

PREVENTING THEFT OF ANHYDROUS AMMONIA

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Illegal drug production and distribution is no longer considered an urban problem. In March 2000, the Environmental Protection Agency (EPA) issued an alert to individuals who operate and maintain agricultural retail operations, facilities with ammonia refrigeration systems, and farmers who store and apply anhydrous ammonia as a fertilizer. The alert discussed the increasingly common threat of anhydrous ammonia theft from storage tanks and facilities for methamphetamine production. These temporary methamphetamine "labs" are often small and mobile, allowing illegal drug manufacturers to go undetected.

February 2000. Approximately 1,000 pounds of anhydrous ammonia were released when someone intentionally opened a valve in the middle of the night at a fertilizer dealer in Missouri. Three hundred residents had to be evacuated from their homes, and two people reported respiratory irritation problems. Ammonia theft has been almost a weekly occurrence at this facility. A law enforcement investigation is currently underway. *Source: EPA*

What is Anhydrous Ammonia?

Anhydrous ammonia is used widely and in large quantities in the United States. More than 80 percent of the ammonia produced in the United States is used as fertilizer for agricultural purposes; less than 2 percent is used for refrigeration. Anhydrous ammonia is stored under pressure as a liquid and is generally safe provided handling, operating, and maintenance procedures are followed. It is usually stored in large pressurized containers at agricultural dealer facilities and on farms where it is accessible by farmers. Anhydrous ammonia containers have particular specifications as required by the Department of Transportation to ensure that they are stored properly as pressurized liquids and corrosive chemicals.

Liquefied anhydrous ammonia is stored as a liquid and has a boiling point of minus 28 degrees Fahrenheit. At this temperature it can cause freezing burns. When pressure is released, it becomes a toxic gas, expanding 850 times when released to ambient air. Released anhydrous ammonia may also aerosolize and form a dense cloud which may travel along the ground instead of immediately rising into the air and dissipating.

Anhydrous ammonia has a pungent odor. Generally, ammonia can be detected at concentrations above 5 parts per million (ppm). Concentrations above 100 ppm are uncomfortable to most people; concentrations in the range of 300 to 500 ppm will cause people to leave the area, and are immediately dangerous to life and health.

Health Effects

Anhydrous ammonia can be harmful to individuals who come into contact with it or inhale airborne concentrations of the gas. Direct contact with depressurized anhydrous ammonia will cause severe freeze and chemical burns. Effects of inhalation range from lung irritation to severe respiratory injuries, with possible death at higher concentrations. Pure anhydrous ammonia vapors can become explosive in a confined space at concentrations between 16 and 25 percent by volume.

May 1999 – One person was killed when a makeshift container of anhydrous ammonia he was holding exploded. The ammonia was to be used for methamphetamine production. The death occurred while two individuals were driving on an interstate highway in Missouri. The driver was severely injured. A firefighter, an emergency medical technician, and a bystander who had stopped to help and did not know the cause of the smoke were also injured as a result of the ammonia release. *Source: EPA*

Theft Potential

Anhydrous ammonia is a key ingredient in the production of methamphetamine. Thus, illegal drug manufacturers target agricultural retail operations and farms to steal anhydrous ammonia from areas where it is stored and used. When sold for agricultural purposes, anhydrous ammonia is valued from \$200 to \$250 per ton. However, according to law officials it only takes 5 gallons of anhydrous ammonia to produce 10 to 15 pounds of methamphetamines. On the black market, anhydrous ammonia can sell for as much as \$300 per gallon.

Because very small amounts of anhydrous ammonia are needed to make a single batch of methamphetamine, there is typically enough ammonia left in a transfer hose for a criminal to use for drug production. In fact, criminals often prefer to steal ammonia in small quantities using small containers to avoid tipping off a convenient source and to remain somewhat mobile.

Anhydrous ammonia theft tends to occur in waves with thieves stealing the chemical multiple times from one location. Thefts have occurred at such unlikely places as refrigeration systems holding ammonia, underground pipelines carrying ammonia, and rail cars transporting anhydrous ammonia. However, most criminals steal from above-ground, temporary pressure tanks located on farms and from large storage tanks at agricultural dealers where small lost quantities are not easily detected.

Theft Hazard

Criminals who steal anhydrous ammonia not only endanger their own lives and health, but pose considerable risk of injury and death to the public as well. Thieves often damage valves and hoses on anhydrous ammonia containers, and release large amounts of the chemical into the air, exposing farmers, agricultural workers, first responders, and rescue workers to the toxic gas. In addition, when thefts are aborted due to detection or when thieves are overcome by the fumes, small storage containers such as bottles or tanks are left behind posing a risk to anyone that comes across and handles these containers.

