



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, D.C. 20590

OCT 03 2012

Dr. Tilak Bommaraju
Vice President
Process Technology Optimization, Inc.
2801 Long Road
Grand Island, NY 14072

Reference No.: 12-0174

Dear Dr. Bommaraju:

This is in response to your July 31, 2012 letter requesting confirmation that two new formulations for Flameless Ration Heaters (FRHs) developed by your company for use by the U.S. Department of Defense are not subject to the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180).

As provided in § 173.22, it is the shipper's responsibility to properly classify a hazardous material. Such determinations are not required to be verified by this office. However, based on the Material Safety Data Sheet (MSDS) and test results you provided for each formulation, it is the opinion of this office that the described FRH formulations do not meet the definition of a Division 4.1, Division 4.3, Division 5.1, or Division 6.1 material and, provided they do not meet the criteria for any other hazard class, neither formulation is subject to the HMR.

I trust this satisfies your inquiry. Please contact us if we can be of further assistance.

Sincerely,

Delmer Billings
Senior Regulatory Advisor
Standards and Rulemaking Division



2801 Long Road, Grand Island, NY 14072
Phone: (716) 773-8106 Fax: (716) 773-8107
E-mail: tilak@ptoinc.com

Babich
§ 171.1
§ 172.101
§ 173.22
Applicability
12-0174

July 31, 2012

Charles E. Betts
Chief, Standards Development
Office of Hazardous Materials Standards
U.S. Department of Transportation
1200 New Jersey Ave, SE
Washington, D.C. 20590

Dear Dr. Betts,

The Department of Defense (DOD) transports Unitized Group Ration- Express, UGR-E, for providing hot meals to soldiers in the field. This unit is capable of heating a meal that feeds 18 soldiers. There are four sealed, high density polyethylene polymeric trays in a full UGR-E, the heating element being a Flameless Ration Heater, FRH, housed in a polypropylene bag and sealed in each tray with a 4.2 mil lid-stock which is a composite made of a bottom layer of 3 mil thick low density polyethylene, middle layer of 0.0003 mil aluminum foil, and a top layer of 0.0006 mil Nylon. The present FRHs use magnesium-iron alloy powders that are activated by aqueous sodium chloride to generate sufficient thermal energy to heat the food rations to ~140 - 150⁰F. The Mg/Fe based FRH generates substantial amounts of flammable gases when tested with distilled water in accordance with the UN Manual of Tests and Criteria, to meet the definition of Packing Group I or II in class 4, Division 4.3.

Process Technology Optimization, Inc. has successfully developed two new formulations for the FRH that are packaged in a polypropylene bag and housed in the polymeric trays. These formulations were tested by an accredited laboratory, Stresau Laboratory Inc., following the procedures in the UN Manual of Tests and Criteria. These results show that these ration heater compositions are not Division 4.3 Dangerous When Wet Materials. A copy of the Stresau report is attached with this document along with the MSDS for these formulations.

We understand as described in sec 173.22 of HMR: CFR Parts 171-180, that it is the obligation of the shipper to properly classify a material. Given the supporting documentations attached, we request your approval for shipping this material as unregulated under HMR.

If there are any questions concerning our request, please let us know to allow us to provide additional details and clarifications.

Regards,

Tilak V. Bommaraju
Tilak V. Bommaraju
Vice President