

# SENATE STAFF ANALYSIS AND ECONOMIC IMPACT STATEMENT

(This document is based on the provisions contained in the legislation as of the latest date listed below.)

BILL: SB 1080

SPONSOR: Senators Smith and Aronberg

SUBJECT: Anhydrous Ammonia

DATE: March 11, 2003 REVISED: \_\_\_\_\_

	ANALYST	STAFF DIRECTOR	REFERENCE	ACTION
1.	<u>Erickson</u>	<u>Cannon</u>	<u>CJ</u>	<u>Favorable</u>
2.	_____	_____	_____	_____
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____
6.	_____	_____	_____	_____

## I. Summary:

Anhydrous ammonia has legitimate uses as an agricultural fertilizer and industrial refrigerant. However, it is also used by some persons in the illegal manufacture of methamphetamine, a controlled substance. Anhydrous ammonia is often obtained for such illegal use by theft of the substance.

Senate Bill 1080 provides that it is grand theft of third degree, a third degree felony, to steal anhydrous ammonia.

This bill also designates or lists anhydrous ammonia as a listed precursor chemical, which is a chemical that may be used in the manufacture of a controlled substance. This designation or listing does not bar, prohibit, or punish legitimate use of anhydrous ammonia. Current law provides that it is a second degree felony for any person to knowingly and intentionally possess a listed chemical with the intent to unlawfully manufacture a controlled substance, or possess or distribute a listed chemical knowing, or having reasonable cause to believe, that the listed chemical will be used to manufacture a controlled substance.

This bill substantially amends ss. 812.014 and 893.033, F.S., and reenacts s. 893.149, F.S.

## II. Present Situation:

### A. Anhydrous Ammonia: Legal and Illegal Uses

The Fertilizer Institute has done a white paper on the legal and illegal uses of anhydrous ammonia. Provided as follows is an excerpt from that paper:

What is ammonia?

Anhydrous ammonia is one of several nitrogen fertilizer products. It serves two roles in the fertilizer industry – (1) it is a basic building block in the manufacture of other types of nitrogen fertilizer; and (2) it is directly applied to farmland as fertilizer. Nitrogen from ammonia plays an especially important role as a constituent of chlorophyll which is necessary for photosynthesis and plant growth. It is popular with farmers because it is the lowest cost form of nitrogen fertilizer available.

Agronomically, ammonia is an efficient source of nitrogen. When injected into the soil, it is immediately absorbed into soil water and onto soil particles. Through that absorption it is converted to the ammonium form, which is quite stable, not subject to either leaching or volatilization losses. Over time it is gradually converted by soil bacteria into the nitrate form, which is used by crops.

Ammonia can be stored in either refrigerated or pressurized tanks. Ammonia stored under pressure is in a liquid form, but converts to a gas when released into the air. In this gaseous form, anhydrous ammonia has a strong attraction to water and can cause severe burns and dehydrates skin. As a result, strict engineering codes exist for all anhydrous equipment. Ammonia should be handled only by people trained in the proper procedures and properties of ammonia. In fact, there are reports of methamphetamine makers who have injured themselves while trying to steal ammonia.

How is ammonia used in drug making?

Methamphetamine (meth) is a powerful central nervous system stimulant. A synthetic drug, methamphetamine has a high potential for abuse and dependence.

Meth can be manufactured in several different ways. Essentially, each production method requires raw materials, or precursor chemicals, which are then combined with a substance which reacts chemically with the precursors. The method used depends upon the availability of precursors and reagents.

The common method for small-scale illegal production is the use of precursors obtained from commonly available cold medicines. The reaction can be accomplished using either sodium or lithium metal, both readily available from chemical supply companies. Clandestine operators have also obtained lithium from batteries, which have a wide commercial availability. The other material needed in this process is anhydrous ammonia. Clandestine drug makers obtain the small amounts of ammonia needed by draining it from nurse tanks used by fertilizer dealers to deliver the product to the farm.

*Fertilizer Industry White Paper on the Theft of Anhydrous Ammonia for Methamphetamine Production*, p. 1-2, The Fertilizer Institute (webpage).

The United States Environmental Protection Agency (EPA) has issued a chemical safety alert on theft of anhydrous ammonia. See “Anhydrous Ammonia Theft,” *Chemical Safety Alert*

(March 2000), United States Environmental Protection Agency. The dangers of anhydrous ammonia, when improperly handled and stored, are described by the EPA as follows:

Anhydrous ammonia can be harmful to individuals who come into contact with it or inhale airborne concentrations of the gas. When stolen, the toxic gas can be unintentionally released, causing injuries to emergency responders, law enforcement personnel, the public, and the criminals themselves.

