



June 14, 2024

U.S. Department of Transportation  
National Highway Transportation Safety Administration  
Docket Management Facility, M-30  
Mail Code 28221  
1200 New Jersey Avenue SE  
Washington, DC 20590

Re: Proposed Rule: Federal Motor Vehicle Safety Standards; FMVSS No. 305a Electric-Powered Vehicles: Electric Powertrain Integrity Global Technical Regulation No. 20, Incorporation by Reference, Docket No. NHTSA-2024-0012

The Lubrizol Corporation ("Lubrizol") is pleased to submit these comments on the Proposed Rule FMVSS No. 305a Electric-Powered Vehicles: Electric Powertrain Integrity Global Technical Regulation No. 20, Incorporation by Reference, Docket No. NHTSA-2024-0012 (the "Proposal").

Lubrizol, a Berkshire Hathaway company, is a technology-driven global company that develops complex specialty chemicals to optimize the quality, performance, and value of customers' products while reducing their environmental impact. We produce and supply technologies to customers in the global transportation, industrial, and consumer markets. These technologies include lubricant additives for engine oils, driveline and other transportation-related fluids, such as thermal management, industrial lubricants, and additives for gasoline and diesel fuel.

Founded in 1928, Lubrizol owns and operates more than 100 manufacturing facilities, sales, and technical offices in 15 states and locations around the world with approximately 8,000 employees. For more information, visit [www.Lubrizol.com](http://www.Lubrizol.com).

Lubrizol strongly supports the adoption of stronger documentation requirements and NHTSA's efforts to identify and standardize REESS safety evaluation test methods as discussed in the Proposal. We urge NHTSA to move as expeditiously as practicable towards the next step of creating safety performance standards that use these test methods to evaluate thermal management solutions for Rechargeable Electric Energy Storage Systems (REESS) in normal operation and charging cycles, as well as crash and impact standards. The implementation of these test procedures and performance standard requirements will be necessary to ensure the safety of electric vehicles and thereby promote the public's trust in the battery stability and safety of future electric vehicles.

Leveraging Lubrizol's background and expertise with thermal management fluids, together with decades of experience providing fluid and lubricant solutions to the global automotive and transportation sectors, we are focused on identifying applications and solutions for the development challenges posed by REESS, including safety and recyclability of the batteries. In



these evaluations, Lubrizol has fully formulated fluids that can be used for immersed REESS cooling. These fluids have demonstrated the ability to control temperatures better within the REESS in general – especially during charging - which thereby limits thermal propagation. From an additional safety perspective, these immersed battery systems can help avoid a thermal runaway event from occurring in the first place – and if one were to occur, these immersed fluid systems can limit the amount of released gases. In addition, REESS using Lubrizol fluids for immersed thermal management has also shown the ability to prevent thermal propagation. (see Appendix 1 for performance examples)

Lubrizol is committed to ensuring that automotive OEMs have the thermal fluid and lubricant solutions that they will need to provide safe and durable modes of transportation, both for certification purposes and throughout their useful life. We would welcome the opportunity to meet with the relevant NHTSA staff to further discuss these comments, to review our work in this area, and to highlight the safety benefits of these solutions. We believe that the widespread adoption of these solutions should enhance consumer confidence in the electrification of transportation, and help enable the nation to meet the Biden administration's decarbonization goals in years to come.

Thank you for the opportunity to comment and we look forward to future conversations.

A handwritten signature in blue ink that reads "Scott Wm. Halley".

Sincerely,  
Scott Wm. Halley - Director

## APPENDIX 1

### Lubrizol Comments on Advance Notice of Proposed Rulemaking

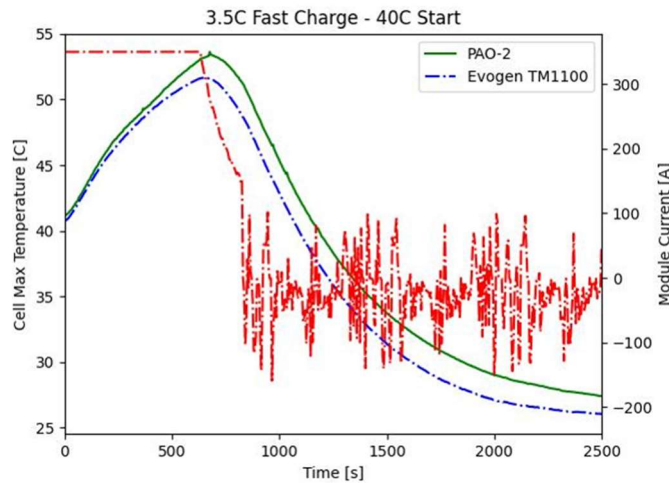


Figure 1: Decreased peak cell temperature during fast charge event with Lubrizol Evogen™ TM1100 fluid.

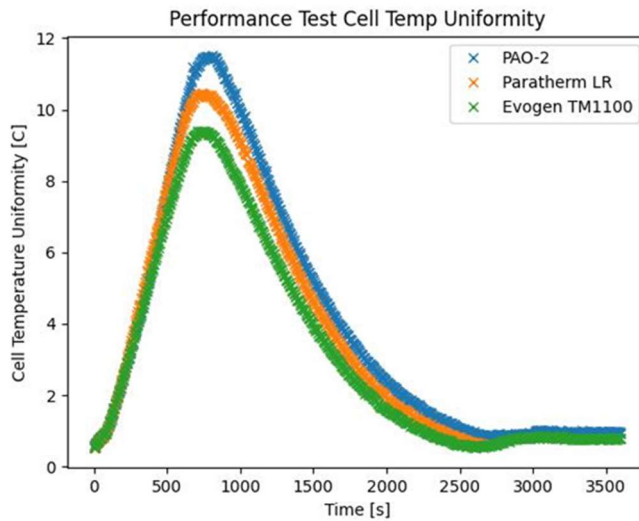


Figure 2: More uniform cell temperatures during fast charge event with Lubrizol Evogen™ TM1100 fluid.

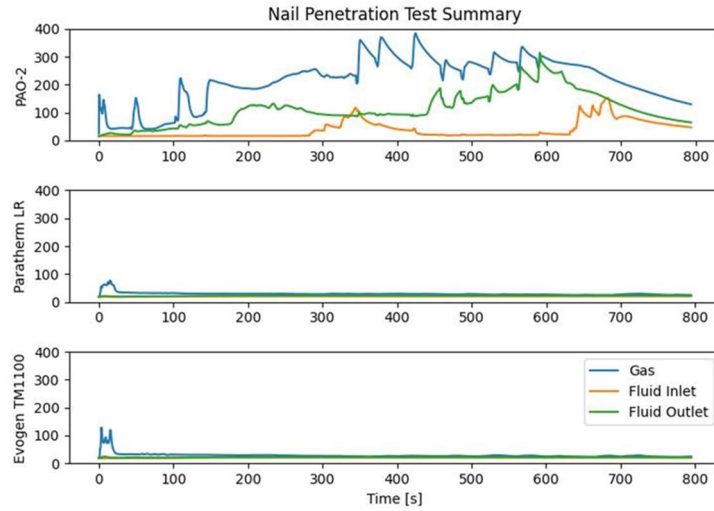


Figure 3: Thermal propagation avoidance and reduced gas expulsion with Lubrizol fluids in nail penetration test.