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

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

APR -7 2003

Ms. Sandra R. Evans
Biologist
U.S. Army Center for Health Promotion and Preventive Medicine
Entomological Sciences Program
5158 Blackhawk Road
Aberdeen Proving Ground, Maryland 21010-5403

Ref. No. 03-0045

Dear Ms. Evans:

This is in response to your February 4, 2003, e-mail requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to an infectious substance. Specifically, you request confirmation that dead mosquitoes, shipped by your center for analysis for the possible presence of the West Nile Virus (WNV), do not meet the definition of an infectious substance and are excepted from the HMR.

You state mosquitoes are collected on Army installations across the continental United States, killed by freezing, then shipped via Federal Express to one of four (4) entomology laboratories for analysis. The shipping procedures you utilize are enumerated in your e-mail. You state that the dead mosquitoes, even if infected with WNV, do not pose an infectious disease hazard to either individuals or communities in the event of a release. To your knowledge, the only means by which a person can become infected with WNV is: (1) to be bitten by a live mosquito that is carrying the virus; or (2) to work with a live virus in a laboratory situation (i.e., culturing the virus or dissecting infected animal tissues, and then either inhaling aerosolized naked virus or acquiring the virus by direct injection through a cut or needle stick). You request confirmation that dead mosquitoes shipped in the manner described are a risk group I category, are excepted from the HMR, and your current shipping procedures as detailed in your e-mail are adequate.

Please find an enclosed copy of the August 14, 2002, Final Rule, Standards for Infectious Substances, under Docket No. HM-226. Please refer to our website at http://hazmat.dot.gov under the Rules and Regulations icon, in the Rulemakings and Federal Register Notices section. The Final Rule amended the definition of an infectious substance as found in the HMR. As defined in § 173.134, an infectious substance means a material known to contain or suspected of containing a pathogen. A pathogen is a virus or micro-organism (including its viruses, plasmids, or other genetic elements, if any) or a proteinaceous infectious particle (prion) that has the potential to cause disease in human or animals. This material must be assigned to a risk group. A risk group is a ranking of a micro-organism's ability to cause injury through disease. A risk group is defined by criteria developed by the World Health Organization (WHO) based on the severity of the disease caused by the organism, the mode and

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relative ease of transmission, the degree of risk to both an individual and community, and the reversibility of the disease through the availability of known and effective preventive agents and treatments. Assignment to a risk group is based on known medical condition and history of the source patient or animal, endemic local conditions, symptoms of the source patient or animal, or professional judgement concerning individual circumstances of the source patient or animal. Infectious substances are subject to applicable requirements in 42 CFR Part 72, Interstate Shipment of Etiologic Agents.

Based on the information in your e-mail, it appears the dead mosquitoes as specifically described can be shipped as an infectious substance, risk group I. Provided the dead mosquitoes are not subject to the applicable requirements in 42 CRF 72, they would not be regulated by the HMR. In addition, your shipping procedures as described appear to be adequate.

I hope this information is helpful. If we can be of further assistance, do not hesitate to contact us.

Sincerely,

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

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INFOCNTR

From: Evans, Sandra R Ms USACHPPM
Sent: Tuesday, February 04, 2003 5:22 PM
To: 'infocntr@rspa.dot.gov'
Subject: Request for Written Determination

1. Reference telephone conversation between Sandra Evans, Entomological Sciences Program (ESP), U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM), Aberdeen Proving Ground, MD, and Susan Gorsky, Office of Hazardous Materials Standards, Research and Special Programs Administration, Department of Transportation, 4 February 2003, subject: Do dead mosquitoes need to be shipped in accordance with DOT infectious materials regulations?

2. The USACHPPM has four entomology laboratories, one each located at the following sites: Aberdeen Proving Ground, MD; Fort Meade, MD; Fort McPherson, GA; and Fort Lewis, WA. As part of an Army-wide West Nile Virus (WNV) monitoring program, mosquitoes are collected on Army installations across the continental United States, killed by freezing, then shipped by Federal Express back to our laboratories for analysis for the possible presence of West Nile Virus DNA. The dead mosquitoes are currently shipped in the following manner:

a. One to 25 dead, dry mosquitoes are placed in small (approximately 1.5 milliliter) plastic snap-cap vials;
b. No other substances, dry or liquid, other than the mosquito(s) are put in the vial;
c. The vials are placed in a small cardboard box designed with cardboard dividers on the interior that separate individual vials;
d. The cardboard box is placed within a plastic Ziploc bag, which is then zipped closed;
e. The bag is placed inside a Styrofoam cooler containing refrigerant packs;
f. The cooler is placed inside a cardboard box and sealed.
g. No hazard labeling is placed on the outside of the cardboard box.

3. We believe that these dead mosquitoes, even if infected with WNV, do not pose an infectious disease hazard to either individuals or communities. The only means we know of by which a person can become infected with WNV is to either be bitten by a live mosquito that is carrying the virus, or by working with live virus in a laboratory situation (i.e., culturing the virus or dissecting infected animal tissues, and then either inhaling aerosolized naked virus or acquiring the virus by direct injection through a cut or needle stick). Furthermore, in our shipping situation, we feel that the likelihood for any of the dead mosquitoes to be released by some sort of severe mishandling/damage from the many layers of packaging is extremely remote. Even if dead, infected mosquitoes were released, however remote the possibility, there would be negligible risk to individuals.

4. We respectfully request a written reply and authorization to the effect that the dead mosquitoes shipped from continental U.S. military installations to our USACHPPM entomology laboratories fall into category Risk Group 1 based on a negligible health impact; that they are thereby excepted from all HMR requirements; and that we may continue to ship our mosquitoes in the same manner as detailed in paragraph 2, above.

Best regards,

Sandra R. Evans
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