*Id.* at p. 1.

When stored for agricultural purposes and for use in refrigeration systems, anhydrous ammonia is liquefied under pressure. Liquid anhydrous ammonia expands 850 times when released to ambient air and can form large vapor clouds. Also, liquid anhydrous ammonia, if accidentally released, may aerosolize (i.e., small liquid droplets may be released along with ammonia gas) and behave as a dense gas, even though it is normally lighter than air.

Anhydrous ammonia may also cause water vapor to condense in the air forming a visible white cloud. Therefore, when anhydrous ammonia is released to the air, it may travel along the ground in a cloud instead of immediately rising into the air and dispersing. This dense gas behavior may increase the potential for exposure of workers and the public.

*Id.* at p. 2-3.

Theft of anhydrous ammonia and its illegal use in the manufacture of methamphetamine may increase the likelihood of dangerous discharges of anhydrous ammonia or explosions. As previously noted, the substance is used in a specific methamphetamine manufacturing method. This method has been described as the “reactant metal” method or the “Nazi” method (among other descriptions). Anhydrous ammonia is attractive to illegal manufacturers of methamphetamine because it shortens the normal manufacture time for methamphetamine by about a third of the normal manufacturing time. *See* “Anhydrous Ammonia: Not Just Fertilizer Anymore,” *NCFC Cooperator* (March 1998), p. 1, National Council of Farmer Cooperatives. Because of its commercial use, anhydrous ammonia can be stolen from a number of sources. In addition to the previously noted theft of anhydrous ammonia from feeder tanks, the substance has been stolen from “refrigeration systems holding ammonia, underground pipelines carrying ammonia, and rail cars transporting anhydrous ammonia.” *Chemical Safety Alert, infra*, at p. 3. The substance “can be as inexpensive as \$200 a ton for agricultural purposes, but can sell for as much as \$300 per gallon on the black market when obtained illegally. Very small amounts of anhydrous ammonia are needed to make a batch of methamphetamine. In fact, enough ‘residual’ ammonia is left in a typical transfer hose for a criminal to use for methamphetamine production.” *Id.*

Those who steal anhydrous ammonia and/or use it in the manufacture of methamphetamine, by and large, are not particularly knowledgeable about the chemical properties of the substance and its storage and handling. “Unlike many other synthetic-based illegal drugs, it does not take a chemist to produce meth. In fact, fewer than 10 percent of those arrested for

manufacturing meth are trained chemists. Meth laboratory operators or ‘cooks’ usually are individuals who have little or no chemical training and simply learn a formula in prison or from the Internet.” G. Hargreaves, “Clandestine Drug Labs/Chemical Time Bombs,” *FBI Law Enforcement Bulletin*, v. 69, n. 2 (April 2000), p. 3.

The EPA notes that “[a] number of anhydrous ammonia thefts have resulted in accidental chemical releases from agricultural retailers and facilities with ammonia refrigeration systems. The accidents have occurred when valves were left open as anhydrous ammonia was siphoned off; locks were sawed or broken; anhydrous ammonia was transferred inappropriately into makeshift containers such as propane tanks used on barbecue grills; plugs were removed from anhydrous ammonia lines at refrigeration facilities; or the wrong hoses and/or fittings were attached to storage containers, causing leaks and spills that would otherwise not have occurred.” *Chemical Safety Alert, infra*, at p. 3. See “Preventing Theft of Anhydrous Ammonia,” *Ohio State University Fact Sheet*, p. 2, Ohio State University Extension (webpage) (“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 use of “makeshift containers” by anhydrous ammonia thieves and illegal methamphetamine manufacturers increases the chances of dangerous discharges or explosions, because these persons do not properly handle and store anhydrous ammonia. Commercial storage of anhydrous ammonia is regulated. “Anhydrous ammonia containers have particular specifications as required by the Department of Transportation (DOT). Storage tank specifications for anhydrous ammonia ensure that it is stored properly as a pressurized liquid and a corrosive chemical. For example, some storage containers for anhydrous ammonia must have rated pressure relief devices to reduce the likelihood of over pressurization of the container. Because anhydrous ammonia is corrosive, specific valves and hoses that do not readily corrode have to be used.” *Chemical Safety Alert, infra*, at p. 3.

Anhydrous ammonia thieves and illegal methamphetamine manufacturers often store the anhydrous ammonia in 20-pound propane tanks “like those used for backyard barbecue grills.” *NCFC Cooperator, infra*, at p. 2. If the tanks are overfilled they can rupture. *Id.* See *Ohio State University Fact Sheet, infra*, at p 2. (“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 container at 30 F. When anhydrous ammonia is placed in a container not designed to withstand this pressure, the risk of explosion is great.”)

