



U.S. Department
of Transportation
**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

August 24, 2022

Mr. Erik Steinbeck, CDGP
Global Logistics Manager
Parker Hannifin Corporation
Engineered Materials Group
601 South Street
Saegertown, PA 16433

Reference No. 22-0045

Dear Mr. Steinbeck:

This letter is in response to your April 21, 2022, email requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to the shipment of an electro hydrostatic actuation (EHA) system. In your email, you state that your company designs and manufactures EHA systems that are power-by-wire actuation systems, which utilize aircraft electric power for flight control surface actuation. You also state that the EHA system is charged with between 200 and 400 pounds per square inch (psig) of nitrogen prior to shipment, has a minimum burst pressure approximately 20 times the charge pressure at 70 °F, and is transported as “UN3164, Articles, pressurized pneumatic *or* hydraulic *containing non-flammable gas, 2.2.*” You ask whether the EHA system—as described and pictured in your email—would qualify for the limited quantity exceptions for accumulators, as specified in § 173.306(f)(1).

As specified in § 173.22 of the HMR, it is the responsibility of the shipper to properly classify a hazardous material that is to be offered for transportation and ensure that it is shipped in an authorized packaging. Based on the information you provided in your email, it appears that your component meets the burst pressure requirements for accumulators in § 173.306(f)(1). However, § 173.306(f)(1) is meant for an accumulator which is installed in a motor vehicle, construction equipment, or assembled machinery—not a stand-alone component, such as your electro hydrostatic actuator.

Furthermore, insufficient information is provided to classify your component as an accumulator, as recognized by § 173.306(f).

I hope this information is helpful. Please contact us if we can be of further assistance.

Sincerely,

A handwritten signature in blue ink that reads "T. Glenn Foster". The signature is fluid and cursive, with a long horizontal flourish extending to the right.

T. Glenn Foster
Chief, Regulatory Review and Reinvention Branch
Standards and Rulemaking Division

From: [INFOCNTR \(PHMSA\)](#)
To: [Dodd, Alice \(PHMSA\)](#)
Cc: [Hazmat Interps](#)
Subject: FW: Parker Hannifin: Requesting confirmation of eligibility for exemption. 173.306(f)(1)
Date: Thursday, May 5, 2022 12:29:00 PM

Hi Alice,

Please see the below interpretation request.

Should you have any questions, please do not hesitate to reach out.

Regards,

-Breanna

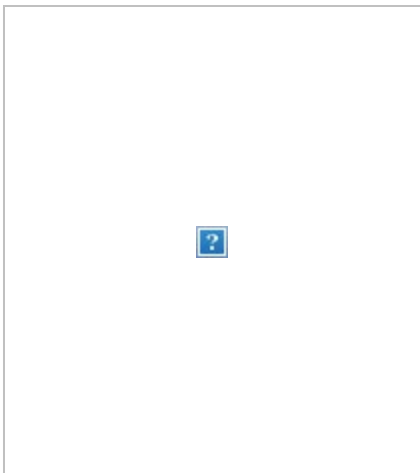
From: Erik Steinbeck <erik.steinbeck@parker.com>
Sent: Thursday, April 21, 2022 10:09 AM
To: INFOCNTR (PHMSA) <INFOCNTR.INFOCNTR@dot.gov>
Subject: Parker Hannifin: Requesting confirmation of eligibility for exemption. 173.306(f)(1)

CAUTION: This email originated from outside of the Department of Transportation (DOT). Do not click on links or open attachments unless you recognize the sender and know the content is safe.

To whom it may concern,

The purpose of this message is to request confirmation of eligibility for exemptions as described in HMR 173.306(f)(1).

Parker Hannifin aerospace designs and manufactures electrohydrostatic actuation (EHA) systems similar to the photos attached below. EHA systems are power-by-wire actuation systems that utilize aircraft electric power for flight control surface actuation. EHAs consist of a fixed displacement, high speed, reversible pump and piston driven by a brushless DC electric motor.





Each assembled device is charged with between 200 and 400 psig of nitrogen prior to shipment. The minimum burst pressure in all cases is approximately 20 times the charge pressure at 70 degrees Fahrenheit. Said machinery is shipped by road, rail, ocean and air under the current UN assignment 3164. I feel these devices satisfy the criteria for exemption as stated in 173.306(f)(1), and should not be subject to regulation as dangerous goods.

Please confirm my understanding as time allows, or forward any additional questions you may have. Thank you as always for your professionalism and service.
Kind regards,

Erik Steinbeck, CDGP

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