XX with PAL 22.1 Definition, eliminated the definition for Water Activity, and removed examples from 1.XX.X and 2.XX.X Units. The Committee also changed the word "quantity" to "volume" in 1.XX.X and 2.XX.X Sale from Bulk subsection (a). In 2.XX.X Water Activity was changed from 0.6 to 0.60.

The Committee added a reference for the ASTM Water Activity test method.

The Committee considered the written NIST, OWM analysis provided to the Committee and published on the NCWM website, and Mr. Sefcik's summary of the NIST, OWM analysis during the open hearing.

Regional Association's Comments:

CWMA 2022 Annual Meeting: No comments were heard on this specific item.

NEWMA 2022 Annual Meeting: John McGuire, Chairman NEWMA L&R Committee, NJ – Noted that the NCWM Cannabis Work Group, NCWM L&R Committee and the NEWMA L&R Committee recommends removing this block and making them individual items to ensure each item is fully considered.

Tina Butcher, NIST OWM – (submitted comments):

"As a non-regulatory metrology institute, NIST, defers to federal agencies with regulatory authority under the Controlled Substances Act (CSA) for the scheduling of drugs or other substances. NIST does not have a policy role related to the production, sale distribution, or use of cannabis (including hemp and marijuana)."

"While the 2018 Farm Bill removed hemp from the list of controlled substances under Schedule 1 of the CSA, marijuana remains on that list. NIST must respect that distinction even as it exercises its statutory authority to develop and disseminate national weights and measures standards for the production, distribution and sale of products in the commercial marketplace."

"NIST remains committed to providing technical assistance to the weights and measures community. OWM has provided key technical points for the community to consider in its deliberations of cannabis-related proposals, and OWM would be happy to provide any necessary clarification. OWM comments are intended to encourage technically sound application of legal metrology laws, regulations, and practices to the measurement and sale of these products."

Jason Flynn -NJ - Flynn – Note that page 129 of the NEWMA L&R Committee submission, Section 1.XX.X Water Activity, line 16, language describes the latest version of Water Activity. In reference to ASTM D8197, questions whether we should reference the ASTM standard or include the verbiage since ASTM standards are regularly updated.

NEWMA L&R Committee believes that to be consistent with the rest of the NIST Handbook 130 referencing the ASTM Standard is the appropriate method.

No additional comments received during the open hearing.

NEWMA L&R Committee recommends this item continues to be a voting item.

ITEM BLOCK 3
Regional recommendation to NCWM on item status: ☒ Recommend as a Voting Item on the NCWM agenda ☐ Recommend as an Information Item on the NCWM agenda ☐ Recommend as an Assigned Item on the NCWM agenda *(To be developed by an NCWM Task Group or Subcommittee)* ☐ Recommend as a Developing Item on the NCWM agenda *(To be developed by source of the proposal)* ☐ Recommend Withdrawal of the Item from the NCWM agenda *(In the case of new proposals, do not forward this item to NCWM)* ☐ No recommendation from the region to NCWM *(If this is a new proposal, it will not be forwarded to the national committee by this region)*
Comments and justification for the regional recommendation to NCWM: *(This will appear in NCWM reports)*
Doug Musick, Kansas asked if on line 31 on page 122, the third time the word "cannabis" is used it should be italicized. Craig VanBuren, Michigan agreed the word cannabis should be italicized and is editorial in nature. He further commented the item has not changed since the previous vote, it is fully developed, and ready for voting status. Doug Rathbun, Illinois supports the item moving forward with voting status. Charlie Rutherford, ASTM/ NCWM Cannabis Task Group commented he agrees with the editorial changes for cannabis being italicized. He hopes whether states have legalized cannabis for medicinal or recreational use they will make an effort to be informed and participate in voting for these items, as they also include hemp. Also for states that have not yet legalized cannabis, this model language would be established prior to future legalization. Based on testimony and previous vetting and development of this item, the Committee concurs this item is fully developed and is ready for voting status.

Additional letters, presentation and data may have been submitted for consideration with this item. Please refer to www.ncwm.com/publication-15 to review these documents.

ITEM BLOCK 6 (B6) A TRANSMISSION FLUID

Source:
Missouri Department of Agriculture

Purpose:
Protect consumers by providing a cautionary statement of package labels of obsolete transmission fluids.

