



U.S. Department
of Transportation

**Pipeline and
Hazardous Materials Safety
Administration**

400 Seventh Street, S.W.
Washington, D.C. 20590

AUG 29 2005

Ref. No.: 05-0173

Mr. Russell Keith
Engineering
Wrangler Corporation
68 First Flight Drive
P.O. Box 1970
Auburn, Maine 04211

Dear Mr. Keith:

This is in response to your July 15, 2005 letter requesting further clarification of our letters to you dated June 28, 2005, December 8, 2004, and November 9, 2004 concerning intermediate bulk containers (IBC) under the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180). Specifically, you provide documentation describing your packaging as an "11HH2" composite IBC and ask whether an inner receptacle of a composite IBC designed for solids, loaded or discharged by gravity, requires its own closure if the outer receptacle provides closure to the IBC.

As we stated in our previous letter, as specified in § 178.707, a composite IBC is an IBC that consists of a rigid outer packaging and is designed to bear the entire stacking load. Based on the description of your packaging in your most recent letter and after careful consideration by this Office, it has been determined that your packaging does not meet this standard. Therefore, your packaging may not be marked with the IBC code designation "11HH2," and the closure requirements of the inner receptacle of a composite IBC do not apply to your packaging.

If you believe your packaging provides a level of safety equivalent to the United Nations (UN) 11HH2 specification, or another IBC specification, and can demonstrate this, you may wish to apply for an exemption for your packaging.

I hope this information is helpful.

Sincerely,

Susan Gorsky
Acting Director
Office of Hazardous Materials Standards



050173

178.707



Foster
§ 178.707
IBC
05-0173

WRANGLER CORPORATION

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July 15, 2005

To: Hattie L. Mitchell
Chief, Regulatory Review and Retention Office of Hazardous Materials Standards
U.S. DOT/PHMSA (DHM-10)
400 7th Street SW,
Washington, DC 20590-0001

Subject: Reference Number 04-0024, 05-0112 and 00-0158: Interpretation of construction of a Composite IBC for solids

Dear Mrs. Mitchell:

We appreciate you taking your time and reviewing this matter on our behalf. As of late we have become frustrated with the viewpoint that our containers are being evaluated as a Rigid Plastic using the Rigid Plastic standards. We concur our containers do not meet the Rigid Plastic standards and we do not mark them as such. We have never represented our containers as a rigid plastic. Our containers are marked as a Composite package and we comply with that standard. Our packages provide a safe, reliable and cost-effective solution for our customer's product transportation needs. We appreciate your time to look into this issue quickly as possible given the critical nature of this matter. More than 90% of our containers are shipped with these markings and approximately 50% of these containers are shipped internationally. Thank you again for your prompt attention.

Sincerely,

Russell Keith
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Wrangler Corporation
Email: rkeith@wranglerzone.com



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Foster
§ 178.707
IBC
05-0173

July 12, 2005

To: Mr. Edward T. Mazzullo
Director, Office of Hazardous Materials Standards
U.S. DOT/RSPA (DHM-10)
400 7th Street SW,
Washington, DC 20590-0001

Subject: Reference Number 04-0024 and 05-0112: Interpretation of construction of a Composite IBC for solids

Dear Mr. Director:

On July 7, 2005 Wrangler Corporation placed a call to your office in order to gain some clarification on the letter we received from your office dated June 28, 2005. We spoke with Mr. Glenn Foster in your office to understand how it was concluded that our package did not meet the Composite Packaging Standard. During this conference call with Mr. Foster, he informed us verbally that the concurrence letter we received from Hattie L. Mitchell dated September 21, 2000 was rescinded by your letter dated December 8, 2004. This was the first that we knew of the December letter. We never received this letter. Once Mr. Foster informed us about the letter we did find it on the DOT website. We believe we did not receive the letter because we noticed that the header of the letter had an incorrect address. All other correspondence during this time frame has been addressed correctly.

After having read the December 8, 2004 letter, whose purpose as we were informed by Mr. Foster, was to rescind Hattie Mitchell's concurrence letter. We are perplexed as why in the current letter and the previous letters from your office kept addressing the

container's design as a Rigid Plastic and referencing those standards. But reading the explanation in the letter it mentions Composite Packaging and not references those standards. We have clearly stated in our correspondence with your office that our package meets the standards of a Composite IBC and were confirmed as such in 2000 by Hattie Mitchell. We concur with your conclusion our design type does not meet the standards of a Rigid Plastic. We recognize our letter dated February 9, 2004 inadvertently reopened an old issue and a subsequent letter was sent to your office clarifying our question in the February 2004 letter. Our question is does an inner receptacle of a Composite IBC designed for solids, loaded or discharged by gravity need its own closure if the outer receptacle provides closure to the IBC as a whole? Since February 9, 2004 we have been trying to attain clarification to this question and have not received a specific response.

We now find ourselves having to retrace previously resolved issues. We will detail according to the Composite Standards section §178.707 why we meet the definition of a composite IBC and to demonstrate once again why Hattie Mitchell concurred with our markings for over four years.

