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Moisture Allowance—The Official's Nemesis; Industry's Nightmare!

By Tom Coleman

In the past NIST has published recommended moisture allowances for use at all locations including point-of-pack. When officials test product for which no moisture loss guidance has been provided, NIST can help. The amount of moisture lost from a package is a function of many factors, not the least of which is the product itself (e.g., moisture content), packaging, storage conditions (e.g., temperature, humidity, air flow), time, handling and others. If a packaged product is subject to moisture loss, officials must allow for “reasonable” variations caused by moisture either evaporating or draining from the product. Officials cannot set arbitrary moisture allowances based solely on their experience or intuition. Moisture data must be “reasonable.” Reasonable does not mean that all of the weight loss caused by moisture evaporation or draining from the product must be allowed. As a result of product and moisture variability, the approach used by an official must be developed on a case-by-case basis depending on many factors to include, but not be limited to, the manufacturing process, packaging materials, distribution, environmental influence, and the anticipated shelf life of the product.

NIST Handbook 130 provides a starting point for developing a workable procedure in section 2.5.6. in the Interpretation and Guideline Section regarding “Resolution for Requests for Recognition of Moisture Loss in Other Packaged Products.” NIST WMD has worked and will continue to work extensively with the NCWM, the Laws and Regulations Committee, and industry to develop protocol for determining moisture allowances that can serve as models for future studies. Most studies involving nationally distributed products will require products be tested during different seasons of the year and in different geographic locations to develop a nationally recognized moisture allowance. Some studies may require the development of laboratory tests used for inter-laboratory comparisons to establish moisture content in products at time of pack or at the time of inspection.

In some cases manufacturers can and may provide valid moisture loss data for officials to consider in lieu of conducting studies. In cases like this, WMD will provide assistance to determine if the information is complete or if further documentation is required. For example, a major producer of bar soap provided moisture loss evidence for consideration by officials to determine what, if any, moisture loss could be expected to occur. In such a case, the information provided proved to be accurate, thus avoiding the need for national data collection.

Moisture loss or gain is a critical consideration for any net content enforcement effort and one that, in most cases, cannot be addressed by a field official. If moisture loss issues are to be deliberated, it is the regulatory official's responsibility to consider the packer's concern, utilizing available resources and due process procedures. To fulfill this obligation, officials may be required to utilize specialized test equipment and specific

laboratory procedures. Additionally, the collection of adequate test data may require product examination over a broad geographical area and consideration of a wide range of environmental factors. If a national effort is required, a coordinated effort involving industry, trade associations, weights and measures officials and federal agencies may be required. NIST will provide technical support upon request.