B6: MOS-21.1. A Section 2.36.2. Labeling and Identification of Transmission Fluid

Item Under Consideration:

Amend Handbook 130, Uniform Regulation for the Method of Sale of Commodities, as follows:

2.36.2. Labeling and Identification of Transmission Fluid. – Transmission fluid shall be labeled or identified as described below.

(Added 2017)

2.36.2.1. Container Labeling. – The label on a container of transmission fluid shall not contain any information that is false or misleading. Containers include bottles, cans, multi-quart or liter containers, pails, kegs, drums, and intermediate bulk containers (IBCs). In addition, each container of transmission fluid shall be labeled with the following:

the brand name;

the name and place of business of the manufacturer, packer, seller, or distributor;

the words "Transmission Fluid," which may be incorporated into a more specific description of transmission type such as "Automatic Transmission Fluid" or "Continuously Variable Transmission Fluid";

the primary performance claim or claims met by the fluid and reference to where any supplemental claims may be viewed (for example, website reference). Performance claims include but are not limited to those set by original equipment manufacturers and standards setting organizations such as SAE and JASO and are acknowledged by reference; and

an accurate statement of the quantity of the contents in terms of liquid measure.

Any obsolete equipment manufacturer specifications shall be clearly identified as "obsolete" and accompanied by the following cautionary statement on the principal display in accordance with the Uniform Packaging and Labeling Regulation, Section 8. Prominence and Placement: Consumer Packages and Section 9. Prominence and Placement: Non-Consumer Packages. Caution: Some of the specifications are no longer deemed active by the original equipment manufacturer. Significant harm to the transmission is possible when using in applications in which it is not intended. Always refer to your vehicle owner's manual for proper transmission fluids.

The above ~~warning~~ cautionary statement is not required if the fluid claims to meet current original equipment manufacturer's specifications and refers to thereby preceding specifications

(Added 20XX)

(Added 2017 **and Amended 20XX**)

B6: FLR-21.2. A Section 3.14.1. Labeling and Identification of Transmission Fluid

Item Under Consideration:

Amend Handbook 130, Uniform Fuels and Automotive Lubricants Regulation, as follows

3.14.1. Labeling and Identification of Transmission Fluid. – Transmission fluid shall be labeled or identified as described below

(Added 2017)

3.14.1.1. Container Labeling. – The label on a container of transmission fluid shall not contain any information that is false or misleading. Containers include bottles, cans, multi-quart or liter containers, pails, kegs, drums, and intermediate bulk containers (IBCs). In addition, each container of transmission fluid shall be labeled with the following:

(a) the brand name;

(b) the name and place of business of the manufacturer, packer, seller, or distributor;

(c) the words "Transmission Fluid," which may be incorporated into a more specific description of transmission type such as "Automatic Transmission Fluid" or "Continuously Variable Transmission Fluid";

(d) the primary performance claim or claims met by the fluid and reference to where any supplemental claims may be viewed (e.g., website reference). Performance claims include but are not limited to those set by original equipment manufacturers and standards setting organizations such as SAE and JASO and are acknowledged by reference; and

(e) an accurate statement of the quantity of the contents in terms of liquid measure.

(f) **Any obsolete equipment manufacturer specifications shall be clearly identified as "obsolete" and accompanied by the following cautionary statement on the principal display panel in accordance with the Uniform Packaging and Labeling Regulation, Section 8. Prominence and Placement: Consumer Packages and Section 9. Prominence and Placement: Non-Consumer Packages.**

Caution: Some of the specifications are no longer deemed active by the original equipment manufacturer. Significant harm to the transmission is possible when using in applications in which it is not intended. Always refer to your vehicle owner's manual for proper transmission fluids.

The above cautionary statement is not required if the fluid claims to meet current original equipment manufacturer's specifications and refers to thereby preceding specifications

(Added 20XX)

(Amended 2017 **and 20XX**)

Previous Action:

2021: Assigned – Fuels and Lubricants Subcommittee

2022: Assigned – Fuels and Lubricants Subcommittee

Original Justification:

Cautionary statements regarding obsolete products are currently required for tractor hydraulic fluids and are under consideration for motor oil. A cautionary statement and its position on the product label are currently not required for Transmission fluid in either the Method of Sale, or Fuels and Lubricants Regulations. This proposal will protect consumers by ensuring they are informed when purchasing transmission fluids.

