References Related to Best Practices – Storage of Ammonium Nitrate

Please check with your local jurisdiction having authority to determine if there is a local fire code or other regulatory code that must be utilized related to storage of ammonium nitrate.

Occupational Safety and Health Administration (OSHA)

OSHA Standard 1910.109(i)(4) also defines additional requirements for storage of ammonium nitrate. The following are some, but not all the requirements:

1910.109(i)(5)(i)(a): “Ammonium nitrate shall be in a separate building or shall be separated by approved type firewalls of not less than 1-hour fire-resistance rating from storage of organic chemicals, acids, or other corrosive materials…”.

1910.109(i)(5)(i)(b): “In lieu of separation walls, ammonium nitrate may be separated from the materials referred to in paragraph (a) of this section by a space of at least 30 feet”.

1910.109(i)(6)(i): “Electrical installations shall conform to the requirements of subpart S of this part, for ordinary locations. They shall be designed to minimize damage from corrosion”.

1910.109(i)(7)(ii)(a): “Water supplies and fire hydrants shall be available in accordance with recognized good practices”.

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The U.S. Senate Committee on Environment and Public Works held a hearing on June 27th in Washington, D.C., and various experts from the Chemical Safety Board, Department of Homeland Security, Texas A&M University, and others all agreed with Chairperson Boxer that fire must be prevented from reaching bulk storage of ammonium nitrate. Some recommendations included:

- Storage of ammonium nitrate in non-combustible storage facilities or at least have a one-hour fire barrier separating a storage bin of ammonium nitrate from other adjacent products
- Fire sprinklers suitable for a corrosive atmosphere
- Third party inspection of these facilities should be in place (i.e. insurance companies insuring these facilities, safety institutes, etc.)

NFPA 400 Hazardous Materials Code, 2016 Edition, Chapter 11 (Please refer to the entire standard. Below are some highlights from this NFPA standard and not inclusive of everything in this document).