MINNESOTA DEPARTMENT OF AGRICULTURE
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FACT SHEET

ANHYDROUS AMMONIA (NH_3)TRANSFER

Field Application With Nurse Tank/Toolbar Assembly

1. **SAFETY FIRST.** Take the following precautionary measures:
   - □ Wear NH3-rated goggles and gloves. Never wear contact lenses;
   - □ Readily accessible 5 gallon **CLEAN** water, on each nurse tank;
   - □ Stand upwind when (dis)connecting or bleeding transfer lines;
   - □ Position NH3 equipment downwind from dwellings and livestock;
   - □ Use Quick Checklist to assess condition of NH3 equipment;
   - □ Be familiar with your emergency response plan; and
   - □ Keep unauthorized persons out of the NH3 handling area.

2. **ATTACH** the nurse tank to the toolbar. Use a heavy-duty hitch pin of sufficient strength for towing the nurse tank. Secure the hitch pin with a clip. Secure the safety chains onto the toolbar hitch. If necessary, clean the screen in the toolbar transfer line.

3. **CLOSE** toolbar flow control valve, coupling device bleeder, hose end valve/bleeder on withdrawal hose, and nurse tank valves before connecting withdrawal hose between the nurse tank and the toolbar. ALWAYS handle/hold the hose end valve by the valve body and hose – **NOT** by the hand wheel.

4. **OPEN** hose end valve. Then slowly open nurse tank liquid withdrawal valve and check for leaks in transfer line.

5. **ACCIDENTAL DISCONNECTIONS:**
   Scenario #1: **Coupling device works properly.** If the nurse tank accidentally disconnects from the toolbar, the pulling force on the withdrawal hose causes the coupling device to automatically disengage, closing off the ammonia flow between the nurse tank and toolbar.

   Scenario #2: Coupling device fails and releases ammonia. Evacuate area and employ emergency response plan. Immediately report release to local authorities (911), **Minnesota State Duty Officer at 1-800-422-0798**, and **National Response Center at 1-800-424-2208**. Once release has ceased repair/replace coupling device and replace damaged components.

   As in scenario #1 make sure to move the toolbar forward with the flow control valve open to remove any ammonia left in the transfer lines of the tool bar. Keep the toolbar flow control valve open once ammonia transfer lines have been emptied.

   PRIOR to reconnecting toolbar and nurse tanks close the nurse tank liquid withdrawal valve. Then, from the upwind side, open the bleeder valves on both sides of the coupling device (hose end valve and female segment of coupling device).

   Once all ammonia is removed from transfer line, but before reattaching both segments of the coupling device and withdrawal hose, inspect the coupling device and withdrawal hose for damage that may have been caused by the disconnection. Replace damaged components.

   RECONNECT the coupling device and close bleeder valves. Close toolbar flow control valve. Then slowly open nurse tank liquid withdrawal valve, checking for leaks. Then open withdrawal valve completely. Now you can continue to apply ammonia.

6. **CLOSE** nurse tank withdrawal valve and bleed off transfer lines any time ammonia application is stopped (during lunch breaks, when quitting at the end of the day, while moving from one field to another, etc.). This will prevent uncontrolled releases and possible harmful exposure.

7. **DISCONNECTING INSTRUCTIONS:**
   Close toolbar flow control valve:
   Close nurse tank liquid withdrawal valve;
   Close hose end valve(s);
   Bleed off transfer line(s); and
   Remove and secure withdrawal hose

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