

HYDROGEN PEROXIDE RAILCAR UNLOADING BY SELF-PRIMING PUMP

INTRODUCTION

All equipment used for storage and handling of hydrogen peroxide must be dedicated exclusively to hydrogen peroxide service and must be approved by Solvay Chemicals, Inc. All equipment must be kept scrupulously clean. Please refer to our brochure, Hydrogen Peroxide Safety and Handling, available at www.solvay.com.

Purge gas must be either nitrogen or oil-free air from a non-lubricated compressor. If air is used, inspect the air filter regularly. (Figure 1)

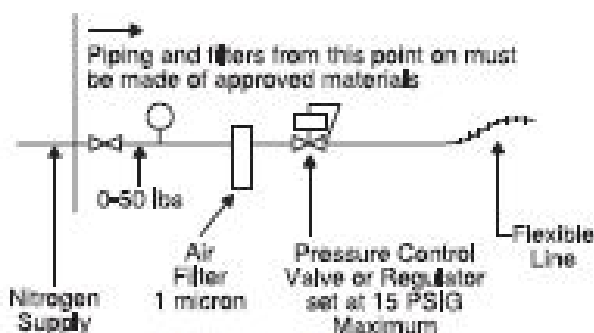


FIGURE 1 - Air System

Only properly trained persons should perform this procedure. For safety reasons, two people wearing the proper personal protective equipment are required:

- Hard hat,
- Chemical Splash goggles,
- Rubber or PVC Suite (Coat and pants), and
- rubber boots.

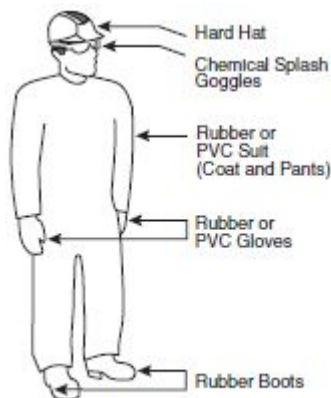


FIGURE 2- Safety Equipment

The railcar unloading area should have:

- Safety shower
- Eyewash
- Water hose
- Safety poster

Unloading:

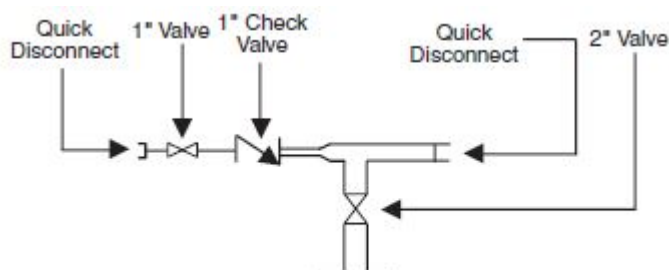


FIGURE 3 - Unloading Assembly

1. Spot the car on level track with brakes set, wheels chocked, and warning signs displayed.
2. Verify that the storage tank is a hydrogen peroxide storage tank and that it has the capacity to receive this material.

CAUTION! You must prop open the manway cover (Step 3) prior to beginning the unloading process. The continuous vent is designed to vent gas from the railcar. It is not capable of allowing enough air into the railcar to safely unload the railcar by pump.

