**B1: NET-19.1 D Handbook 133, Section 1.2.4. Maximum Allowable Variation**

**Purpose:**

Amend language regarding the total quantity declaration on multiunit or variety packages, when the MAV may need to be recalculated based on the Total Quantity MAV.

**Item Under Consideration:**

Amend NIST Handbook 133, Chapter 1 as follows:

**1.2.4. Maximum Allowable Variation**

The limit of the “reasonable minus variation” for an under filled package is called a “Maximum Allowable Variation” (MAV). An MAV is a deviation from the labeled weight, measure, or count of an individual package beyond which the deficiency is considered an unreasonable minus error. Each sampling plan limits the number of negative package errors permitted to be greater than the MAV.

**Packages may be offered for sale individually or in multiunit packages which contain two or more individual inner packages.**

**When individual packages are tested, the MAV is applied to each package in the sample which has a minus package error.**

**When a total quantity declaration on a multiunit or variety package is verified, and the MAV is not determined in terms of a percent of the labeled quantity, a “Total Quantity MAV” is compared to the minus Total Quantity Package Error(s) to determine if they are unreasonable.**

***Total Quantity Package Error = Sum of Individual Inner Package Errors***

(Amended 2010 **and 20XX**)

**1.2.4.1. Total Quantity MAV for Multiunit and Variety Packages (See also Chapter 5. “Specialized Test Procedures”)**

**a.** **Multiunit Package****. – The total quantity declaration that appears on a multiunit package, compare a Total Quantity MAV to each minus Total Quantity Package Error to determine if the error is unreasonable. Calculate the Total Quantity MAV using the following formula:**

***Total Quantity MAV = Number of Individual Inner Packages × MAV for Individual Inner Package Quantity***

**Terms are defined as:**

**Number of Individual Inner Packages. – The total number of individual inner packages having a uniform labeled weight, measure and or count.**

**MAV for Individual Inner Package Quantity. – The MAV for the labeled quantity for the individual inner packages specified in Appendix A. “Tables.”**

**b. Variety Package. – The total quantity declaration appearing on a variety package, compare a Total Quantity MAV to each minus Total Quantity Package Error to determine if the error is unreasonable. Calculate the Total Quantity MAV using the following formula:**

***Total Quantity MAV = The sum of the applicable MAVs for all Individual Inner Packages***

**Variety packages include commodities that may be generically similar, but differ in weight, measure, volume, or appearance. For these packages a Total Quantity MAV is calculated for each product type and the results are added to obtain a Total Quantity MAV for comparison to each minus Total Quantity Package Error.**

**Terms are defined as:**

**Number of Individual Inner Packages. – The total number of similar but not identical individual inner packages with differing and/or uniform labeled weight or measure.**

**MAV for Individual Inner Package Quantity. – The MAV for the quantity declared for the individual inner packages specified in Appendix A. “Tables.”**

**B1: NET-19.2 D Handbook 133, Sections 2.1. Scope, 3.1. Scope, 4.1. Scope, 2.3.7.1. Maximum Allowable Variation (MAV) Requirement and Section 2.7.3. “Evaluation of Results – Compliance Determinations.”**

**Purpose:**

With the adoption of NIST Handbook 133, Chapter 5. Specialized Test Procedures this item clarifies the language within NIST Handbook 133.

**Item Under Consideration:**

Amend NIST Handbook 133, Chapters 2, 3 and 4 as follows:

Add a Note to HB133, Chapter 2, Section 2.1. “Scope;” Section 3.1. “Scope;” and Section 4.1 “Scope” that refers users to the Chapter 5. “Specialized Test Procedures” for these types of packages.

**Note: If Multiunit or Variety Packages are inspected, refer to Chapter 5. “Specialized Test Procedures” for guidance in testing.**

**If a total quantity declaration is verified and the MAV to be applied is not based on a percentage of the labeled quantity, refer to Section 1.2.4.1. “Total Quantity MAV for Multiunit and Variety Packages.”**

And

Add the following note to HB133, Chapter 2, Section 2.3.7.1 “Maximum Allowable Variation (MAV) Requirement” and Section 2.7.3. “Evaluation of Results – Compliance Determinations.”

