



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

FEB 13 2003

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

Mr. Ron Roberson  
Corporate Industrial Hygienist & Technical Manage  
SENSIDYNE  
16333 Bay Vista Drive  
Clearwater, FL 3376088

Ref. No.: 02-0092

Dear Mr. Roberson:

This responds to your letter regarding the small quantity exceptions under the Hazardous Materials Regulations (HMR: 49 CFR Parts 171-180), as they apply "smoke tubes" sold by your company. We apologize for the delay in responding and hope it has not caused any inconvenience.

According to your letter, the smoke tubes are used to track air currents in ventilation studies and to test respirators for proper fit in accordance with OSHA standards for irritant fume respirator fit test protocol. Each smoke tube consists of a pencil-sized sealed glass tube filled with pumice granules coated with approximately one gram per tube of "Stannic chloride, anhydrous, 8, UN 1827, II." The tubes are activated by breaking off the ends and pushing ambient air through with a small rubber bulb or motorized pump. Moisture in the air reacts with the stannic chloride and produces the smoke. The smoke tubes are sold in a box of ten tubes.

A material described as "Stannic chloride, anhydrous, 8, UN 1827, II" may be transported under the small quantity exception if it meets the quantity limits and packaging requirements in § 173.4, and is not forbidden under § 173.21. Based on the description of the "smoke tubes", it is our opinion that they may be transported under the small quantity exception provided the quantity of the Class 8 (corrosive) material in the inner packaging (i.e., glass tube) is less than 30 grams (1 ounce) and all other provisions of § 173.4 are met. A package shipped in accordance with the small quantity exceptions in § 173.4 is not subject to any other requirements of the HMR, including labeling. The "smoke tubes" may also be shipped under the limited quantity exceptions for corrosive materials in § 173.154, which excepts such packages from the labeling requirements, unless offered or intended for transportation by aircraft.

I hope this satisfies your inquiry. If we can be of further assistance, please contact us.

Sincerely,

Delmer F. Billings  
Chief, Standards Development  
Office of Hazardous Materials Standards



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173.4

**SENSIDYNE**

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Engrum  
§ 173.4  
Small Quantity  
Exceptions  
02-0092

COMPANY: US DOT Ofc of Haz Mat Safety FROM: Ron Roberson  
FAX: 202-366-3012 DATE: March 25, 2002  
ATTN: Delmer Billings PAGES: 1 OF 1  
SUBJECT: Ventilation Smoke Tube Shipping

**MESSAGE**

Dear Mr. Billings:

My company sells smoke tubes that are used to track air currents in ventilation studies and also to test respirators for proper fit per the OSHA irritant fume respirator fit test protocol. Each smoke tube consists of a pencil-sized sealed glass tube filled with pumice granules coated with about one gram per tube of stannic chloride. They are sold in a box of ten tubes, so ten tubes are the minimum number we would ship at one time. To use the tubes, they are activated by breaking off the ends and pushing ambient air through with a small rubber bulb or motorized pump. Moisture in the air reacts with the stannic chloride and produces the smoke.

We began shipping these tubes in the fall of 1983 believing that they met a small quantity labeling exemption for stannic chloride. Within the first year or two a package of tubes was broken in transport. The broken tubes were activated by the surrounding air, which caused them to produce smoke. The smoking package prompted a DOT official to instruct us to label the packages as hazardous material. We were told that because the tubes would produce smoke if broken that no small quantity labeling exemption applied. Since that time (i.e., mid 1980's) we have been labeling the smoke tube packages as UN-1827 and corrosive, and we have been paying the hazardous shipment fees on every shipment.

A competitor of ours ships a similar stannic chloride smoke tube product without the hazardous labeling. We share a common distributor who is questioning why our freight charges include the hazardous fee and the competitor's do not. The competitor claims in a form letter to customers that the tubes meet a small quantity labeling exemption under 49 CFR Part 173.4.

Is the competitor's claim valid? Do the small quantity descriptions in 173.4 apply to stannic chloride and to our smoke tubes? If not, then is there another small quantity break for labeling that does apply? Can you tell us if the hazardous labeling is actually required for our smoke tube packages? Your consideration of this matter is much appreciated, and we would like to receive a letter of interpretation for our files. Thank you for your kind cooperation.

Sincerely,



Ron Roberson  
Corporate Industrial Hygienist  
& Technical Manager