

HIGH EXPLOSIVE COMPOSITIONHL- H- 407

High Energy Materials Research Laboratory (HEMRL) has developed high explosive composition for the warheads to meet the performance and Insensitive Munition compliance requirement. Insensitive munitions (IM) are defined as munitions which fulfill their performance requirements on demand but minimize the probability of inadvertent initiation and severity of subsequent collateral damage to weapon platforms, logistic systems and personnel when subjected to selected accidental and combat threats. Conventional explosives based on TNT are sensitive and cannot meet the requirements regarding low vulnerability, mechanical and thermal properties for use in such class of munitions. Development of Polymer Bonded Explosives (PBX) is more suitable to meet the requirement of insensitivity or low vulnerability.

High Energy Materials Research Laboratory (HEMRL) has developed PBX based high explosive (HE) composition PBHE-102 for filling in the warhead. PBXs are composite materials in which solid explosive particles are dispersed in a polymer matrix. The compositions are prepared by mixing binder, high explosive and other ingredients in a suitable mixer. The appropriate choice of binders, plasticizers, particle size & shape of solid raw materials, processing parameters and proportion of ingredients has resulted in the development of insensitive explosive compositions.

The processing and characterization of PBHE-102 composition is well established and is ready for ToT.