**Note:** **If a total quantity declaration on a multiunit or variety package is verified, and the MAV applied is not based on a percent of the labeled quantity, see Section 1.2.4.1. “Total Quantity MAV for Multiunit and Variety Packages”.**

**B1: NET-19.3 D Handbook 133, Create a Chapter 5. Specialized Test Procedures**

**Purpose:**

Create new chapter in NIST Handbook 133 that has specialized test procedures to verify the inner contents of multiunit and variety packages.

**Item Under Consideration:**

Amend NIST Handbook 133, Chapter 5 as follows:

**5.1. Scope**

**The following procedures are used in either verifying the net quantity of contents of multiunit packages with individual inner packages that have the same commodity and identically labeled quantities or variety packages with individual inner packages that differ in labeled weight, measure or volume.**

**1. The procedure used is determined by using the labeled net contents.**

* **If a total net quantity of contents is not declared, use Section 5.2. “Individual Package Quantity”.**
* **If a total net quantity of contents is declared on the package, use Section 5.3. “Total Quantity”.**

**NOTE: If the packages are labeled with additional quantity statements (i.e., dry volume, area, length, width, or thickness), added steps or, when proper, additional Total Quantity MAVs may be required.**

**5.2. Individual Package Quantity**

**This procedure is used to test open or transparent wrapped multiunit packages. These packages have a labeled net quantity visible on each individual inner package and they are identical but there is no total net quantity on the package label (see Figure 1. Open or Transparent Multiunit Package with Individual Quantity Declarations.)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| CerealNet Wt100 g/ 3.53 oz | CerealNet Wt100 g/ 3.53 oz | CerealNet Wt100 g/ 3.53 oz | CerealNet Wt100 g/ 3.53 oz | CerealNet Wt100 g/ 3.53 oz |

**Figure 1. Open or Transparent Multiunit Package with Individual Quantity Declarations (containing two rows of packages)**

**5.2.1. Test Procedure for Multiunit Packages**

1. **Follow Section 2.3.1. “Define the Inspection Lot.” The inspection lot is defined as the total number of individual inner packages in the multiunit packages (e.g. 120 packages × 12 individual inner packages = Inspection Lot size of 1440****.) Select “Category A” or a “Category B.” sampling plan in the inspection (depending on location of test) and select a random sample.**

**2. Determine an average tare weight according to Section 2.3.5.1. “Determination of Tare Sample and Average Tare Weight.” Follow Section 2.3.6. “Determine Nominal Gross Weight and Package Error” to determine package errors.**

**3. Determine the net quantity of each individual inner package in the sample.**

* **If a count declaration is declared on the multiunit packages, verify using Section 4.2. “Packages Labeled by Count” and apply the appropriate MAV using Appendix A. Table 2-7. MAV for Packages Labeled by Count.**

**4. If minus package errors are found in the sample, the value of the MAV to be applied is determined by looking up the quantity for the individual inner packages (see Appendix A. “Tables”).**

 **Compare the MAV for the labeled quantity to each minus package error in the individual inner packages to determine if any are unreasonable using Section 2.3.7.1. “MAV Requirement”. If the number of unreasonable errors exceeds the amount allowed for the sample size (see Appendix A. Tables 2-1. “Sampling Plans for Category A” or Table 2-2. “Sampling Plans for Category B.” Column 4), the sample fails. If the sample passes, go to Step 5.**

**5. Apply Section 2.3.7.2. “Average Requirement.” Follow the procedures in Section 2.3.7. “Evaluate for Compliance.”**

**5.3. Total Net Quantity**

**Use this procedure to test multiunit packages labeled with a count and/or total net quantity declaration. This procedure can be used to verify the total net quantity declared on open or closed multiunit packages or multiunit packages with transparent or opaque packaging. If the quantities of the individual inner packages vary (which is allowed in Variety Packages) or, if the quantity of the individual inner packages is not declared, see Section 5.4. Exceptions.**

