



Extension FactSheet

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Preventing Theft of Anhydrous Ammonia

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The agricultural community has used anhydrous ammonia as a low cost, highly effective nitrogen-based fertilizer for many years. However, drug dealers have discovered that it can also be used to manufacture the illegal drug, methamphetamine, and have targeted farm tanks as a source for this material.

This growing national problem is finding its way to Ohio where an increasing number of fertilizer thefts and illegal drug manufacturing locations have been identified. These areas pose a serious threat due to the nature of the explosive and toxic chemicals used to manufacture the drugs. There are also significant financial costs on communities for the clean up of contaminated manufacturing sites and appropriate disposal of chemicals.

Since anhydrous ammonia is a critical component of the drug manufacturing process, the agricultural community can play an important role in protecting their communities by limiting inappropriate access to this material. This fact sheet will describe the threat posed to farmers from the theft of anhydrous ammonia and steps that can be taken to minimize the risk of theft at an individual farm.

Risk From These Thefts

As farmers who work with anhydrous ammonia are aware, this chemical can be extremely dangerous when it is not properly handled. Farmers face two main hazards when thefts occur at their farms. The first hazard is accidental contact with anhydrous ammonia from malfunctioning valves and spilled or leaking materials. The second is the explosive threat from anhydrous ammonia when it is placed in improper containers.

Tampering and weakening of flow valves may occur when thieves obtain ammonia from the tank. When farmers then use this equipment and expect the valves to be in working order, they may be surprised by leaks or sprays of chemical. Physical contact and inhalation of anhydrous ammonia can cause serious injuries from chemical burns to the body and the lungs.

The second primary hazard that the farmer may face from anhydrous ammonia theft is through the explosive hazard posed by the containers thieves may use to hold the anhydrous ammonia. Due to the unique chemical properties of anhydrous ammonia, it can exert the same pressure as a fully inflated car tire when it is placed in a closed pressure container at 30° F. When anhydrous ammonia is placed in a container not designed to withstand this pressure, the risk of explosion is great.

Farmers should be extremely cautious when finding empty containers at their farm, especially small barbeque propane tanks. In particular, care should be taken if propane tanks are found with blue- or green-colored valves or if the tanks have frost on them. This indicates that anhydrous ammonia may be stored in the container and that the copper or galvanized valve fittings may be compromised.

Besides the threat of immediate health and environmental hazards, a third risk from anhydrous ammonia theft is liability to the farmer*. Because anhydrous ammonia is a known hazardous substance and creates a dangerous condition, farmers could be liable for the harm to any farm visitor, including the trespassing thief. This liability can be reduced if the farmer can document that reasonable precautions have been taken to secure the chemical and that signs warning of dangerous conditions have been posted.

Watch for Signs of Theft

Since the amount of material stolen is relatively small compared to the total volume of the tank, tank users are often unaware that a theft has occurred. Five to six gallons of anhydrous ammonia are sufficient to manufacture a large quantity of methamphetamine. The two most likely ways to recognize that a theft has occurred are evidence of tampering with tank valves or the presence of certain indicator items that thieves may leave by the tank.

Signs of theft include evidence of activity near the tank

*Additional information about the farmer's liability for trespassers and other farm visitors can be found in OSU Extension Fact Sheet ALS-1002-2000, *Liability for Visitors of Farm Property*.

such as footprints in the soil, stained soil, tank valves which are not tightly closed or which have been tampered with; items left near the tank such as duct tape, garden hoses, plastic tubing, bicycle inner tubes, or coolers; or the presence of barbecue grill propane tanks.

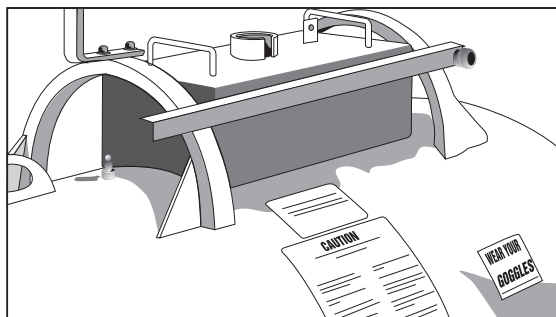
What Should You Do If Theft Is Suspected?

Contact your local law enforcement authorities immediately. Once you suspect that either tampering of your tank or a theft of materials has occurred, leave the area immediately and keep others away from it also. This will help protect individuals from accidental contact with anhydrous ammonia and also preserve the crime scene for investigation by local officials.

Tips to Prevent Thefts

The proper storage of anhydrous ammonia is important for your safety and to help prevent the manufacture of methamphetamine. Here are some measures that you can take to prevent theft at your farm.

- Have tanks delivered as close to application as possible and immediately return them when you are done with them.
- Consider purchase or rental of locking devices for nurse tank valves when you obtain your nurse tank.
- Ensure that tanks are placed in lighted, secure areas. Consider installing motion detector lights or alarms to deter suspicious activities around barns and farmstead. If possible, place tanks where they can be seen from the residence and where the flow valves face either the drive lane or residence. This will make it easier to spot individuals who may be near the tank.
- Bleed and remove hoses at the end of the day to remove excess liquid and prevent use of them to steal your material.
- Check tanks frequently since unattended tanks are often targeted. If possible, conduct these checks over weekends also.
- Block road lanes or entrances near the tank with a gate or barricade to complicate theft of the entire tank. Having *No Trespassing* signs posted on these gates or driveway posts will further protect you in a legal case.



Locking devices for nurse tanks are available. They are designed to protect anhydrous ammonia from theft and tampering.

- All tanks should be labeled with caution labels to warn others of the highly hazardous nature of anhydrous ammonia.
- Place brightly colored plastic wire ties or seals between the valve wheel and the roll cage to facilitate quick visual checks. If the tie or seal has been broken, it is likely that someone has tampered with your tank.
- If you discover someone near your tank who should not be there, do not confront the individual directly. Users of methamphetamine may become violent with little provocation. Call your local law enforcement agency.
- Contact local law enforcement or local drug force personnel to help identify security measures and encourage nighttime patrols of your area.

When all necessary chemicals to manufacture methamphetamine are brought together, the result is a mixture of chemicals that poses a serious threat to human health and the environment. Two groups of individuals at risk from these labs include fire and police who respond to these situations and individuals who accidentally find and enter these laboratories, unaware of the hazards they contain. Contamination of buildings and associated plumbing, surrounding soil, and surface and ground water poses a significant threat to the environment. Proper cleanup of buildings and appropriate disposal of chemicals can cost as much as \$250,000 at one individual manufacturing site. Money to pay for these cleanups causes a serious strain on federal, state, and local financial resources.

Sources

Environmental Protection Agency, Chemical Safety Alert, March 2000.

The Fertilizer Institute, 2001. Washington, D.C.

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