

Emergency Response Training

Module 2: Chlorine Workshop & Rail Safety

Chlorine – Cl₂

Chlorine Tank Car

- Railcars are special purpose DOT 105J cars that are jacketed and insulated
- Car has no bottom outlets.
- Cars are constructed of unlined carbon steel
- Typical lading is around 14,700 gallons or 180,000 pounds
- Placarded as a Class 2 Poison Hazard under UN 1017
- Report markings (car number)
- Specification markings
- Safety appliances: Air lines and tanks, ladders, hand rails and couplers
- They are equipped with two one-inch vapor valves and two one-inch liquid valves
- Liquid valves are located on the longitudinal axis of the car (long dimension)
- Liquid valves also have excess flow check valves located below them. They typically allow flow of around 15,000 pounds of product per valve
- Cars are protected by relief valves set at around 375 psig
- Make sure that the railcar is sealed from shipper. If seal has to be removed write down the number of the seal.
- Full product cars are typically at around 80-150 psig pressure
- Residue cars can have pad pressures exceeding 180 psig

Unloading

- Tank cars are normally pressured off with very dry air through the vapor valve assembly (at least -40 degree dew point air) or nitrogen
- The liquid unload valves have internal dip legs that get within ~2 inches of the bottom of the car