**5.3.1. Test Procedure for Multiunit Packages**

1. **Follow Section 2.3.1. through Section 2.3.4. to define the inspection lot (number of multiunit packages). Use the inspection lot size and select a “Category A” or a “Category B” sampling plan (see Appendix A. “Tables”) in the inspection plan and select a random sample.**
2. **For packages labeled by weight, determine the tare weight and nominal gross weight. Follow Section 2.3.5. “Procedures for Determining Tare” through Section 2.3.6. “Determine Nominal Gross Weight and Package Errors. This is used to determine errors in the total package quantity declaration.**
3. **Determine the net quantity of each multiunit package and calculate the Total Quantity Package Error for each multiunit package.**

**The Total Quantity Package Error is the sum of the errors found in the individual inner packages.**

***Total Quantity Package Error = Sum of Individual Inner Package Errors***

 **If needed, verify the count declaration of the individual inner packages. To determine the MAV for count use Appendix A. Table 2-7. “MAV for Packages Labeled by Count.”**

1. **If minus package errors are found in the sample, use the MAV for the individual inner package labeled quantity. (see Section 1.2.4.1. “Total Quantity MAV for Multiunit and Variety Packages” and the appropriate MAVs in Appendix A “Tables”). Calculate the MAV to be applied to the total quantity of contents declaration as follows:**

 ***Total Quantity MAV = Number of Individual Inner Packages × MAV for Individual Inner Package Quantity***

**NOTE: A Total Quantity MAV is not required when the MAV to be applied is based on a percent of a labeled quantity of a multiunit or variety package.**

1. **The Total Quantity MAV is compared to each minus Total Quantity Package Error to determine if any of the errors are unreasonable (See Section 2.3.7.1. “MAV Requirement”).**
* **If the number of unreasonable errors exceeds the amount allowed for the sample size, the sample fails. (see Section 2.3.1. “Define the Inspection Lot” and Tables 2-1 or 2-2, Column 4).**

**5.3.2. Evaluation of Results**

**Follow the procedures in Section 2.3.7. “Evaluation for Compliance.”**

**5.4. Exceptions for Multiunit Packages**

**5.4.1. Multiunit Packages with Only a Total Quantity Declaration**

**NIST Handbook 130, Uniform Packaging and Labeling Regulation (UPLR), Section 10.4. “Multiunit Packages” states that unlabeled individual packages not intended for individual retail sale are only required to declare a total quantity declaration [see Figure 2. Multiunit Package (three packages) with only a Total Quantity Declaration]. UPLR, Section 10.4. “Multiunit Packages” does allow for multiunit packages to include an optional statement of the count of the individual inner packages, even when the UPLR 10.4.(Note 7) regulations do not require a statement.**

|  |  |  |
| --- | --- | --- |
| FloorCleaner | FloorCleaner | FloorCleaner |
|  | NET WEIGHT 15 kg/33.07 lb |  |

**Figure 2. Multiunit Package (three packages) with**

**only a Total Quantity Declaration**

**5.4.1.1. MAV Application**

**When a multiunit labeled net content does not include a quantity statement for each individual inner package a Total Quantity MAV cannot be applied because the quantities in the individual inner packages are unknown. In this case, the MAV value for the total quantity declaration as listed in the MAV tables (see Appendix A. Tables) is compared to the Total Quantity Package Error to determine if any of the errors are unreasonable (see Section 2.3.7.1. “MAV Requirement”).**

**5.4.2. Variety Packages with Varying Quantity Declarations**

**UPLR, Section 10.6. “Variety Packages” states that a variety package is required to have total quantity declaration. The commodities may be generically similar; however, they can differ in weight, measure, volume, or appearance. When the labeled weight, measure or count varies, the value of the MAV can also vary.**

