



U.S. Department
of Transportation

**Pipeline and
Hazardous Materials Safety
Administration**

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

MAY -3 2006

Mr. John J. Miller, CHP
Radiation Safety Officer
4137 Commerce Circle
Idaho Falls, Idaho 83401

Ref. No. 06-0009

Dear Mr. Miller:

This responds to your January 9, 2006 letter requesting clarification on general design requirements for demonstrating performance criteria for packagings authorized to carry radioactive materials under the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180). Specifically, you ask whether performance criteria may be demonstrated based on material selection in conjunction with successfully testing a prototype package configured as it would be shipped, i.e., inner containment containing a surrogate liquid in accordance with §173.465 "Type A packaging tests," and §173.466 "Additional tests for Type A packagings designed for liquids and gases."

As your letter notes, there are no specific testing procedures in the HMR to validate the performance criteria at issue. Section 173.461 provides the methods required for demonstration of compliance with the tests required under § 173.412. The methods provided in § 173.461 may also be used to demonstrate compliance with the § 173.410 requirements. Your understanding is correct that the package performance requirements in §§ 173.410 and 173.412 may satisfactorily be demonstrated based on material selection in conjunction with successful testing of a prototype package configured as it would be shipped, such as with an inner container containing a surrogate liquid. Records demonstrating compliance must be maintained on file for at least one year after the latest shipment in accordance with § 173.411(c).

I hope this answers your inquiry.

Sincerely,

John A. Gale
Chief, Standards Development
Office of Hazardous Materials Standards



060009

173.410 (i)
173.412 (f)



International Isotopes Inc.
& *International Isotopes Idaho Inc.*

Boothe
§ 173.410 (i)
§ 173.412 (f)

Packages
06-0009

January 9, 2006

Office of Hazardous Materials Standards
Pipeline and Hazardous Materials Safety Administration, PHH-10
U.S. Department of Transportation,
400 7th Street SW, Washington, D.C. 20590-0001

Subject: Request for Interpretation, Package Design Requirements

To Whom It May Concern,

International Isotopes Inc. requests an **official interpretation** of the regulations pertaining to the general design requirements cited in §173.410 (i) (1) through (3) and the additional design requirements for Type A packages of §173.412 (f).

§173.410 (i) For transport by air—

- (1) The temperature of the accessible surfaces of the package will not exceed 50 °C (122 °F) at an ambient temperature of 38 °C (100 °F) with no account taken for insulation;
- (2) The integrity of containment will **not** be impaired if the package is exposed to ambient temperatures ranging from -40 °C (-40 °F) to +55 °C (131 °F); and
- (3) Packages containing liquid contents will be capable of withstanding, without leakage, an internal pressure that produces a pressure differential of not less than 95 kPa (13.8 lb/in²).

§173.412 (f) The containment system **will** retain its radioactive contents under the reduction of ambient pressure to 25 kPa (3.6 psi).

There are no specific testing procedures cited in the regulations to validate the aforementioned performance criteria. This being the **case**, International Isotopes Inc. believes the performance criteria may be demonstrated based on material selection in conjunction with successfully testing a prototype package configured as it **would** be shipped, i.e. inner containment containing a surrogate liquid, in accordance with §173.465 *Type A packaging tests*, and §173.466 *Additional tests for Type A packagings designed for liquids and gases*.

Your response is greatly appreciated. **If** there are any questions regarding this request please contact me at 208 524-5300 or by email at jjmiller@intisoid.com.

Sincerely,

John J. Miller, CHP
Radiation Safety Officer.

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