



U.S. Department
of Transportation
**Research and
Special Programs
Administration**

OCT 21 2004

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

Mr. Timothy W. Wiseman
Scopelitis, Garvin, Light & Hanson
Attorneys At Law
10 W. Market Street, Suite 1500
Indianapolis, Indiana 46204

Ref. No.: 04-0104

Dear Mr. Wiseman:

This responds to your letter dated April 20, 2004, and follow-up letters dated June 16, 2004 and June 18, 2004, which contained additional documentation on classifying and testing of your client's adhesive aerosol products in accordance with the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180). Subsequently, by telephone, you provided additional information on the chemical make-up of these products. TACC's products (collectively referred to as "SPHS Products") are used as industrial aerosols. You enclosed three (3) Material Safety Data Sheets (MSDS) and two different tests results.

As a result of an investigation, you requested clarification of the test specified in § 173.306(i)(1), as it applies to the flammability of TACC's adhesive aerosol products. The products are as follows:

- (1) STA'- PUT SPHS ADHESIVES and T987 SPRAY ADHESIVES – consists of 55-75% Dichloromethane, 10-30% 1,1-difluoroethane, and 0.5-1.5% Propane and Isobutane (hydrocarbon propellant mixture); and
- (2) CON-BOND 690 AEROSOL – consists of 35-60 % Dichloromethane, 10-13% of 1,1-difluoroethane, and 15-40% Propane and Isobutane (hydrocarbon propellant mixture)

If your client's industrial aerosol products meet criteria in §173.306(a)(3) for shipment as limited quantities, their flammability must be determined using the tests specified in § 173.306(i). Otherwise, if your client's products meet the definition in § 173.115(a) for Division 2.1 (flammable gas), they must be classified as Division 2.1 materials in accordance with test results using ASTM E681-85, Standard Test Method for Concentration Limits of Flammability of Chemicals or other equivalent method approved by the Associate Administrator for Hazardous Materials Safety. Your client must determine the correct hazard class of each product in the form it will be offered for transportation.

Based on the information you provided, the flammability of "CON-BOND 690 AEROSOL" shipped in limited quantities (16 ounce containers) and reclassified as a Consumer commodity, ORM-D, would be determined by tests specified in § 173.306(i). The flammability of "STA'- PUT SPHS ADHESIVES" and "T987 SPRAY ADHESIVES" (shipped in 35 pound cylinders)



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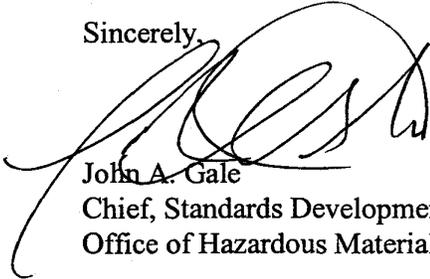
173.306 (i)

would be determined by using tests specified in ASTM E681-85 or equivalent method approved by the Associate Administrator. Applicable requirements in Special Provision "153" apply to materials described as "Aerosols, flammable, 2.1, UN1950" or "Aerosols, non-flammable, 2.2, UN1950", and Special Provision "N82" specify §173.306 for classification criteria for flammable aerosols. (See §172.102)

The Consumer Product Safety Commission's (CPSC) test, "Method for Determining Extremely Flammable and Flammable Contents of Self-Pressurized Containers" used by your client to determine flammability of aerosols is not specifically authorized under the HMR. The flammability tests conducted in accordance with CPSC's test method on all three of TACC's products may not be used to determine flammability of gases or aerosols for purposes of transportation in commerce.

I hope this information is helpful. If we can be of further assistance, please contact us.

Sincerely,

A handwritten signature in black ink, appearing to read "John A. Gale", is written over the typed name and title.

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



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Engrum
\$173.306(i)
Testing Applicability
04-0104

April 20, 2004

SENT VIA TELEFAX AND
U.S. FIRST CLASS MAIL

Edward T. Mazzullo, Director
Office of Hazardous Material Standards
U.S. Department of Transportation
DHM-10
400 Seventh Street, S.W.
Washington, DC 20590-0001

Re: Request for Clarification

Dear Director Mazzullo:

This Firm represents TACC, a leading supplier of high performance adhesives for professional and industry use, based in Rockland, Massachusetts. At the recommendation of Anthony Lima, Senior Hazardous Material Enforcement Specialist, and Robert Kern, advising attorney for the Chief Counsel's Office, I write to request clarification as to an urgent matter that has arisen regarding TACC's aerosol products, STA'-PUT SPHS, ConBond 697, and TACC 987 (collectively referred to as the "SPHS Products"). Specifically, a question has arisen as a result of Specialist Lima's investigation as to the proper test that should be conducted on the SPHS Products to determine their flammability.