The valves on propane tanks of this type may blow because of overpressurization and/or the corrosive effects of anhydrous ammonia on the valves. These tanks are “extremely unstable and can be difficult to depressurize. Often, the homemade valves on these containers are so crudely crafted and corroded, the only safe way to ventilate the tanks is to have local law enforcement officials shoot them, under strictly controlled situations, with a high-powered rifle.” *Governor’s Council on Substance Abuse Report/Methamphetamine Abuse in*

*Washington State* (May 2000), p. 19, Washington State Community, Trade and Economic Development.

Usually, the valves on these tanks are “brass or bronze alloy, which will begin to corrode almost immediately when exposed to anhydrous ammonia.” *NCFC Cooperator, infra*, at p. 2. The integrity of the valve may not be discernable because anhydrous ammonia attacks the valve “from the inside out.” *Chemical Safety Alert, infra*, at p. 3. “Brass valving that appeared to be physically intact from outside appearance has been known to break off in the hands of responders creating an uncontrolled release from the container. *Id.* at p. 3-4.

## **B. Criminal Offenses and Penalties**

Methamphetamine is a Schedule II controlled substance under Florida law, s. 893.03((2)(c)4., F.S., and federal law, s. 21 U.S.C. § 812.

Anhydrous ammonia is not listed as a precursor chemical under Florida or federal law, though it is unlawful under federal law to steal anhydrous ammonia or transport stolen anhydrous ammonia across state lines, if the person committing the theft or transport knows, intends, or has reasonable cause to believe that the anhydrous ammonia will be used to manufacture a controlled substance. 21 U.S.C. § 864.

Section 893.033(1), F.S., defines a “listed precursor chemical” as a chemical that may be used in manufacturing a controlled substance in violation of ch. 893, F.S. (the “Florida Comprehensive Drug Abuse Prevention and Control Act”) and is critical to the creation of the controlled substance. Anhydrous ammonia is a necessary component to the “reactant metal” method or “Nazi” method of methamphetamine production. Currently, there are 25 chemicals or substances listed or designated in that subsection as listed precursor chemicals, some of which are used or found in the manufacture of methamphetamines, such as ephedrine, pseudoephedrine, benzyl chloride, benzyl cyanide, chloroephedrine, chloropseudoephedrine, methylamine, and phenylacetic acid. There are scores of chemicals used in the production of methamphetamine; their appearance depends upon the production method used. Some listed precursor chemicals have legitimate uses. For example, methylamine is used in tanning and the manufacture of dyestuffs; benzyl chloride is used in the manufacture of perfumes, pharmaceuticals, dyes, tannins, and artificial resins; ephedrine is used as an anti-asthmatic drug; pseudoephedrine is used as a decongestant.

The listing or designation of a chemical or substance as a listed precursor chemical in s. 893.033, F.S., does not bar, prohibit or punish legitimate use of the chemical or substance. However, s. 893.149, F.S., provides that it is a second degree felony for a person to possess a listed chemical with the intent to unlawfully manufacture a controlled substance, or possess or distribute a listed chemical knowing, or having reasonable cause to believe, that the listed chemical will be used to unlawfully manufacture a controlled substance.

Some states punish unlawful transportation of anhydrous ammonia. *See e.g.*, Hawaii Rev. Stat. § 329-65; Ind. Code § 22-11-20-6; Iowa Code § 124.410F; Minn. Stat. § 18C.201; Neb. Rev. Stat. § 28-1240; S.D. Codified Laws Ann. § 38-19-36.5; Tex. Code Ann. § 504.001; Wash. Rev. Code § 69.55.020; Wis. Stat. § 101.10. Some states punish tampering with

equipment or a facility used to contain, store, or transport anhydrous ammonia. *See e.g.*, Iowa Code § 124.401F; Ky. Rev. Stat. § 250.4892; Minn. Stat. § 18C.201; S.D. Codified Laws Ann. § 38-19-36.5; Tex. Code Ann. § 504.002; Wis. Stat. § 101.10. Some states punish unlawful sale, delivery (or transfer) of anhydrous ammonia. *See e.g.*, Hawaii Rev. Stat. § 329-65; Iowa Code § 124.401F; Kan. Stat. Ann. § 65-7006; Minn. Stat. § 18C.201; S.D. Codified Laws Ann. § 38-19-36.5; Tenn. Code Ann. § 39-17-433; Tex. Code Ann. § 504.002; Wash. Rev. Code § 69-55.020; Wis. Stat. § 101.10.

