



## ROAD TANKER - ISO TANK

### LEL REDUCTION FRAMEWORK

Vapo-Lock Suggested Procedures. The following is a framework for minimizing the risks associated with cleaning residues of highly flammable materials. Please forward this document to safety and environmental personnel at your facility for approval and/or incorporation into existing SOP's.

For Crude Oil Tanks, Crude Condensate Tanks, Isoprene, THF and others.  
Due to potentially adverse weather conditions where the tank wash may operate with roll-up doors closed, the following SOP is recommended:

1. Visually inspect tank interior prior to entering wash bay. Note how much heel remains.
2. With bottom discharge valve closed, fog tank through the manway with 5 gallons of a 3% solution of John-Henry Vapo-Lock®, taken from a warm. *(This procedure encapsulates flammable vapors. If there are multiple compartments, then prepare 10 gallons of solution and fog equal amounts from the 10 gallons into each compartment. Example: A 5 compartment trailer would receive 2 gallons per compartment. Fogging rate is usually about 3 minutes/gallon).*
3. Drive the tank into the wash bay.
4. With bottom discharge valve closed, flush tank with the appropriate amount of 3% Vapo-Lock solution, pre-heated to 100°F as a one-pass pre-wash. Example: 20 gallons of crude remained prior to fogging. A 2:1 ratio of Vapo-Lock solution to crude residue, along with the 10 gallons previously fogged amount, will yield 70 gallons of “first rinse” effluent from the tank.
5. Drain and pump all fluid from Step 4 via air diaphragm pump into a storage tank for disposal, located outside the building *(the collected fluids will be in an emulsified state from agitation, having achieved their purpose of lowering LEL to permissible levels. Over time, as the emulsion breaks, the LEL of the stored waste water will rise slowly. By agitating the solution, or shooting into it a stream of the tank's own solution, it will re-emulsify all over again, with the same LEL reduction as before. Using the same diaphragm pump as a Continuous Flow device for 5 minutes every hour will keep the emulsion stable until final disposal).*

**NOTE:** collection tank may be a Schutz Tote, stationary tank, frac tank, etc., preferably stored outside of the tank wash..

6. Switch Solution vat to John-Henry MAGNUM detergent – Perform closed loop recirculation wash for 15 minutes.
7. Rinse, Dry, Inspect Tank.