



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, D.C. 20590

JAN 16 2015

Mr. Mike Tomasek
Operations Manager
The Cryo Guys
7469 Highway 67 E
Cookville, TX 75558

Reference No. 14-0203

Dear Mr. Tomasek:

This is in response to your October 27, 2014 email requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to the shipment of liquid nitrogen in open cryogenic receptacles. You ask if special provision 346 of § 172.102(c)(1) prohibits the domestic shipment by ground of nitrogen, refrigerated liquid, UN 1977, in other than a dry shipper engineered with porous material able to absorb all free liquid nitrogen.

Special provision 346 does not restrict the shipment of liquid nitrogen to dry shippers. The additional packaging authorizations in Part 173 referenced in the hazardous materials table remain valid. Section 173.320 provides the general authorization and exceptions for the transport of liquid nitrogen in open cryogenic receptacles. Special provision 346 only provides an exception to the requirements of the HMR for the transport of liquid nitrogen in open cryogenic receptacles in conformance with § 173.320 if the receptacle contains no hazardous material other than the liquid nitrogen and the liquid nitrogen is fully absorbed in a porous material in the receptacle.

Special provision 345 provides an additional exception from the HMR for liquid nitrogen when transported in open cryogenic receptacles with a maximum capacity of 1 liter if constructed and packaged in accordance with the requirements of the special provision.

I trust this information is helpful. If you have further questions, please do not hesitate to contact this office.

Sincerely,

Shane C. Kelley
Acting International Standards Coordinator
Standards and Rulemaking Division

Goodall, Shante CTR (PHMSA)

Babich
172.102
Special Provisions
14-0203

From: Ciccarone, Michael CTR (PHMSA)
Sent: Monday, October 27, 2014 3:27 PM
To: Hazmat Interps
Subject: FW: Request for Formal Interpretation

Shante/Alice,

Please submit this for a formal letter of interpretation.

Thanks,

Mike

From: Mike Tomasek [<mailto:mike.tomasek@thecryoguys.com>]
Sent: Monday, October 27, 2014 2:40 PM
To: PHMSA HM InfoCenter
Subject: Request for Formal Interpretation

Dear PHMSA Info Center,

The EH&S department of a notable research institute recently challenged us stating that SP-346 of 49 CFR 172.102 prohibits LN2 from being shipped (domestic USA ground transportation) in any "open cryogenic receptacle" other than a "dry shipper" engineered with "porous material" able to absorb all free LN2. After considerable research and consultation with colleagues in the industry, TheCryoguys' position remains that SP-346 makes no prohibitions at all but, instead, provides an exemption from otherwise applicable regulation (Title 49 Subchapter C) in the event that a "dry shipper" is used. Furthermore, TCG feels that SP-346 allows that if the nature of material preserved in transit demands some form of "open cryogenic receptacle" *OTHER* than a dry shipper, said open receptacle may be transported in compliance with Title 49 Subchapter C.

Please provide a formal interpretation outlining applicability and limits of SP-346 in the larger scope of LN2 and "open cryogenic receptacles". Secondly, please confirm that Title 49 Subchapter C does contain provision for shipping open cryogenic liquid in cryogenic receptacles not classed as "dry shippers".

TCG's Current Interpretation of 49 CFR 172.102, SP-346:

SP-346 is only applicable in a narrow range of circumstance. The determination of whether or not special provision SP-346 applies in a particular case is whether or not compliance with "requirements" of SP-346 have been met. These "requirements" are two-fold:

- 1: "No hazardous materials other than the liquid nitrogen" (are contained in the receptacle).
- 2: "Liquid nitrogen... (is) ... fully absorbed in a porous material in the receptacle."

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The logic of SP 346 follows:

IF "open cryogenic receptacles" *ARE* transported in accordance with the two-fold requirements of this special provision, **THEN** they *ARE NOT* subject to "any other requirements of "Title 49 Subchapter C.

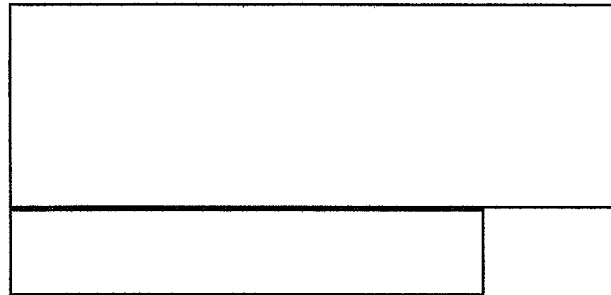
~AND~

IF "open cryogenic receptacles" *ARE NOT* transported in accordance with the two-fold requirements of this special provision, **THEN** they *ARE* subject to "any other requirements of " Title 49 Subchapter C.

Thanks for your assistance in this matter!

Mike Tomasek

Operations Manager
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extension 12



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