AGRICULTURAL
RETAILERS
ASSOCIATION

1156 15TH Street, NW · Suite 500 · Washington, DC 20005
T 202.457.0825 · F 202.457.0864 · *www.aradc.org*

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Dr. David Michaels
Assistant Secretary of Labor for Occupational Safety and Health Administration
U.S. Department of Labor
Occupational Safety & Health Administration
200 Constitution Ave., NW.
Washington, DC 20210

Dear Dr. Michaels:

On behalf of the Agricultural Retailers Association (ARA) and our members, I would like to thank you and OSHA for your efforts to provide some clarification for the storage and handling of fertilizer grade ammonium nitrate (FGAN) when the agency issued "Guidance on the Ammonium Nitrate Storage Requirements in 29 CFR 1910.109(i)" on December 3, 2014. ARA agrees with a majority of the common sense storage principles already laid out in 1910.109(i) regulations and should be adhered to ensure the product is being stored and handled in safe and secure manner. However, we believe some additional revisions and clarifications should be made to the guidance document and regulations to ensure they are practical and economical for the agricultural industry.

OSHA FGAN Guidance Document Clarification Issues and Recommended Improvements

Scope and Application Related to Mixtures
Under 29 CFR 1910.109(i)(1)(i)(a) related to the applicability of this regulation, it states the following "Except as provided in paragraph (i)(1)(i)(d) of this paragraph applies to the storage of ammonium nitrate in the form of crystals, flakes, grains, or prills including fertilizer grade, dynamite grade, nitrous oxide grade, technical grade, and other mixtures containing 60 percent or more ammonium nitrate by weight but does not apply to blasting agents." OSHA indicates the source of this standard is NFPA 490-1970, which applied to the storage or possession of ammonium nitrate in all industries except transportation and the U.S. Coast Guard.

ARA requests OSHA provide more clarity on which products (solid AN, solid AN based mixtures) should be covered by this regulation. While we agree that the industry should focus on proper storage and handling of FGAN as part of good product stewardship, we also believe that there are several types of AN based mixtures that are not 5.1 Oxidizers, not considered a hazardous material, and not capable of self–sustaining decomposition. This makes these products significantly less of a risk to store and handle. Our concern is that the regulations and the guidance document paints a broad stroke of inclusion of many products when referring to anything that is more than 60% AN by weight. There are many FGAN mixture products, even though they may meet the 60% threshold, that have all been proven through UN testing not to be 5.1 Oxidizers nor capable of self-sustaining decomposition. OSHA and all federal agencies should recognize that including these products in these regulations and advisory with proper review and exclusion is unnecessary and will encompass a much broader number of facilities than anticipated.

Ventilation Rate Formula
Under the Storage – General Requirements section (1910.109(i)(2)(iii)(b) the guidance document states that "storage buildings shall have adequate ventilation or be of a construction that will be self-ventilating." OSHA correctly points out the purpose of ventilating an ammonium nitrate storage building during a fire is to prevent the accumulation of highly toxic off-gas products, such as nitrogen oxides, and remove hot gases from the structure to limit heating of the FGAN and reduce the risk of an explosion. ARA appreciates OSHA including some examples

of acceptable ventilation systems such as open-air construction, manually operated fan vents, open ridge vents, roof-line louvered vents, and continuously operated vent fans. ARA additional examples of ventilation systems be included in order to provide the maximum number of acceptable ventilation options that could be utilized by the agricultural industry.

Also included in the guidance document is a ventilation rate compliance formula that may be too technical for use by an OSHA inspector or industry officials and difficult to fully comprehend. ARA recommends removing this formula from the guidance document and provide further explanation on what the agency considers as inadequate ventilation systems (i.e. reliance on open doors and windows; floor-mounted fans; and systems designed solely for employee comfort) and compliant ventilation systems. If OSHA is unable to remove the ventiliation formula then we recommend a more simplified calculations.

Container Storage Temperature Requirements
The OSHA FGAN guidance document includes information discussing 1910.109(i)(3)(ii)(a) related to the storage of bags, drums, and containers of ammonium nitrate. This section states that "containers of ammonium nitrate shall not be accepted for storage when the temperature of the ammonium nitrate exceeds 130 deg. F." This appears to relate more to a manufacturing facility rather than an agricultural retail where the FGAN is now most commonly stored in bulk inside storage bins that is being stored at ambient temperatures. ARA requests additional information from OSHA on how the temperature level of "not to exceed 130 degrees F" was selected. From various studies on ammonium nitrate it appears significantly higher temperatures are necessary to cause a thermal decomposition of the product.

