

A Novel Easai Method For Preparing Nanoparticles Of High Energetic Compounds

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ABSTRACT

A part of the invention related to the development of a novel process for the preparation of nanosized particles of high energetic compounds. The novel, Evaporation Assisted Solvent. Antisolvent Interaction (EASAI) method is used for preparing the nano-HECs well below 100 nm. The particle size and shape can be tuned by varying the parameters such as solvent, antisolvent, and temperature of antisolvent and ratio of solvent to antisolvent, rate of stirring and concentration of the HECs. Particles of HECs such as RDX and HMX having average particle size below 100 nm with spherical morphology can be achieved. Hence EASAI method is suitable for preparation of HEC nanoparticles with particles size below 100 nm. The method can also be used for preparing nanoparticles of other organic compounds such as drugs.

KEY APPLICATION AREAS

1. Road safety systems.
2. Intelligent transportation systems (ITS).
3. Smart traffic monitoring.
4. Obstacle detection and warning systems.
5. Smart city infrastructure.

POTENTIAL USE CASES

1. Blind curve and hairpin bend safety.
2. Tunnel traffic warning systems.
3. Road blockage and landslide detection.
4. Vehicle speed and traffic monitoring.
5. Real-time road usage analytics.