The Fertilizer Institute
Nourish, Replenish, Grow

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The Fertilizer Institute Fact Sheet:
Texas Fertilizer Facility
11:45 A.M., April 18, 2013

While we cannot comment on the specifics regarding events at the Texas facility involving fertilizer, we extend our thoughts and prayers to all of the people who have been impacted by this tragic event.

The Chemical Safety Board (CSB) has been deployed to the accident scene. The Fertilizer Institute (TFI) has worked closely with the CSB and will serve as a resource should we be asked to do so.

TFI is an active member of the Transportation Community Awareness and Emergency Response program (TRANSCAER). Through this initiative, emergency response personnel in 27 states, including Texas, have received training on responding to accidents involving anhydrous ammonia. For more information on TRANSCAER in Texas, click here.

We are carefully monitoring the situation and will work with the industry to apply any lessons learned.

Below, please find information on nitrogen fertilizer for your use as you report on the April 17 incident.

About Fertilizer

- Nitrogen is an essential crop nutrient.
- Nitrogen fertilizer is natural. The air we breathe is nearly 80 percent nitrogen.
- Nitrogen fertilizer, in the form of anhydrous ammonia, is produced in a chemical process that combines nitrogen from the air with hydrogen from natural gas.
- Ammonia is one of the basic building blocks of nitrogen fertilizer products. Ammonia is an essential element for plant, animal and human life. It is found in water, soil and air, and is a source of much needed nitrogen for plants and animals. Most of the ammonia in the environment comes from the natural breakdown of manure, dead plants and animals. Man-made sources of ammonia include fertilizers, power plants, mobile sources and other manufacturing emissions. In certain crops, ammonia is the preferred fertilizer source because it contains 82 percent nitrogen and can be the most economical.

- Ammonia is a colorless, pungent, gas that is lighter than air. At minus 28 degrees ammonia becomes a liquid. Anhydrous ammonia is classified as a non-flammable gas but will burn with certain vapor concentration limits and with strong ignition. Fire hazard increases in the presence with oil or other combustible materials.

- Fertilizer retailers take exceptional care in handling ammonia with specialized equipment that is inspected and certified, personnel that are extensively trained, and specialized personal protective equipment for employees.

- According to the Occupational Safety and Health Administration (OHSA), the least amount of ammonia which is found to be irritating to the eyes, nose and throat of the most sensitive individuals is 50 ppm.

- Without protective equipment, maximum airborne concentration below, which it is believed that nearly all individuals could be exposed for up to 30 minutes without experiencing or developing life-threatening health effects, is 500 ppm.

- Breathing 700 to 1,700 ppm results in coughing, bronchospasm and chest pain along with severe eye irritation and tearing. At levels greater than 5,000 ppm, ammonia causes chemical bronchitis, fluid accumulation in the lungs, chemical burns of the skin and is potentially fatal.

    - According the American National Standards Institute's (ANSI) Standard for Storage and Handling of Anhydrous Ammonia, ammonia is extremely hard to ignite and is a relatively stable compound. The conditions favorable for ignition are seldom encountered during normal operations due to the high ignition temperature required.

    - Most states have adopted the ANSI Standard, including Texas.

- Other nitrogen fertilizer materials can be made from anhydrous ammonia.

Regulation and Voluntary Initiatives

- Fertilizer is regulated at both the federal and state levels. Federal agencies of jurisdiction include the Department of Homeland Security, the Environmental Protection Agency, the Occupational Health and Safety Administration and the Department of Transportation. At the state level, fertilizers are regulated by state department of agriculture office of fertilizer control.

- Facilities storing anhydrous ammonia in quantities of 10,000 lbs. or more are required to have an Environmental Protection Agency (EPA) approved Clean Air Act Risk Management Program plan to address accidental releases of ammonia. Each facility covered under the act is required to conduct an offsite consequence analysis for a worst-case accident, a hazard assessment and an accident prevention program.

- Facilities storing ammonium nitrate in quantities of 400 lbs. or more are regulated under the Department of Homeland Security. Additionally, The National Fire Protection Association (NFPA) code 490 sets standards for the storage of ammonium nitrate. Ammonium nitrate is also regulated by the Department of Transportation.