The submitter acknowledged that there may be argument that there is not sufficient space on the front package label for a cautionary statement.

Comments in Favor:

Regulatory:
- None

Industry:
- None

Advisory:
- None

Comments Against:

Regulatory:
- None

Industry:
- None

Advisory:
- None

Neutral Comments:

Regulatory:
- None

Industry:
- None

Advisory:
- None

Item Development:

NCWM 2021 Interim Meeting: The Committee reviewed the following item for consideration in NCWM Publication 15 (2021):

(e) **Any obsolete equipment manufacturer specifications shall be clearly identified as "obsolete" and accompanied by the following warning on the principal display panel in clearly legible font size and color as stated in Uniform Packaging and Labeling Regulation 8.2.2.:**
Caution: Some of the specifications are no longer deemed active by the original equipment manufacturer. Significant harm to the Transmission is possible when using in applications in which it is not intended. Always refer to your vehicle owner's manual for proper transmission fluids.

The above warning is not required if the fluid claims to meet current original equipment manufacturer's specifications and refers to thereby preceding specifications

(Added 20XX)

It was agreed by the Committee that this language should be identical to the language that was just voted in at the 2020 NCWM Annual Meeting within Item Block 2. Tractor Hydraulic Fluid.

The Committee provided this a status of Assigned and would like FALS to further evaluate with recommendations that Ms. Johnson provides. The Committee would like FALS to review the language to see if this product includes consumer and non-consumer type packaging. Many spoke in support of how this item will be developed through FALS.

NCWM 2021 Annual Meeting: No action taken by the Committee.

NCWM 2022 Interim Meeting: Committee assigned the item to FALS.

NCWM 2022 Annual Meeting: The Committee supports keeping this item as assigned to FALS with the support and understanding that they would seek the necessary expertise to fully develop this item.

Regional Associations' Comments:

WWMA 2021 Annual Meeting: Mr. Russ Lewis, (API) – Provided testimony in support of this Block moving forward as a Voting Item. Mr. Bill Striejewske, (FALS Chair) – Stated that this Item Block has been assigned to FALS, and that the item is being worked on by a Task Group led by Joanna Johnson from the AOCA. Mr. Ron Hayes (Retired, Missouri) – Stated as part of the Task Group they are working on a list with Allan Morrison (CDFA – DMS). The list is comprised of both current and obsolete automatic transmission fluids.

The Committee recommends that this item remain Assigned. The Committee supports the work that the FALS Subcommittee is conducting.

SWMA 2021 Annual Meeting: Prentiss Searles (API) is in support of this item remaining as Assigned. NIST OWM provided written analysis supporting the development of this Blocked item through FALS.

The Committee recommends this item to remain Assigned.

CWMA 2022 Annual Meeting: No comments were heard.

NEWMA 2022 Annual Meeting: No comments received during the open hearing.

ITEM BLOCK 6
Regional recommendation to NCWM on item status: ☐ Recommend as a Voting Item on the NCWM agenda ☐ Recommend as an Information Item on the NCWM agenda ☒ Recommend as an Assigned Item on the NCWM agenda *(To be developed by an NCWM Task Group or Subcommittee)* ☐ Recommend as a Developing Item on the NCWM agenda *(To be developed by source of the proposal)* ☐ Recommend Withdrawal of the Item from the NCWM agenda *(In the case of new proposals, do not forward this item to NCWM)* ☐ No recommendation from the region to NCWM *(If this is a new proposal, it will not be forwarded to the national committee by this region)*
Comments and justification for the regional recommendation to NCWM: *(This will appear in NCWM reports)*
Kevin Upschulte, Missouri commented that the original intent of this item was to define products in the marketplace that were obsolete. The focus of the ATF work group has shifted to develop language for obsolete lubricants that will appear on ATF containers. Mr. Upschulte believes Assigned status is appropriate for further development. The Committee concurs.

Additional letters, presentation and data may have been submitted for consideration with this item. Please refer to www.ncwm.com/publication-15 to review these documents.

Mr. Travis Soper, Wisconsin | Chair
Mr. Mike Harrington, Iowa | Member
Mr. Sandy Wyss, Missouri | Member
Mr. Carson Jones, Nebraska | Member
Mrs. Rebecca Richardson, National Biodiesel Board | AMC Representative
Mr. Dough Rathbun, Illinois | NCWM Representative

CWMA Laws and Regulations Committee