



THE CHLORINE INSTITUTE
1300 Wilson Blvd., Suite 525, Arlington, VA 22209
Tel 703-894-4140 Fax 703-894-4130
www.chlorineinstitute.org

June 22, 2026

Office of Hazardous Materials Standards
Pipeline and Hazardous Materials Safety Administration
ATTN: PHH-10
US Department of Transportation
East Building
1200 New Jersey Ave., SE
Washington, DC 20590

RE: Request for Interpretation – Start-to-Discharge Setting for Chlorine Tank Car Pressure Relief Devices

The Chlorine Institute (“CI” or “the Institute”) is a 206-member, not-for-profit trade association of chlor-alkali producers worldwide, as well as re-packagers, distributors, users, and suppliers. CI exists to support the chlor-alkali industry in advancing safe, secure, environmentally compatible, and sustainable production, distribution and use of its mission chemicals.¹ The Institute’s North American Producer members account for over 90% of chlorine production capacity in the U.S., Canada, and Mexico, along with the majority of caustic soda and caustic potash production, hydrochloric acid production, and one hundred percent of chlorine re-packagers. The Institute’s mission chemicals are used throughout the North American economy and are key to the protection of public health and the production of a wide range of everyday goods.

In 2019, PHMSA issued a final rule (HM-219C) that adopted the permanent specification for tank cars transporting poison-inhalation-hazard (PIH) materials, which, in part, includes the requirement to phase out legacy specifications by December 31, 2027, and the requirement to remark tank cars currently marked as “interim” tank cars having the “I” delimiter. For chlorine, the new marking is 105H600W. CI believes there is one requirement for chlorine tank cars that was overlooked when this final rule was developed.

49 CFR 179.15(b)(2) states the following (highlight added for emphasis):

“(i) The start-to-discharge pressure of a pressure relief device may not be lower than 5.17 Bar (75 psig) or exceed 33 percent of the minimum tank burst pressure.”

“(ii) Tanks built prior to October 1, 1997 having a minimum tank burst pressure of 34.47 Bar (500 psig) or less may be equipped with a reclosing pressure relief valve having a start-to-discharge pressure of not less than 14.5 percent of the minimum tank burst pressure but no more than 33 percent of the minimum tank burst pressure.”

49 CFR 179.15(e)(2) states the following (highlight added for emphasis):

¹ CI’s mission chemicals: chlorine, sodium hydroxide (caustic soda) and potassium hydroxide (caustic potash), sodium hypochlorite (bleach), the distribution of vinyl chloride monomer (VCM), and the distribution and use of hydrogen chloride (HCl).

“When a rupture disc is used in combination with a reclosing pressure relief valve, the rupture disc must be designed to burst at the pressure specified in paragraph (b) of this section, and the reclosing pressure relief valve must be designed to discharge at not greater than 95 percent of the pressure. A device must be installed to detect any accumulation of pressure between the rupture disc and the reclosing pressure relief valve. The detection device must be a needle valve, trycock, or tell-tale indicator. The detection device must be closed during transportation.”

Per these two paragraphs, combination pressure relief devices (PRDs) installed on chlorine tank cars require the following:

- A rupture disc having a burst setting of no more than 412.5 psig for the 105J500W specification) or no more than 495 psig for the 105H600W specification. The industry installs PRDs with a rupture disc setting of 375 psig.
- Based on PRDs having a rupture disc setting of 375 psig, the reclosing pressure relief valve (PRV) start-to-discharge (STD) setting must be no more than 356 psig.

However, there is a specific authorization that was made for chlorine in 49 CFR 173.314(k)(2) (highlight added for emphasis):

“DOT105J500W tank cars may be used as authorized packagings, as prescribed in this subchapter for transporting “UN 1017, Chlorine, 2.3 (8), Poison Inhalation Hazard, Zone B, RQ,” if the tank cars meet all DOT specification requirements, and the tank cars are equipped with combination safety relief valves with a start-to-discharge pressure of 360 psi, rather than the 356 psi. The start-to-discharge pressure setting must be marked on the pressure relief device in conformance with applicable provisions of the AAR Specification for Tank Cars (IBR, see § 171.7 of this subchapter).”

This allowance is due to the evolution of regulatory amendments that would have otherwise resulted in industry being required to replace PRDs having a reclosing PRV with an STD setting of 360 psig for a PRD having a reclosing PRV with an STD setting of 356 psig. PHMSA provided the allowance in 49 CFR 173.314(k)(2) so that industry did not have to replace all PRDs in a chlorine tank car fleet of over 5,000 tank cars for only a 4 psig lower STD setting.

There is not a safety concern with PHMSA granting this requirement for chlorine railcars, because the requirements of 49 CFR 179.15(b)(2) and corresponding requirement of 179.15(e)(2) would have allowed for higher pressure settings. However, industry chose to be more conservative with a lower rupture disc setting of 375 psig, which lowers the corresponding reclosing PRV STD setting requirement.

Both chlorine tank car specifications – 105J500W and 105H600W – have PRDs installed having a rupture disc setting of 375 psig, but as the regulations are currently stated, only 105J500W chlorine tank cars are allowed to have a reclosing PRV STD setting of 360 psig. The intent is for industry to continue using the same PRDs on 105H600W chlorine tank cars. As noted above, there is not a safety concern since industry has chosen to install PRDs with more conservative pressure settings than what is allowed in 49 CFR 179.15(b)(2) and (e)(2).

QUESTION: When adopting the permanent PIH tank car specifications, did PHMSA intend for industry to be allowed to continue using the same PRDs on chlorine tank cars, having a PRV STD setting of 360 psig, rather than require all PRDs be replaced on 105H600W chlorine tank cars to ones with a PRV STD setting no more than 356 psig?

If the answer is yes (i.e., continue using the same PRDs on chlorine tank cars), CI requests that PHMSA amend 49 CFR 173.314(k)(2) to also include the chlorine tank car specification 105H600W.

Our members are good stewards of the safe handling of hazardous materials packages, and they strive to achieve compliance with the hazardous materials transportation regulations. Further clarification on this particular issue would greatly help with that effort.

Thank you for your time on this matter.

Sincerely,

A handwritten signature in cursive script that reads "Robyn Kinsley".

Robyn Kinsley
Vice President, Transportation, Emergency Preparedness, & Regulatory Affairs