



PRODUCT SECURITY & TAMPER-EVIDENT PACKAGING

Specifications For Water Treatment Chemicals

Certified under NSF/ANSI/CAN 60

The NSF Joint Committee on Drinking Water Treatment Chemicals and the NSF Council of Public Health Consultants (CPHC) first adopted tamper-evident packaging requirements for drinking water treatment chemicals in 2012 as NSF/ANSI/CAN 60, Section 3.9 (Product Security). Similar requirements are also included in the American Water Works Association (AWWA) standards for water treatment chemicals.

Under NSF/ANSI/CAN 60, Section 3.9, the packaging for chemicals certified to the standard is required to have effective measures to control access to the shipped product during the storage and distribution process, as well as to provide the chemical vendor and the purchaser/user of the product with the ability to detect tampering. Tamper-evident packaging is defined as packaging that has one or more indicators or barriers to entry which, if breached or missing, can reasonably be expected to provide visible evidence that the tampering has occurred.

An informative annex (Annex F), "Examples of Tamper Evidence," was also published within NSF/ANSI/CAN 60. In the four years of compliance experience since the product security requirements were introduced to NSF/ANSI/CAN 60, several suggestions (and requests for clarification within this section of the standard) were made, reviewed by the oversight committees and incorporated into Section 3.9 in the Fall 2016 edition of NSF/ANSI/CAN 60.



The 2016 requirements for each packaging type are provided below.

PACKAGED PRODUCTS

Properly constructed, labeled and sealed multi-wall containers such as bags and fiber drums constitute two forms of acceptable tamper-evident packaging.

Smaller containers do not require individual tamper-evident seals when shipped from the manufacturer in a larger container with acceptable seals or closures, provided the smaller containers are not intended to be sold individually as certified product (i.e. not labeled for individual sale/use for drinking water applications).

BAGS AND SUPERSACKS

Packages for product shipped with visible openings must be constructed and properly sealed to make opening or substitution obvious to the purchaser. Packages must display the company's name and employ seals that are destroyed upon opening, or that make resealing unlikely (such as serialized tags), or other equivalent tamper-evident measures so that once opened, the tamper-evident feature of the packaging seal cannot be restored or readily duplicated.





DRUMS AND SMALL CONTAINERS

Drums and small containers (of volume less than 1,000 liters) must be constructed and properly sealed to make opening or substitution obvious to the purchaser. Openings in the containers must be sealed with tamper-evident seals and the packages must display the company's name.

Packages must employ seals that are destroyed upon opening, or that make resealing unlikely (such as ultrasonic seals), or other equivalent tamper-evident measures so that, once opened, the tamper-evident feature of the seal cannot be restored or readily duplicated.

BULK SHIPMENTS AND LARGE REUSABLE CONTAINERS (TOTES)

Bulk shipping containers, now defined as a container having a volume of more than 1,000 liters, must be secured during storage and distribution by employing one or more of the security measures below.



These requirements are applicable to a single product shipment delivered to one or to multiple locations:

Tamper-Evident Seals

Containers used for bulk shipments must have tamper protection provided at all openings capable of loading or unloading chemicals. Vents must have tamper protection provided unless they are protected by construction that makes them incapable of receiving chemicals. Bulk containers may be sealed with a uniquely numbered, non-reusable, tamper-evident seal on each opening in the container.

If tamper-evident seals are used, the seals shall remain in place until removed at the point of delivery. Seal numbers must be recorded and disclosed on shipping documents provided to the purchaser at the time of delivery and kept available for review by the certification body. If tamper-evident seals are used in milk run deliveries, a new seal must be applied after each partial off-loading and noted in the consignment records after each partial delivery.

Chain of Custody

An auditable continuous chain of custody protocol may be used to record secure distribution of the product. Maintaining a continuous chain of custody requires that the product is under the continuous control of bonded and designated individuals, that direct access to the product is restricted to those individuals and that the container is sealed or secured at all times during transport from the place of shipment to the place of delivery.

If chain of custody is used, a completed chain of custody record showing continuous and secure custody between the certification holder to the purchaser must be provided by the transporter to the certification holder and to the purchaser at the time of delivery.



The completed chain of custody record returned to the certification holder must be kept available for review by the certification body.

Where a paper-based chain of custody procedure is used for milk run deliveries, the documentation must have sufficient copies that a copy of the documentation shall be signed and provided to each consignee noting the quantity delivered at that destination and the balance remaining in the shipment. A copy of the complete series of deliveries must be provided by the transporter to the certification holder. Where an electronically-based chain of custody procedure is used for milk run deliveries, the record of the custody and deliveries must be provided by the transporter to the certification holder.



Acceptable Alternative Method(s)

An alternative method or methods, agreed upon by the certification holder and the purchaser, may be used for bulk shipments if the alternative method provides protection against tampering that is equivalent to the requirements detailed in NSF/ANSI/CAN 60. If alternative methods are used, the agreement with the purchaser and description of the alternative methods must be in written form and kept available for review by the certification body.

Tamper-Evident Integrity

The final section of the product security requirements covers tamper-evident integrity. This section specifies that tamper evident features on all final product packaging, seals and bulk shipping containers must be designed to remain intact when handled in a reasonable manner during manufacturing, storage, shipment and delivery to the purchaser.