

Thermobaric Explosive Composition PBTE 201 for bombs

Thermobaric (TB) explosive compositions are fuel rich formulations capable to create sustained high temperature and longer duration overpressure as compared to conventional high explosives. The percentage, nature and size distribution of fuel particles are chosen to achieve the enhanced blast and thermal effects. The state-of-art technology of preparation of TB explosive composition has been indigenously developed at High Energy Materials Research Laboratory (HEMRL). The developed TBE compositions belong to polymer bonded explosive (PBX) type which has the added advantage of insensitivity or low vulnerability when compared to conventional melt cast compositions.

The developed TB formulation PBTE 201 is a composite material 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 explosive slurry is then filled into the warheads by casting under vacuum.

Trials including User associated trials of bombs in static and flight modes have been completed successfully. All the raw materials and process machinery for the preparation of explosive composition and filling of warhead system are indigenously available

Application Areas:

The composition has been proved for application in aircraft bombs. It can be utilized in warheads deployed against targets in open /confined spaces or in applications where thermobaric effect is required.