Height of FGAN Piles
Under section 1910.109(i)(4)(iii)(b) it states that "height or depth of piles shall be limited by pressure-setting tendency of the product. However, in no case shall the ammonium nitrate be piled higher at any point than 36 inches below the roof or supporting and spreader beams overhead. ARA believes it would be helpful if OSHA could provide some additional clarification related to clumping or caking of FGAN in a storage silo or bin that would cause it to form into a solid mass as discussed related to the tragic accident in Oppau, Germany. How will OSHA inspectors evaluate and conduct the pressure-setting tendency of the FGAN stored at an agricultural retail-distribution facility? What would be the basis for any OSHA citation issued?

FGAN Storage in Wooden Bins and Use of Impermeable Coatings
In section 1910.109(i)(4)(ii)(b) it states that "aluminum bins and wooden bins protected against impregnation by ammonium nitrate is permissible." The guidance document provides additional clarification indicting OSHA does not prohibit bin construction with wood or aluminum materials. In addition, OSHA indicates any impermeable coating or cladding for bins constructed with these materials is acceptable, such as two-part epoxy coatings, steel sheet cladding, or sodium silicate. OSHA indicates inspectors will encounter one of the following three situations:

1. Wooden bins that are not and never have been coated or treated to prevent ammonium nitrate impregnation. (citable offense)
2. Wooden bins that have been coated or treated to prevent ammonium nitrate impregnation but have not been maintained to protect the integrity of the coating or treatment (may or may not be readable apparent to the inspector so sample of wood for testing may be necessary); or
3. Wooden bins coated or treated with a material claimed to be chemically compatible with and impregnable to ammonium nitrate (inspection should obtain details of the coating or treatment such as SDS or manufacturer's literature).

If there is a determination that a wooden bin has been impregnated with ammonium nitrate, ARA believes it would be helpful for OSHA to provide steps a facility can take to remediate the existing wood without the requirement of fully replacing the existing wood. For example, if a wooden bin viewed by OSHA as being impregnated with ammonium nitrate were either sanded down using an electrical or manual sander or restored using a pressure

washer would this be an adequate measure that would allow the wood to remain as long as it was subsequently coated or treated with impermeable materials that are approved for use by the agency such as sodium silicate. If the agricultural industry was required to remove and /or tear down all existing wooden bins and structures that are deemed impregnated with ammonium nitrate it would be an extremely costly investment and likely force the majority of agricultural retailers from continuing to store, handle, and sale FGAN.

Fire Protection / Water Supplies

In the OSHA AN Guidance Document, it mentions that "water supplies and fire hydrants shall be available in accordance with recognized good practices" (1910.109(i)(7)(ii)(b). OSHA recommends facilities provide on-site water storage in areas without a municipal water supply. However, the cost to build such as structure would be prohibitively expensive. For example, to build several 30,000 gallon water tanks would cost around $250,000 with continuous maintenance also being a significant cost. ARA request OSHA provide additional guidance that explains what is considered an adequate water supply. It would also be helpful if the agency provide additional guidance on the types of fire protection and / or fire detection systems would be deemed adequate and in compliance with the regulations. ARA recommends the FGAN storage building / facility be evacuated if a fire breaks out and it becomes necessary to call in local first responders.

Conclusion

Thank you for your review and consideration of our comments! ARA supports the principles of 1910.109(i) as the primary regulations to cover the storage and handling of FGAN. We appreciate OSHA efforts to work with industry to develop this guidance document to assist OSHA inspectors and industry with compliance efforts to help ensure FGAN is being stored and handled in a safe and secure storage facility. ARA looks forward to continuing to work with OSHA to update and revise the regulations and this guidance document in order to establish workable and clear interpretations of the regulations before any enforcement action is taken within the agricultural industry. OSHA should approach 1910.109(i) similar to a new rulemaking given the complexity of circumstances surrounding FGAN issues. A long term strategy and partnership, perhaps even the establishment of an FGAN working group should be developed to resolve technical issues surrounding of the issues discussed in this letter.

Sincerely,

Richard Gupton
Sr. Vice President, Public Policy & Counsel

cc: Jordan Barab, Deputy Assistant Secretary for Occupational Safety & Health
Jeffrey Wanko, Safety Engineer – OSHA Directorate of Enforcement Programs