Signs of Anhydrous Ammonia Theft

Evidence of tampering with tank valves and the presence of certain items that thieves may leave by the tank are signs that at least an attempt has been

made to steal anhydrous ammonia. Other signs include footprints in the soil, tire tracks leading up to the container, valves that are not tightly closed, and items such as duct tape, bicycle inner-tubes, coolers, garden hoses, plastic tubing, or discarded propane tanks normally used to fuel barbecue grills.

If you observe this evidence, leave the scene immediately and contact your local law enforcement. Do not try to clean up the materials or handle containers as they may still contain hazardous chemicals.

Tips for Agricultural Dealers

Agricultural retail businesses should be aware that they may be approached by individuals wanting to purchase ammonia in small quantities who intend to use it for the illegal production of methamphetamine. The Drug Enforcement Administration developed the following list to help you identify these individuals:

- Customer cannot answer or is evasive about agricultural use questions.
- Customer insists on taking possession rather than having it delivered.
- Customer insists on using cash, money order, or cashier's check.
- Customer is a stranger and unfamiliar to your area or business.
- Customer provides suspicious business or credit information.
- Customer is vague or resists providing personal information.
- Customer intends to fill his or her own inappropriate tank (e.g. a 20-pound propane cylinder).

Other tips to deter anhydrous ammonia theft include:

- Educate your employees about the theft problem.
- Store tanks in well-lit areas.
- Know your inventory to quickly identify missing chemicals.
- Visually inspect tanks each morning, especially following weekends or other periods where the facility is not occupied.
- Consider auditing your facility and setting up a valve protection plan for critical valves that could cause significant releases if left open.
- Consider installing valve locks or fencing, especially for unattended tanks.

- Report thefts, signs of tampering, leaks, or any unusual activity to local law enforcement officials.
- Consider installing other theft deterrent measures such as motion-detector lights, motion-detector alarms, security patrols, or video surveillance.
- Remove hoses from storage tanks during the off-season and store them separately from tanks.
- Make sure all tanks are labeled with caution labels that warn of hazardous chemicals.
- Consider erecting a fence or other barrier around the tank, and attach warning signs which are clearly visible.
- Place brightly colored plastic wire ties or seals between the valve wheel and the roll cage. Check regularly to see if it has been broken.
- If you discover someone near the tank, do not confront the person. The person may become violent. Contact local law enforcement immediately.
- Do not disturb the crime scene.

Effective September 1, 1999 – Texas House Bill 2205 makes it a state jail felony if a person is found under certain circumstances with anhydrous ammonia in a container or receptacle that is not designed and manufactured to hold the chemical.

The felony occurs if a person:

- Possesses and maintains anhydrous ammonia in a container not designed to hold it.
- Transports anhydrous ammonia in a container not designed to transport it.
- Uses, delivers, or sells a container or receptacle designed and manufactured to hold anhydrous ammonia without the consent of the container's owner.
- Tamper with equipment manufactured and used to hold, apply, or transport anhydrous ammonia without the consent of the equipment's owner.

Tips for Farmers

The remote and secluded locations on a farm allow thieves to go unnoticed for long periods of time. To help prevent anhydrous ammonia theft on the farm, farmers should:

- Arrange tank delivery as close to the time of application as possible, and remove tanks immediately when finished.
- Purchase locking devices on tank valves at the time you obtain the tank.
- Locate tanks in well-lit and secure areas where they are visible from your house and where valves are clearly visible.
- Bleed and remove hoses when not in use.
- Check tanks regularly for signs of tampering and for other tell-tale signs of activity around the tank.
- Block or barricade roads and lanes leading up to the tank. Post *No Trespassing* signs on these barricades.

Accident Liability

Believe it or not, you could be sued by thieves who are injured in the process of stealing your anhydrous ammonia, unless you show the court that you took reasonable precautions. To avoid this, make sure that all containers are clearly marked with the appropriate warning labels and that you have made a reasonable attempt to protect against tampering and theft.

Methamphetamine Labs

Occasionally, illegal drug manufacturers will use remote, wooded areas on large farms to set up temporary drug labs. Tip-offs to a drug lab's presence start with the chemicals. The smell of ether is a genuine warning sign. Other signs include 5-gallon chemical cans and propane tanks scattered about, and empty bottles or other containers. Also, watch for unusual tracks and attempts to conceal them.

Remember, if you find these items or see these signs, contact your local law enforcement immediately. Do not disturb the scene or attempt to remove any of these items. Making methamphetamine requires highly potent chemicals. Merely touching some of them can poison a person. The leftover waste from these labs is considered a hazardous materials (or Hazmat) site. Cleanup requires specially trained people with head-to-toe protective suits and respirators.

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