By way of background, TACC has, over the years, acquired several companies that have been making aerosol adhesives for over 20 years. The aerosol adhesive industry is well established and such products are widely used in the high pressure, laminating, construction, manufactured housing and marine industries. These aerosol products are desirable because they do not require an air spraying system, nor do they require mixing and/or measuring. These aerosol adhesives

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are designed to deliver the right amount of product where it is needed while reducing waste and spillage.

In July, 2003, one of TACC's competitors, Sovereign, contacted TACC's Group Vice President stating that according to Sovereign's information the SPHS Products should be classified as flammable. TACC responded to Sovereign by explaining that it had properly classified the SPHS Products as non-flammable based upon numerous flame projection tests that were conducted by Commercial Testing Company over the past several years.

In December, 2003, Sovereign again contacted TACC's Group Vice President and stated that the SPHS Product did not pass a flame projection test that it had recently performed at Chilworth Technology. TACC again re-tested its product with Commercial Testing, which conducted a flame projection test under the Consumer Product Safety Commission's ("CPSC") regulations. It is TACC's understanding that the CPSC regulations are very similar, if not identical, to the flame projection test set forth in 49 C.F.R. § 173.306(j). This was the seventh consecutive (21 individual tests) flame projection test that the SPHS Product had passed in the previous 9 month period. In addition to conducting this confirmation test, TACC also contacted Chilworth Technology to request that it perform a separate flammability test on the SPHS Products. Chilworth Technology responded that it does not normally perform the flame projection test and, in fact, had only done it once before.

Based on a formal complaint apparently made by Sovereign, Specialist Lima visited TACC's facility on March 19, 2003. During this meeting, Specialist Lima reviewed all of the documentation maintained by TACC with respect to the efforts made by TACC to comply with all of the regulations of the United States Department of Transportation ("DOT") and industry standards. Specialist Lima stated that although TACC had consciously made every effort to comply with the DOT regulations, his position was that TACC should not be using the flame projection test in order to determine the flammability of the SPHS Products. Instead, Specialist Lima indicated that ASTM E681, as set forth in 49 C.F.R. § 173.115, is the proper test to determine whether the SPHS Products should be labeled as flammable or non-flammable.

ASTM E681 is the test method for concentration limits of flammability of chemicals (vapors and gases), and calls for injection of a gas or a liquid that is completely

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vaporized or a solid that is completely melted into the test flask prior to the determination of the lower and upper flammability limits. While such a test may be acceptable for a compressed gas where the liquid and headspace phases are identical, TACC's SPHS Products consists of two heterogeneous phases and thus cannot be fairly evaluated for flammability under the ASTM E681 Test. The sample injected into the test flask is likely to vary in composition and consistency because the test was designed for a uniform mixture of a gas or vapor. Simply put, the SPHS Product is not a uniform mixture of a gas or vapor but a hybrid mixture of gases, liquids, solids and vapors. As a result, any testing of the SPHS Product using the ASTM E681 Test will not be an accurate reflection as to whether this product is flammable or non-flammable.

According to Specialist Lima, the SPHS Products do not qualify as an aerosol under 49 C.F.R. § 171.8 because the adhesive products are contained in a refillable container. However, TACC is aware that all other companies in the adhesive industry that sell refillable aerosol adhesives, including both TACC and Sovereign, use the flame projection test under 49 C.F.R. § 173.306(i) with respect to these types of products because it gives an accurate indication of how aerosol adhesives will behave in a worst case pre-ignition scenario. Under this test, flammability is measured on the actual spray from the aerosol, and this test fits the scenario of an open valve combined with a remote ignition source that would most likely occur during transportation of the product.

It is also important to point out that Specialist Lima has admitted that he has had difficulty finding a facility that will perform the ASTM E681 Test for the SPHS Products. Specifically, he contacted at least 10 laboratories before verifying that Chilworth Technology would agree to perform the test. Based on Specialist Lima's recommendations, TACC contacted Dr. Robert Venugopal at Chilworth Technology on March 19, 2004 to discuss the testing of the SPHS Products using the ASTM E681 standard. Dr. Venugopal expressed his concerns about the use of this particular test as an appropriate method for determining the flammability of an aerosol product similar to the SPHS Products. He then referred TACC to Dr. Dehong Kong, Senior Process Safety Specialist and Flammability Group Manager at Chilworth Technology. As noted in the attached e-mail correspondence from Dr. Kong, Dr. Kong is of the opinion that the SPHS Product is more accurately classified as an aerosol (rather than a compressed gas), and that the test under 49 C.F.R. § 173.306(i) is the more appropriate test to determine the flammability of the SPHS Products.

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With this background in mind, my client is requesting clarification from your office that the flame projection tests previously conducted by TACC is the proper test to verify the flamability of the SPHS Products. If any additional information or clarification is needed to process this request for clarification, please do not hesitate to contact me at any time. Obviously, TACC is eager to resolve this matter and ensure safe transportation of its products to its distributors and customers.

I look forward to hearing from your office in the very near future.

Very truly yours,



Timothy W. Wiseman

TWW/kkc

Enclosures

cc: Anthony Lima
Fred Walnut