



U.S. Department  
of Transportation

**Pipeline and  
Hazardous Materials Safety  
Administration**

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

DEC - 7 2005

Mr. Robert J. Fersterheim  
Executive Director  
The AN Group  
1250 Connecticut Avenue, N.W.  
Suite 700  
Washington, DC 20036

Ref No.: 05-0142

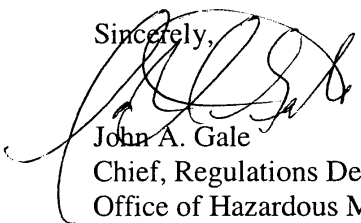
Dear Mr. Fersterheim:

This responds to your June 1, 2005 letter and subsequent conversations with Ben Supko of my staff requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180). Specifically, you request that Acrylonitrile, stabilized, UN1093, PG I be reclassified as a PG II material because it has a flashpoint of approximately 1° C and a boiling point of approximately 77° C, which is consistent with that of a PG II flammable liquid.

A material with a flashpoint of approximately 1° C and a boiling point of approximately 77° C, that meets no other hazard, is best classified as a flammable liquid in Packing Group II. However, acrylonitrile also exhibits the subsidiary hazard of a Packing Group I poison. In accordance with the precedence of hazard table in § 173.2a(b), a material that meets Class 3, PG II and Division 6.1, PG I is assigned to Class 3. Note 1 following the precedence of hazard table states that the most stringent packing group assigned to a hazard of the material takes precedence over other packing groups. Therefore, a material meeting Class 3 PG II and Division 6.1 PG I is classified as Class 3 PG I.

I hope this information is helpful. Please contact us if you require additional assistance.

Sincerely,



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



050142

# THE AN GROUP

1250 Connecticut Avenue, NW Suite 700 Washington, DC 20036  
Phone: 202-419-1500 Fax: 202-659-8037 [www.angroup.org](http://www.angroup.org)

June 1, 2005

Mr. Edward Mazzullo  
Director  
Office of Hazardous Materials Standards  
Pipeline and Hazardous Materials Safety Administration  
U.S. Department of Transportation  
400 7<sup>th</sup> Street, S.W.  
Washington, DC 20590

**RE: Request for Reclassification of Acrylonitrile to Packing Group II**

Dear Mr. Mazzullo:

I am writing to request a review and reclassification of the Packing Group assignment for acrylonitrile under the provisions of 49 CFR 172.101. We believe that the assigned Packing Group is an error and does not adequately consider the known properties of acrylonitrile.

Acrylonitrile is currently designated as a Class 3 material under Packing Group I (as reflected on the Hazardous Material Table in 49 CFR 172.101). We believe this designation is intended to be based on the flammability hazard of the substance.

According to 49 CFR Part 173.121, Class 3 materials that have a flash point less than 23° C and a boiling point of greater than 35° C are to be designated as Packing Group II. Since acrylonitrile has a flash point (closed-cup) of approximately 1° C (which is considerably less than 23° C) and a boiling point of approximately 77° C (which is significantly greater than 35° C), we believe acrylonitrile should appropriately be classified in Packing Group II.

There are various references to support this flash point and boiling point values. The primary references that are often cited are as follows:

- Boiling point:** Verschueren K. 1983. Handbook of environmental data on organic chemicals. 2nd ed. New York, NY: Van Nostrand Reinhold Company, 162-165.
- Flash Point:** Sax NI. 1984. Dangerous properties of industrial materials. 6th ed. New York, NY: Van Nostrand Reinhold Company, 132-133.

Supko  
§ 172.101  
§ 173.121

Classification  
05-0142

Mr. Edward Mazzullo  
June 1, 2005  
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These specific values are cited in the Agency for Toxic Substances Disease Registry Toxicological profile on Acrylonitrile, which can be obtained from <http://www.atsdr.cdc.gov/toxprofiles/tp125.html>. Comparable values are also found in various other sources. See for example:

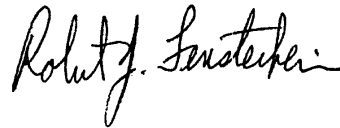
OSHA: [http://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=STANDARDS&p\\_id=10067](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10067)

NIOSH: [http://www.cdc.gov/niosh/78127\\_18.html](http://www.cdc.gov/niosh/78127_18.html)

We would greatly appreciate your review of this matter. Please advise whether additional information is needed to justify reclassifying acrylonitrile from Packing Group I to Packing Group II.

Please let me know if you need any further clarification.

Sincerely,



Robert J. Fensterheim  
Executive Director

**Supko, Ben <PHMSA>**

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**From:** Supko, Ben <PHMSA>  
**Sent:** Tuesday, October 25, 2005 3:49 PM  
**To:** 'Bob Fensterheim'  
**Subject:** RE: Acrylonitrile Inhalation Study

Mr. Fensterheim,

Good afternoon. This memo is regarding your June 1, 2005 letter requesting clarification of the acrylonitrile requirements in the HMR. In our discussions you indicated that you were interested in submitting additional studies on acrylonitrile. The only study I have received is mentioned below, I have not received additional studies. Therefore, I am prepared to complete the letter based on the information you have submitted. If you would like to submit any additional information please do so by COB on Wednesday, October 26, 2005.

Thank you,

Ben

-----Original Message-----

**From:** Supko, Ben <PHMSA>  
**Sent:** Tuesday, July 26, 2005 11:25 AM  
**To:** 'Bob Fensterheim'  
**Subject:** FW: Acrylonitrile Inhalation Study

Mr. Fensterheim,

Thank you for the toxicology study on acrylonitrile. Our chemist has taken a look at the study. Before he makes any determination he asked if you could provide results for the 1-hour test (49 CFR 173.132), if you have them or are aware of them. I informed him that you are in the process of producing a dermal study on acrylonitrile. He is interested in seeing that as well.

Thank you,

Ben

-----Original Message-----

**From:** Cushmac, George <PHMSA>  
**Sent:** Monday, July 25, 2005 7:47 AM  
**To:** Supko, Ben <PHMSA>  
**Cc:** Cushmac, George <PHMSA>  
**Subject:** RE: Acrylonitrile Inhalation Study

Thanks Ben. Per our discussion about a 1-hour tox study iaw the HMR (49 CFR 173.132), I want to see the results of the 1-hour test/study. George

-----Original Message-----

**From:** Supko, Ben <PHMSA>  
**Sent:** Thursday, July 21, 2005 3:20 PM  
**To:** Cushmac, George <PHMSA>  
**Subject:** FW: Acrylonitrile Inhalation Study

George,

Here's the study on acrylonitrile. Let me know what you think.

Thanks,

Ben

-----Original Message-----

From: Bob Fensterheim  
To: Supko, Ben <PHMSA>  
Cc: Greg Suber; Maria Stubbs  
Sent: 7/19/2005 1:59 PM  
Subject: Acrylonitrile Inhalation Study

As we discussed, I am providing in the attached a new acute inhalation toxicology study on AN. As you are likely aware, there is a significant amount of information on the toxicology of AN. While we can provide a compendium of information and different studies, I am only providing at this time the new unpublished study. Let me know what other information you would like. FYI, we are planning to provide this to EPA as part of their development of an Acute Exposure Guideline Level for AN.

I had also mentioned that there would be a new dermal study as well. I do not have this as of yet.

Please let me know if I can clarify.

Bob Fensterheim

<<NOSE ONLY FINAL REPORT Acrylonitrile.pdf>>