**When variety packages are tested, the procedure used to calculate a Total Quantity MAV requires the summing of the MAV values over the number of inner packages of all types. An example label for a variety package of candy bars is shown in Figure 3. Variety Package – Four Similar but Different Products with Varying Net Weights, to illustrate a total quantity declaration, count, and the weight of the individual inner packages.**

|  |
| --- |
| **30 Candy Bar – Variety Pack****Total Net Weight 1.33 kg** |
| **10 – 55 g (1.94 oz) Peanut Butter Cups** | **6 – 30 g (1.05 oz) Dark Chocolate Bars** |
| **6 – 46 g (1.62 oz) Milk Chocolate Bars with Almonds** | **8 – 41 g (1.45 oz) Milk Chocolate Bars** |

**5.5. Test Procedure for Variety Packages with Varying Net Weights**

**Figure 3. Variety Package – Four Similar but Different Products with Varying Net Weights**

1. **When a variety package with varying net weights is tested, the average tare weight (e.g., packaging from the individual inner packages and the outer package combined) is determined and a nominal gross weight is used to determine the error in the total quantity declaration.**

***Total Quantity Package Error = Sum of Individual Inner Package Errors***

**MAVs to be used in calculating the Total Quantity MAV are based on the labeled quantities of each product type and are calculated for each product type within the variety package. The calculated MAVs for each of the product types are summed to obtain the Total Quantity MAV (See example shown in Table 1. Steps in Calculating a MAV for a Variety Package).**

**5.6. MAV Application**

**A Total Quantity MAV must be applied because the labeled quantities and MAVs of the individual inner packages vary. For example, based on the quantity of the total net weight the MAV for 1.33 kg is 42.6 g but the “Total Quantity MAV” to be applied is 122.4 g (see example in Table 1. Steps in Calculating a MAV for a Variety Package).**

|  |
| --- |
| **Table 1. Steps in Calculating a MAV for a Variety Package** **(Based on Figure 3. Variety Package – Four Similar but Different Products with Varying Net Weights)** |
| **Product** | **Number in Package** | **MAV for each Package Net Quantity****(MAV Table 2-5)** | **Net Weight** |  **Total Quantity MAV** |
| **Peanut Butter Cups** | **10** | **5.4 g** | **55 g** | **10 × 5.4 g = 54 g** |
| **Dark Chocolate Bars** | **6** | **10 % of labeled quantity** | **30 g** | **6 × (0.1 × 30 g) = 18 g** |
| **Milk Chocolate Bars** | **8** | **3.6 g** | **41 g** | **8 × 3.6 g = 28.8 g** |
| **Milk Chocolate Bars with Almonds** | **6** | **3.6 g** | **46 g** | **6 × 3.6 g= 21.6 g** |
|  | **Total Quantity MAV** | **122.4 g** |

**(Added 20XX)**

**B1: NET-19.4 D Handbook 133, Appendix F. Glossary**

**Purpose:**

This will add definitions for language being placed into a NIST Handbook 133 regarding multiunit packages.

**Item Under Consideration:**

Amend NIST Handbook 133, Appendix F as follows:

**Multiunit Package. - A package containing two or more individual packages of the identical commodity, in the same quantity, intended to be sold as a multiunit package**

**Variety Package. – A package intended for retail sale, containing two or more individual packages or units of similar, but not identical, commodities. Commodities that are generically the same, but that differ in weight, measure, volume, appearance, or quality, are considered similar, but not identical.**

**Total Quantity MAV****. – A calculated value used to determine if any minus Total Quantity Package Error found in multiunit and variety packages is unreasonable. A Total Quantity MAV is based on the declared quantity and count of the individual inner packages. It is determined by looking up the MAV for each individual inner package quantity (refer to the appropriate Appendix A “Tables”) and then calculating the “Total Quantity MAV” as follows:**

* ***Multiunit Package:***

***Total Quantity MAV = Number of Individual Inner Packages × MAV for Individual Inner Package Quantity***

* ***For a Variety Package:***

***Total Quantity MAV = The sum of the Product Type MAVs (number of individual inner units × MAV) for all Individual Inner Packages***

**Note: A Total Quantity MAV is not used when the MAV to be applied is based on a percentage of the labeled quantity on a multiunit or variety package.**

**Note: The Total Quantity Package Error *= Sum of Individual Inner Package Errors***