



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

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

MAR 18 1999

Neal Langerman, Ph.D.
8909 C Complex Drive
San Diego, CA 92123-1418

Ref. No. 98-0345

Dear Dr. Langerman:

This is in response to your letter and telephone conversations with a member of my staff regarding clarification of the requirements for shipping flameless ration heaters (FRH) in full pack (multiple) quantities or in single units as components of meals, ready-to-eat (MRE), and a previous letter dated July 7, 1992 to the Department of Defense (DOD) concerning classification of these items. I apologize for the delay in responding and hope it has not caused any inconvenience.

The FRH is a device packaged in a tough plastic envelope which, when water is added, generates heat to warm a field ration. It is used in military meals, ready-to-eat (MRE), and each MRE includes one FRH. You indicated that the magnesium alloy contained in the FRH meets the definition of Division 4.3 (Dangerous When Wet).

Based on the information you provided, it is our determination that a single FRH device, containing eight grams of magnesium alloy or less packaged in a tough plastic envelope within an MRE, is in a quantity and form which does not pose a hazard in transportation and is not subject to the Hazardous Materials Regulations (HMR), regardless of the number of MREs in a package. This determination does not apply to FRH devices shipped separately from MREs, or to FRH devices containing more than eight grams of magnesium alloy, which must be shipped in conformance to the applicable requirements of the HMR.

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

Sincerely,



Edward T. Mazzullo

Director, Office of Hazardous
Materials Standards

173.124

98-0345

**FAX TRANSMITTAL FORM
ADVANCED CHEMICAL SAFETY**

8909 C Complex Drive
San Diego, CA 92123-1418

Consultant

DATE: November 16, 1998

*Englum
§ 173.124*

TO: HELEN INGRUM

COMPANY: U.S. DOT

FAX NUMBER: 202 366-3012

TELEPHONE NUMBER:

TOTAL PAGES, INCLUDING THIS ONE: *4*

ACSafety File:

FROM: NEAL LANGERMAN

IF THERE ARE ANY PROBLEMS WITH THE CONDITION OF THESE PAGES CONTACT ME
AT THE FOLLOWING PHONE: 619/874-5577

OUR FAX PHONE: 619/874-8239

Helen:

I have attached the letter we discussed on Friday, November 13, 1998. At this point, I need a very clear statement (verbally or written) regarding shipping these items. The flameless ration heater (FRH) is a device packaged in a tough plastic envelop which, when water is added, generates heat to warm a field ration. It is used in military meals ready to eat (MREs). Each MRE includes one FRH. When activated with water, 8 grams of the magnesium alloy generates 9 liters of hydrogen.

Based on this, the alloy clearly meets the hazard class 4.3 definition as US2813.

Issue #1

Individually packaged, these FRH with or without a MRE, are exempt from regulation for shipment by highway, because of the exempt quantity (less than 30 grams). If 12 FRHs or FRH/MRE units are placed in a single outside package, the package is fully regulated as UN2813. Is this correct?

Issue #2

Is a shipment of pallet quantities of MREs (with FRHs included) regulated as UN2813? This is different from Issue #1, since that addresses a small shipment of one package and issue #2 addresses a full truck load.

I would like to find out if any follow-up to the July 7, 1992 letter occurred. At this point, it has become very important that this regulatory issue be fully and finally resolved. It is urgent that an answer is developed within the next seven to fourteen days.

Please call me after you review this FAX and we can discuss how to proceed. Thank you for your cooperation.

Neal Langerman, Ph.D.