



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

MAR 15 2017

Mike Tobin
Manager Dangerous Goods
Alaska Airlines, Inc.
P.O. Box 68900 - SEADG
Seattle, WA 98168

Reference No. 16-0171

Dear Mr. Tobin:

This letter is in response to your October 19, 2016, email requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to materials subject to transport regulations by air. You describe in your email a scenario in which a ramp service agent experienced burning of the eyes and throat after having entered the lower cargo compartment on a passenger-carrying aircraft, where he was exposed to a material leaking from a drum. You further explain that while the drum contained formalin mixed with sea water to a 4% concentration that was not regulated in accordance with special provision A189, the effect experienced by the agent is more aligned with special provision A35. Specifically, you state your belief that special provisions A35 and A189 assigned to "UN 3334, Aviation regulated liquid, n.o.s. (formalin)" create confusion and ask if either special provision supersedes the other in this instance.

Under the Hazardous Materials Table (HMT) in § 172.101, "UN 3334, Aviation regulated liquid, n.o.s." is listed as a Class 9 material and is assigned special provisions A35 and A189. By definition, Class 9 means a material which presents a hazard during transportation but which does not meet the definition of any other hazard class. This class includes "any material which has an anesthetic, noxious or other similar property which could cause extreme annoyance or discomfort to a flight crew member so as to prevent the correct performance of assigned duties."

Special provision A189 explains that concentrations of formaldehyde solution with less than 10% formaldehyde and, in this instance, formalin solution (i.e., 1-2% formaldehyde solution) are generally not subject to the HMR. Nonetheless, it is the shipper's responsibility to properly classify their material. Special provision A35 explains that material described as "Aviation regulated liquid" would create discomfort to crew members on an aircraft, preventing the correct performance of assigned duties in the event of spillage or leakage of the material.

With respect to your concern about precedence of the two special provisions, neither special provision A35 nor A189 has precedence. If it is determined that the formalin solution (1-2% formaldehyde solution) described in your scenario meets the criteria of special provision A35, it is subject to the regulations by air as a Class 9 material.

I hope this information is helpful. Please contact us if we can be of further assistance.

Sincerely,

A handwritten signature in black ink, appearing to read 'Dirk Der Kinderen', written over the printed name.

Dirk Der Kinderen
Chief, Standards Development Branch
Standards and Rulemaking Division

Goodall, Shante CTR (PHMSA)

Baker
172.102
Special Provisions
16-0171

From: Rivera, Jordan CTR (PHMSA)
Sent: Wednesday, October 19, 2016 5:05 PM
To: Hazmat Interps
Subject: FW: request for interpretation
Attachments: ASAA interp req UN 3334.pdf

Hi Shante/Alice,

Please submit this as a letter of interpretation. I have done some looking into Mr. Tobin's inquiry.

Please let me know if you have any questions.

Thanks,
Jordan

From: Mike Tobin [<mailto:Mike.Tobin@AlaskaAir.com>]
Sent: Wednesday, October 19, 2016 11:21 AM
To: PHMSA HM InfoCenter
Subject: request for interpretation

Hi, please find attached a request for interpretation regarding the 2 special provisions applied to UN 3344.
Thank you.
Mike

Michael G. Tobin, CHMM

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October 19, 2016

Standards and Rulemaking Division
Pipeline and Hazardous Materials Safety Administration
Attn: PHH-10
U.S. Department of Transportation, East Building
1200 New Jersey Avenue, SE.
Washington, DC 20590-0001.

Alaska Airlines, Inc. ("Alaska") respectfully requests an answer to the question:

Does special provision A35 supersede A189 regarding classification of UN 3334 Aviation regulated liquid?

We had an incident onboard an aircraft and reported it to the FAA hazardous materials office and via DOT Form 5800.1 A ramp service agent entered the lower cargo compartment on a passenger-carrying aircraft and within 10 seconds experienced burning in their eyes and throat. They exited the aircraft and tried again after donning mask and goggles, but again could not stay. The airport fire department had to respond and unload the aircraft wearing self-contained breathing apparatus. A 5-gallon plastic drum was found to be leaking. Our airline paid two cleanup vendors to render the aircraft and all the contaminated baggage safe.