In response to the letter dated December 8, 2004 that rescinds the concurrence letter we received from Hattie L. Mitchell dated September 21, 2000 reference number 00-0158. We would have addressed this issue immediately had we received the December 8, 2004 letter. The December 8, 2004 letter states that *"Upon further evaluation, we have determined that the packaging referenced in your May 23, 2000 letter does not conform to the specification for a composite IBC, and, thus, may not be marked with the IBC code 11HH2". As specified in §178.706(b), rigid plastic IBC's consist of a rigid plastic body...* Your letter continues referencing §178.706(b), which relates to the standards for Rigid Plastic IBC's. Your letter never states why we do not meet specifications of a Composite IBC and the standard for that is §178.707. It seems to us that the letter should reference the correct standard and the specifications of that standard when giving a response.

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Below we will layout section by section as to why we believe Hattie Mitchell concurred with our conclusion. When our package is evaluated using the Composite Packaging Standards (which is distinctly separate from Rigid Plastic, Metal, Fiberboard, Wooden, and Flexible) using the specifications within the standard we clearly demonstrate that our

containers conform to the requirements set forth for a Composite IBC and the 11HH2 marking is appropriate.

The “11HH2 marking” identifies our container as a “Composite IBC”(§178.707) and not a Rigid Plastic IBC (§178.706). Composite IBC’s are a separate designs category not a subtype of another design category. In no part of the §178.707 standard for composite IBC’s does it indicate or specify that a composite IBC must first satisfy another design category. Nor is this stated in the general IBC standards of §178.705. Metal §178.705, Rigid Plastic §178.706, Composite §178.707, Fiberboard §178.708, Wooden §178.709, and Flexible §178.710. All are independent design categories with their own design construction standards and specifications. The design types are further differentiated under the testing requirements in Subpart O testing of IBCs, in that Rigid Plastic IBCs and Composite IBCs are listed and tested as separate IBC types §178.803 as are Metal, Fiberboard, Wooden and Flexible IBC types.

Our containers are designed in a manner that they meet the §178.707 standard. §178.707(c) is the “*Construction requirements for composite IBCs with plastic inner receptacles ... (1) The outer packaging must consist of a rigid material formed so as to protect the inner receptacle from physical damage during handling and transportation, but is not required to perform the secondary containment function. It includes the base pallet where appropriate. The inner receptacle is not intended to perform a containment function without the outer packaging.*”

The definitions for composite IBC types given in §178.707(b) does not state the outermost layer or individual components are to be rigid but requires the outer packaging as a whole be rigid. The outer packaging of our containers is plastic and fiberboard. The components are bonded together to produce the rigid outer packaging. The fiberboard is a structural component of the outer packaging. Using the definition given in §178.707 (b)(1) “...together with any service or other structural equipment” the fiberboard is a structural member of the outer package. In addition the standards do not state that any individual component part must be able to support a stacking load, rather it states, “*the outer packaging of a composite IBC is designed to bear the entire stacking load*” and only if it is designed to be stacked. (See marking of IBCs §178.703(1)(vii)) The complete outer packaging is to be considered and not the individual components. Our individual components bonded together produce the rigid outer structure called for in §178.707.

Subpart N – IBC Performance Oriented Standards uses the singular tense of “material” but infers that more than one material may be used in the construction of the outer packaging. To this point nails, staples, and glue are used to fabricate wood based IBCs. Our container uses plastic, glue and fiberboard as its material of construction. Also §178.707 does not state that a composite IBC (11HH2) be constructed entirely of a single material (i.e. plastic) or even a homogeneous mixture. If this were the case, nails staples and glue used, as structural components of wooden IBCs would have to be removed prior to design consideration and testing, which is clearly not the case. Our outer packaging is a “composite” utilizing plastic on the very outer layer laminated to rigid fiberboard to provide the protection for our inner receptacle.

Using the definition for plastic given for composite IBCs §178.707(b)(2) “*The term plastic means polymeric materials (i.e. plastic or rubber)*” the woven-coated polypropylene meets the definition of plastic. With no reference to Rigid or Flexible plastic types, a Flexible plastic is permitted as a component part of an outer receptacle for a Composite IBC. The marking for a “Composite IBC” designed for solids, loaded or discharged by gravity with a flexible plastic inner receptacle is **11HZ2** (§178.707(a)(2)). As instructed in §178.707(a) the “**Z**” is to be replaced by a capital letter, which indicates that the material used for the **outer packaging**. In HMR; 49 CFR §178.702(a)(2) specifies the capital letter “**H**” *means plastic*. Our containers have “plastic outers” so per the regulation we replaced the “**Z**” with the “**H**” to achieving the **11HH2** marking.