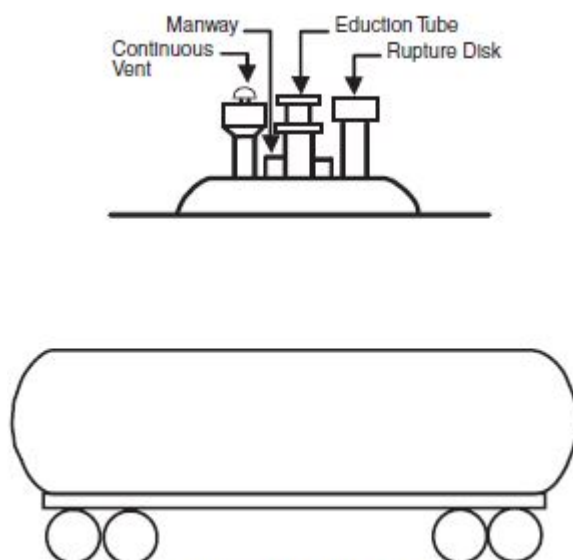


FIGURE 4 - Air Pad Assembly



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3. Loosen the bolts on the manway cover and prop it open to allow air into the railcar.
4. Remove two bolts from the blind flange on the eductor pipe and relieve pressure by slowly loosening the remaining bolts. Carefully remove the blind flange. Avoid dropping anything into the car.
5. Connect the unloading assembly to the eductor pipe.
6. Connect the 2" dedicated hydrogen peroxide unloading hose to the unloading assembly and the hydrogen peroxide storage tank fill line.
7. On the unloading assembly, open the block valve and close the purge gas valve.
8. Check all the valves on the unloading line to ensure that hydrogen peroxide will flow only into the tank.
9. Start the unloading pump and check for leaks. If a leak is found, stop the pump, clear the line, wash away spilled peroxide and correct the problem.
10. When unloading is complete, stop the pump.
11. Close the block valve on the unloading assembly.
12. While holding the free end of the purge gas supply hose, slowly open the valve and clear the purge gas supply hose. Close the purge gas supply valve and connect the purge gas supply hose to the unloading assembly.
13. Slowly open the purge gas block valve to clear the remaining hydrogen peroxide from the unloading hose. Do not allow gas pressure to exceed 25 psi. When the line is clear, close the purge gas valve and open the block valve on the unloading assembly (this will allow any trapped hydrogen peroxide in the assembly to drain back into the railcar).
14. Disconnect the purge gas.
15. Close the manway cover and tighten the bolts.
16. Carefully remove the unloading assembly from the eductor pipe and replace the blind flange and its gasket. Make sure all bolts are tight.
17. Cap the ends of the hydrogen peroxide unloading hose with vented caps and plugs to prevent contaminating the hose.
18. Store hoses and the unloading assembly in a clean area.

STORAGE AND HANDLING

Store hydrogen peroxide in the original vented container, upright, in a cool, ventilated area where it is protected from damage, or in bulk storage tanks made from approved alloys of aluminum or stainless steel.

Do not store other chemicals, fuels, or combustible materials near hydrogen peroxide.

Never return unused hydrogen peroxide to the storage container.

When empty, rinse all peroxide containers thoroughly with clean water before discarding.

Use only approved material for pumps, piping, and hoses.

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HH-060 08/19
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SAFETY

Persons working with hydrogen peroxide should be familiar with personal protective equipment, first aid measures and the proper safety and handling procedures. Consult the Safety Data Sheet (SDS) for appropriate information.

Prevent accidental decomposition by keeping the product free of contaminants.

Prevent fires by avoiding accidental spills. Water is the preferred method for extinguishing fires in which hydrogen peroxide is present.

Spills and leaks should be contained, diluted with copious amounts of water and disposed of in compliance with local regulations.

Hydrogen peroxide storage or handling areas should be equipped with a safety shower, an eyewash station, and a water hose.

FIRST AID

In case of product splashing into the eyes and face, treat eyes first.

Eye contact: Flush eyes immediately with water for at least 15 minutes. Call a physician.

Skin contact: Immediately flush skin with water while removing contaminated clothing and shoes. Call a physician if irritation persists.

Inhalation: Remove the victim from the contaminated area to fresh air. Call a physician in case of respiratory symptoms.

Ingestion: Consult with a physician immediately in all cases. DO NOT induce vomiting. If victim is conscious, rinse mouth and give fresh water.

DANGER

Hydrogen peroxide solutions are strong oxidizers and corrosive to the eyes, mucous membranes and skin. Consult the SDS for the appropriate Personal Protective Equipment to wear when handling hydrogen peroxide. In case of contact with the eyes, skin or clothing, flush with large amounts of water for 15 minutes. In case of ingestion, sit upright, drink large quantities of water to dilute the stomach contents and seek immediate medical attention. Product in contact with combustible materials may cause fires.



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**Before using, read Safety Data Sheet (SDS) for this chemical.
Solvay Chemicals, Inc.
24-hour Emergency Phone Number – 800-424-9300 (CHEMTREC®)**

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