The shipper stated they mixed formalin with sea water to about a 4% concentration. They stated they checked the US regulations and that their material was not regulated hazmat. However, the effect on our personnel aligns with SP A35. On the last page of this letter are extracts from one SDS classifying "formalin 10%" with a 3-4% concentration of formaldehyde as UN 3334. We believe that is correct.

PHMSA in Interpretation 01-0271 stated, "it is the opinion of this Office that formaldehyde solutions with less than 10% formaldehyde mixed with non-hazardous materials do not meet the definition of a Class 9 hazardous material and, provided they do not meet any other hazard class, are not subject to the HMR"

Two disparate special provisions applied to UN 3334 in the HMR appear to create confusion, so we kindly request an interpretation on this.

ICAO does not have both special provisions applied to UN 3334, the <10% formaldehyde special provision is applied to a non-proper shipping name entry of formaldehyde solution. This seems to be more logical. Citations from both regulations appear on the next page.

Thank you for your consideration. If you have any questions, please feel free to contact me. If an interpretation will just reiterate the 2001 interpretation, please consider this as a petition for rulemaking to permit regulation of concentrations less than 10% formaldehyde.

Sincerely,

A handwritten signature in black ink, appearing to read "Mike Tobin".

Mike Tobin, CHMM

Manager Dangerous Goods
Alaska Airlines, Inc. – SEADG

mike.tobin@alaskaair.com



Comparison of UN 3334 entries in 49CFR and ICAO TI:

49CFR §§ 172.101 and 172.102

UN 3334 Aviation regulated liquid, n.o.s.

- A35 This includes any material which is not covered by any of the other classes but which has an anesthetic, narcotic, noxious or other similar properties such that, in the event of spillage or leakage on an aircraft, extreme annoyance or discomfort could be caused to crew members so as to prevent the correct performance of assigned duties.
- A189 Except where the defining criteria of another class or division are met, concentrations of formaldehyde solution:
- a. With less than 25 percent but not less than 10 percent formaldehyde, must be described as UN3334, Aviation regulated liquid, n.o.s.; and
 - b. With less than 10 percent formaldehyde, are not subject to this subchapter.

ICAO TI Table 3.1 and Chapter 3

UN 3334 Aviation regulated liquid, n.o.s.

- A21 This includes any material which is not covered by any of the other classes but which has an anesthetic, narcotic, noxious or other similar properties such that, in the event of spillage or leakage on an aircraft, extreme annoyance or discomfort could be caused to crew members so as to prevent the correct performance of assigned duties.

The following is not a proper shipping name, it is in light face type with just the explanatory in column 7.

Formaldehyde solution with less than 25 percent formaldehyde

- A189 Except where the defining criteria of another class or division are met, concentrations of formaldehyde solution:
- a. With less than 25 percent but not less than 10 percent formaldehyde, must be described as UN3334, **Aviation regulated liquid, n.o.s.**; and
 - b. With less than 10 percent formaldehyde, are not subject to this subchapter.



An example of confusion about formaldehyde solutions. This product named "formalin solution 10%" has a concentration of just 3-4% formaldehyde.

We believe the manufacturer correctly classified it as UN 3334, based upon our unfortunate experience.

Product Name

Formalin Solution 10% Neutral Buff. pH 7.0

...

Component	CAS #	OSHA PEL	ACGIH TLV	Other Limits Recommended	Percent
Formaldehyde	50-00-0	0.75 ppm	C 0.3 mg/m ³		3-4

...

Section 14. Transport Information

GROUND SHIPMENTS: Not regulated

AIR SHIPMENTS: Aviation Regulated Liquid n.o.s. (formaldehyde), 9, UN3334

NOTE: It is ultimately the shippers responsibility to make hazard class determination based on their best information available.

It is, of course, the shipper's responsibility to correctly classify hazardous materials – but how do they know in the case of formalin and what kinds of effects any product might have to trigger SP A35?

Note – this product may not have been the material in the buckets on our flight, it is used for illustrative purposes only.

Source:

https://www.aphis.usda.gov/animal_health/lab_info_services/downloads/MSDS_Formalin.pdf