UXO 101 Ammonium Picrate (Explosive D)

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Ammonium Picrate, also known as Explosive D, Ammonium trinitrophenolate,or Dunnite is a high explosive used in military munitions. The explosive strength of Ammonium Picrate is slightly weaker than that of TNT. It is a crystalline material yellow, yellow-orange, or red in color.

When subjected to heat, Ammonium Picrate decomposes and burns like tar or resin. It is relatively difficult to detonate (requires a booster) therefore; it is used in munitions that have to withstand severe shock and stresses before detonating such as armor-piercing bombs and projectiles as well as coastal artillery munitions. Ammonium Picrate us used a main charge for all Navy projectiles over 3-inch caliber.

Ammonium Picrate is slightly soluble in ethyl alcohol and in cold water; soluble in hot water; and moderately hygroscopic. Moisture reduces explosive strength and sensitivity to detonation. In the presence of moisture, reacts readily with lead, steel, and nickel plated steel; reacts slightly with copper plated or zinc plated steel, and bronze. When wet, reacts slowly with iron, lead, and copper to form explosive salts. Reaction with metals is negligible when dry.

Ammonium Picrate is loaded into a munition by pressing it into the munition case. Its melting point is too high for it to be melted and cast. Ammonium Picrate becomes much more sensitive after being pressed into a shell and then subsequently extracted. Method of unloading includes washing out with hot water. Steaming out is not practicable because its melting point is too high.