Some states punish unlawful possession of anhydrous ammonia, although there are differences in how it is punished. Some states punish possession of anhydrous ammonia in an unapproved container. *See e.g.*, Ark. Stat. Ann. § 5-64-1301; Idaho Code § 37-2734C; Ind. Code § 22-11-20-6; Iowa Code § 124.401F; Ky. Rev. Stat. § 250.489; Mo. Rev. Stat. § 537.297; Neb. Rev. Stat. § 28-1240; Tex. Code Ann. § 504.001; Wash. Rev. Code § 69.55.020; Wis. Stat. § 101.10. Some states punish possession of anhydrous ammonia with the intent to manufacture a controlled substance. *See e.g.*, Ind. Code § 35-48-4-14.5; Iowa Code § 124.401; Kan. Stat. Ann. § 65-7006, Neb. Rev. Stat. § 28-451; Tenn. Code Ann. § 39-17-433; Tex. Code Ann. § 481.124. Some states list or designate anhydrous ammonia as a precursor chemical or listed chemicals and punish possession of a precursor chemical with the intent to manufacture a controlled substance, which effectively punishes possession of anhydrous ammonia with the intent to manufacture a controlled substance. *See e.g.*, Hawaii Rev. Stat. § 329-65; Mont. Code Ann. § 45-9-107. (Oregon designates anhydrous ammonia as a precursor chemical. Or. Rev. Stat. § 475.940.)

Several states punish theft of anhydrous ammonia. *See e.g.*, La. Rev. Stat. Ann. § 14:67.19; Mo. Rev. Stat. § 570.030; Ky. Rev. Stat. § 514.030; Wash. Rev. Code § 69.55.010. All of these statutes punish theft of anhydrous ammonia without regard to its value, amount, or weight.

Theft of anhydrous ammonia would currently be punishable under s. 812.014, F.S. Under this section, theft is punishable as petit theft or as grand theft, depending upon the value of the property stolen. There are three degrees of grand theft of escalating felony degree. Generally, the degree of grand theft is also determined by the value of the property stolen. One exception to the general rule is provided in s. 812.014(1)(c), F.S. In this paragraph, theft of certain items can constitute grand theft of the third degree, a third degree felony, regardless of the value of item stolen. For example, theft of a will, a firearm, a motor vehicle, a fire extinguisher, or a stop sign is grand theft in the third degree, regardless of the value any of these items.

### **III. Effect of Proposed Changes:**

Senate Bill 1080 amends 812.104(1)(c), F.S., to provide that it is grand theft of the third degree, a third degree felony, to steal anhydrous ammonia. Thus, anhydrous ammonia will join the short list of items for which theft constitutes grand theft in the third degree regardless of the value of the property stolen. This approach to theft of anhydrous ammonia is similar to the approach taken by some states, like Louisiana, Kentucky, Missouri, and Washington.

This bill also amends s. 893.033, F.S., to designate or list anhydrous ammonia as a listed precursor chemical, which is a chemical that may be used in the manufacture of a controlled substance. This designation or listing does not bar, prohibit, or punish legitimate use of anhydrous ammonia. This approach is similar to the approach taken by some states, like Hawaii, Montana, and Oregon.

Section 893.149, F.S., provides that it is a second degree felony for any person to knowingly and intentionally possess a listed chemical with the intent to unlawfully manufacture a controlled substance, or possess or distribute a listed chemical knowing, or having reasonable cause to believe, that the listed chemical will be used to manufacture a controlled substance. The bill reenacts this statute. The effect of designating or listing anhydrous ammonia as a listed precursor chemical is that when it is possessed with the intent to manufacture a controlled substance (such as methamphetamine), it is a second degree felony under s. 893.149, F.S.

The bill take effect July 1, 2003.

#### **IV. Constitutional Issues:**

A. Municipality/County Mandates Restrictions:

None.

B. Public Records/Open Meetings Issues:

None.

C. Trust Funds Restrictions:

None.

#### **V. Economic Impact and Fiscal Note:**

A. Tax/Fee Issues:

None.

B. Private Sector Impact:

None.

C. Government Sector Impact:

The Criminal Justice Impact Conference estimates that SB 1080 is likely have an insignificant prison bed impact.

#### **VI. Technical Deficiencies:**

None.

**VII. Related Issues:**

None.

**VIII. Amendments:**

None.

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This Senate staff analysis does not reflect the intent or official position of the bill's sponsor or the Florida Senate.

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