Prior correspondences and telephone conversations with personnel from your office (DOT) have directed us to mark our containers as a Composite type with the 11HH2 marking. Furthermore a letter Hattie L. Mitchell Chief, Regulatory Review and Retention Office of Hazardous Materials Standards reference number 00-0158 dated September 21, 2000 states that our containers satisfy the composite requirements. The subsequent letter dated December 8, 2004 again uses the assumption that the outer must first satisfy the requirements of a Rigid Plastic. This can not be the case as the two design categories are different each with their own construction requirements. Reviewing the appropriate sections of Subpart N – IBC Performance Oriented Standards (plural) §178 clearly indicates that each package category is to be constructed using the appropriate construction requirements for the package type. The individual construction requirements are located in §178.705(c), 706(c), 707(c), 708(c), 709(c), and 710(c) for the different IBC types.)

Our containers have a plastic inner receptacle supported by a rigid outer packaging. The design is constructed using a plastic (Polypropylene fiber) and is of known material specification, and is resistant to aging and degradation caused by ultraviolet radiation. Again referencing the definition of plastic in Section §178.707(b)(2) "*The term plastic means polymeric material (i.e., Plastic or rubber)*" thus it is clear our container meets the requirements of this standard. In §178.707(c)(1) it states that: "*The outer packaging must consist of rigid material formed so as to protect the inner receptacle from physical damage during handling and transportation, but is not required to perform the secondary containment function. It includes the base pallet where appropriate. The inner receptacle is not intended to perform a containment function without the outer packaging.*" The container is to be placed on a pallet and transported as a unit thus protecting the bottom. The outer packaging is designed to protect the inner receptacle from damage. The inner receptacle is not intended to function without the outer packaging. The inner and outer packaging are to be filled, stored, transported, and discharged as a unit. This basic design premise has not changed from the time we received the concurrence letter from Hattie Mitchell in September of 2000. Two improvements were added in 2004. The structural members of the outer packaging are now bonded together and the outer packaging and the inner receptacle are also bonded together.

In one of your responses your office states "*the woven plastic outer sheet... does not exhibit strength relative to its capacity and service it is required to perform.*" The plastic shell of the outer packing is a woven matrix of extruded fiber whose mechanical properties are superior to many thermally set polymers. Our woven Polypropylene fiber is the same material used daily in millions of IBCs, many of which carry UN markings. Woven Polypropylene fiber has been the industry standard for IBC's for many years because of its superior strength and durability. As stated above the woven outer Polypropylene fiber is of known material specification, and is resistant to aging and degradation caused by ultraviolet radiation. The packaging does demonstrate strength relative to its capacity and to the service it is required to perform as determined by the performance testing as required in section §178.803 Testing and Certification of IBCs. All certification testing was conducted at a certified subcontractor testing facility. The container design type was tested as a Composite IBC per section §178.803 and included vibration, bottom lift, stacking, and drop tests. The vibration tests demonstrate the containers are capable of surviving the rigors of transport. The bottom lift test demonstrates that the containers can be safely handled and moved. The stacking test is

conducted at a temperature of 104°F for 28 days and is intended to reveal creep failures. The final test required is the drop test, and is conducted after the filled container and contents are conditioned to 0° F prior to being dropped. All testing was conducted using full containers in both weight and volume as per the test standards. The subject containers passed all prescribed tests clearly demonstrating that the packaging as designed does provide the proper level of safety and is suited to the duty it is required to perform.

The containers do meet the design requirements as outlined in §178.707 Standards for Composite IBCs. They pass all the testing requirements of Subpart O –Testing of IBCs and that the appropriate marking is 11HH2. We have been manufacturing and marking containers of similar construction for more than four (4) years and we did this based on DOT recommendations.

As the container meets the design requirements of section §178.707. The container's outer packaging is built up using a plastic outer shell together with a fiberboard structural wall. The inner receptacle is also plastic but is not intended to provide support to the structure, but is intended to be filled, transported and emptied as a unit. As described on the previous supplied specification sheet the inner receptacle does not close off but terminates at the top of the unit. The two cover flaps of the outer receptacle provide closure to the entire packaging.

Our question remains does an inner receptacle of a Composite IBC designed for solids, loaded or discharged by gravity need its own closure if the outer receptacle provides closure to the IBC as a whole. The language in the regulation is ambiguous on whether a closure is needed on the inner receptacle. Because the regulations do not call for a specific type of closure on an inner receptacle or even if a closure is required.

In conclusion, we have been marking this design type since 2000 and have shipped thousands of containers worldwide containing materials requiring our type of packaging design. This issue puts our company at great risk of losing more than 50% of its existing business and requesting an exemption for marking our containers as a Composite puts at risk this business given most of the units with this design are shipped worldwide.

We thank you in advance for your prompt response and reviewing the matter quickly as possible since this has significant ramifications for our company. We are confident you

will concur with Hattie Mitchell and us that our containers are appropriately marked as a composite.

Sincerely,
Russell Keith
Engineering
Wrangler Corporation
Email: rkeith@wranglerzone.com

Cc John H. Lapoint- President
Hattie Mitchell –Chief Regulatory Review and Reinvention Office
Of Hazardous Materials Standards





