



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

1200 New Jersey Avenue, SE
Washington, DC 20590

June 10, 2025

Derek Polman-Tuin
Director
Invinity Energy Systems
1250 E. Pender Street
Vancouver, B.C., Canada V6A 1W8

Reference No. 25-0058

Dear Mr. Polman-Tuin:

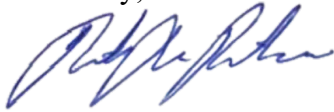
This letter is in response to your April 23, 2025 letter requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to wet batteries transported via highway. Specifically, you explain that your company designs and manufactures vanadium flow batteries classified as “UN2794, Batteries, wet, filled with acid, *electric storage*, 8.” You state that these batteries contain a non-flammable, aqueous electrolyte solution containing vanadium sulfate. You are seeking confirmation that the transportation of these batteries, as described below and in accordance with the requirements of § 173.159(e), is not subject to any other requirement of the HMR.

- The battery is shipped fully discharged.
- The power and energy storage elements (*i.e.*, the tanks) of the battery are physically separated and the power elements (*i.e.*, stacks) contain no stored energy.
- No voltage on the terminals (0 V).
- Stacks have no exposed terminals to prevent short circuiting.
- Stacks are firmly secured within a rigid metal racking system that separates each stack to prevent short circuiting.
- The metal racking system containing the stacks is firmly secured and integrated into a 20-ft International Organization for Standardization/Convention of Safe Containers (ISO/CSC) certified steel container.
- The 20-ft ISO/CSC certified container has re-enforced structures, fixtures, and secondary containment.
- No other hazardous material is shipped with the complete unit.
- No other materials are transported on the vehicle.

Based on the information as described and the photographs you provided, it is the opinion of this Office that the batteries meet the requirements of § 173.159(e) for highway transport. Please note that batteries transported in this manner are still subject to incident reporting requirements in § 171.15.

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

Sincerely,

A handwritten signature in blue ink, appearing to read "Dirk Der Kinderen", written in a cursive style.

Dirk Der Kinderen
Chief, Standards Development Branch
Standards and Rulemaking Division

From: [INFOCNTR \(PHMSA\)](#)
To: [Dodd, Alice \(PHMSA\)](#)
Cc: [Hazmat Interps](#); [Baker, Yul \(PHMSA\)](#)
Subject: FW: Request for a letter of interpretation
Date: Wednesday, April 30, 2025 9:29:55
Attachments: [image001.png](#)
[Letter of Interpretation DOT.docx](#)

Hi Alice,

Please see the attached interpretation request. Let us know if you need anything.

Sincerely,
Janaye

From: Derek Polman-Tuin <DPolmanTuin@invinity.com>
Sent: Tuesday, April 29, 2025 6:58 PM
To: INFOCNTR (PHMSA) <INFOCNTR.INFOCNTR@dot.gov>
Cc: Benjamin Duperthal <bduperthal@invinity.com>; Derek Polman-Tuin <DPolmanTuin@invinity.com>
Subject: Request for a letter of interpretation

You don't often get email from dpolmantuin@invinity.com. [Learn why this is important](#)

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.

Good morning,

Please see attached request for a letter of interpretation.

The letter outlines our understanding of the regulations, our battery classification and detailed information (with pictures), which confirms it meets the highway(Road) requirements under 49CFR 173.159(e).

Mailing Address:

Invinity Energy Systems
Attn: Derek Polman-Tuin
1250 E. Pender Street
Vancouver, BC
Canada
V6A 1W8

Please feel free to reach out to me if you have any questions.

Thank you,

Derek

Derek Polman-Tuin

Director, Global Logistics & Trade
Compliance

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