

“Under the Trooper’s Hat”

By: Trooper Michael Hayen, North Dakota Highway Patrol
Anhydrous Ammonia

Anhydrous ammonia is one of the most commonly-used nitrogen fertilizer sources in North Dakota. It plays a vital role in the production of high-quality food and feed. Anhydrous ammonia is classified as a hazardous material, although few problems occur when it’s properly handled, transported, and applied.

The North Dakota Department of Agriculture (NDDA) is dedicated to protecting human safety and the environment through regulating anhydrous ammonia nurse tanks. The NDDA is the lead agency for enforcing state laws and administrative rules relating to anhydrous ammonia. The NDHP enforces state and federal regulations relating to hazardous material transportation, including nurse tanks, on state highways.

These requirements, found in North Dakota Century Code (N.D.C.C.) Chapters 19-20.2 and 39-21-44, North Dakota Administrative Code (N.D.A.C) Article 7-12, Article 38-03-02-01, and Code of Federal Regulations Title 49 Parts 107-180, include design, maintenance, and safety equipment requirements for anhydrous ammonia storage facilities and nurse tanks. These requirements protect anhydrous ammonia users and ensure nurse tanks are safe to transport on North Dakota roadways.

State and federal regulations require anhydrous ammonia nurse tanks be in good condition and constructed with ASME materials. This checklist does not reflect all requirements for nurse tanks but is a general outline that can be easily checked. Every nurse tank must have the following:

- Readable data plate or tested and marked in accordance with Federal Regulation
- Legible North Dakota Department of Transportation (NDDOT)-approved decals and placards: **“ANHYDROUS AMMONIA,” “INHALATION HAZARD”** and **“1005”** on each side of tank
- Capacity of 3,000 gallons or less
- Legible transfer decal
- Tanks numbered and identified with name and contact information of the owner
- Slow moving vehicle emblem
- No more than 10 percent of surface rusted or missing paint
- Properly working valves and caps
- All hoses up-to-date and not damaged or cracked
- Tires in serviceable condition (no cords showing)
- Five gallons [18.93 liters] of clean water in a container on the nurse tank
- All pressure valves set to standards and in good working condition
- Operational liquid level gauge
- Pressure gauge designated for anhydrous use and graduated from 0 to 400 psi
- Safety chains and hooks (2) in good condition
- Appropriate hitch pin
- Wagon tongue and undercarriage in good condition

- Breakaway protection when tanks are hooked back-to-back in tandem

The maximum speed for a vehicle pulling a nurse tank is 25 mph with a penalty of a \$250 fine.

No more than two nurse tanks can be pulled at once and the overall load length cannot exceed 75 feet. When towing two nurse tanks, the power unit must be capable of safely towing and stopping the combination. The most appropriate travel time is between sunrise and sunset; however, one anhydrous ammonia nurse tank may be towed between sunset and sunrise but must be equipped with taillights, turn signals and brake lights.

A commercial driver of a vehicle towing a nurse tank needs a CDL to operate the vehicle. The number and size of the nurse tanks will determine the class of license required, in addition to tank and HM endorsements. A driver with a restricted CDL may only tow one nurse tank. Any drivers normally exempted from CDL requirements can claim those exemptions while transporting nurse tanks.

Personal protective equipment (PPE) is required when working with anhydrous ammonia to prevent personal injury. Required PPE includes protective gloves and Z87-rated safety goggles. Every tank must have a safety can to house the gloves and goggles. State law also requires all nurse tanks have five gallons of clean water available in a container with a serviceable water hose.

If a spill occurs, stay away and immediately call 911. If you need to approach, only do so from upwind.

For specific requirements in towing anhydrous ammonia nurse tanks visit the North Dakota Department of Agriculture webpage at www.nd.gov/ndda/program/anhydrous-ammonia-program.

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