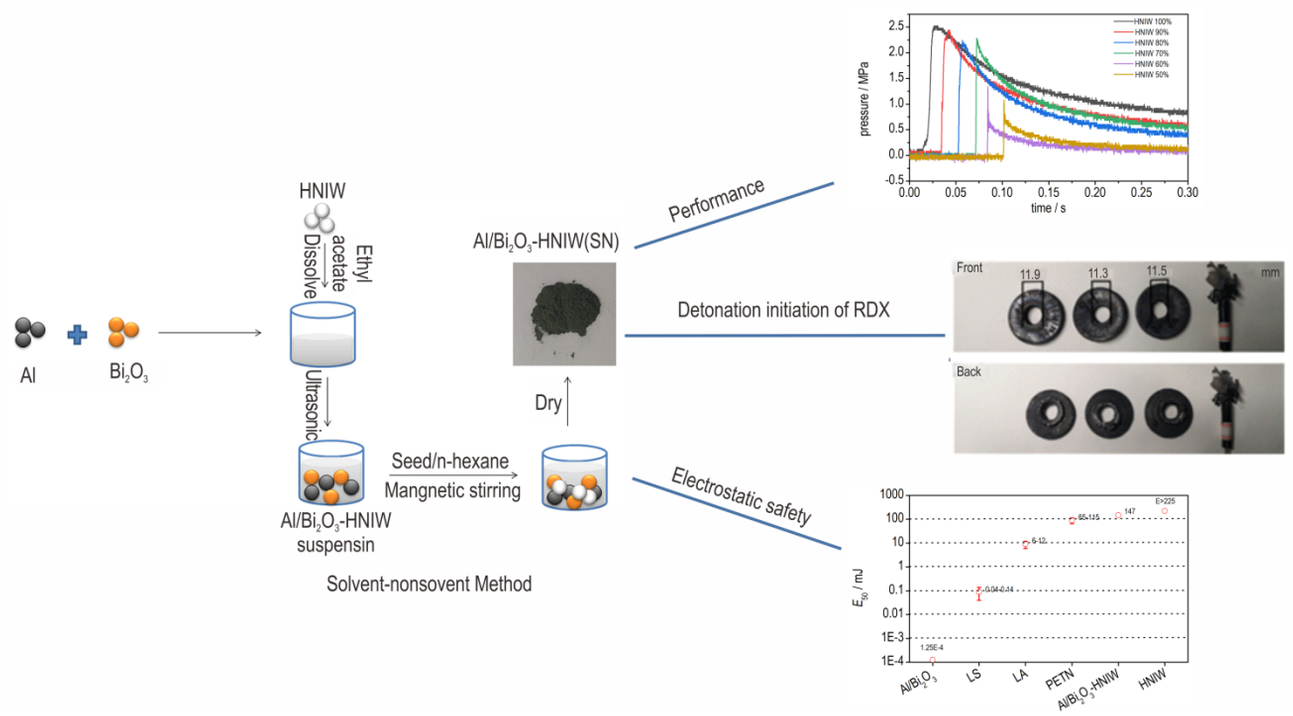
Preparation and Properties of Al/Bi_2O_3-HNIW Hybrid Composites

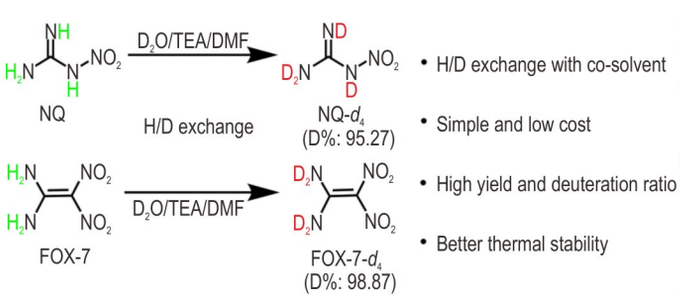


WANG Zhi-qiang, HUANG Yin-sheng, LI Rui, MAO Li

***Chinese Journal of Energetic Materials* (*Hanneng Cailiao*), 2020,28(12):1132-1139**

Solvent-nonsolvent method was used to prepare Al/Bi_2O_3-HNIW as a substitute of green primary explosive, which achieves low electrostatic sensitivity, high energy density, high peak pressure and pressurization rate, and excellent initiation ability.

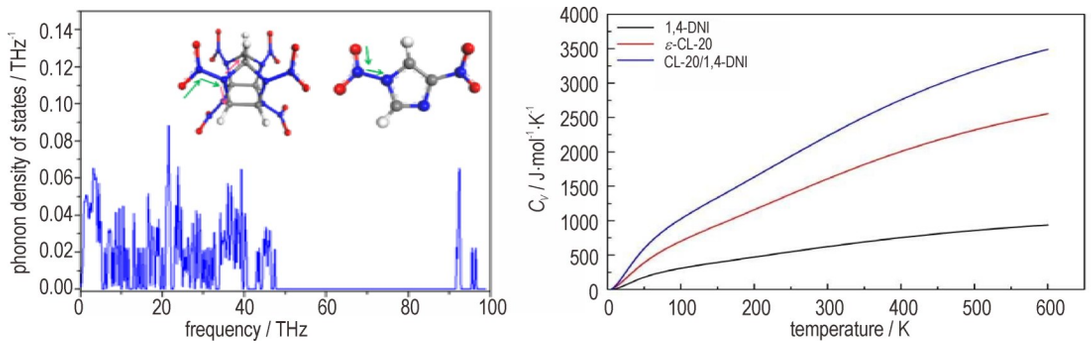
Synthesis of Deuterated NQ and FOX-7



ZHANG Li, BAI Liang-fei, LI Hao, HUANG Jia-wei, SHEN Hong-yang, XIA Yuan-hua, YANG Hai-jun

***Chinese Journal of Energetic Materials* (*Hanneng Cailiao*), 2020,28(12):1140-1146**

First-Principle Studies on Phonon Spectra and Thermodynamic Properties of CL-20/1,4-DNI Cocrystal and Co-formers

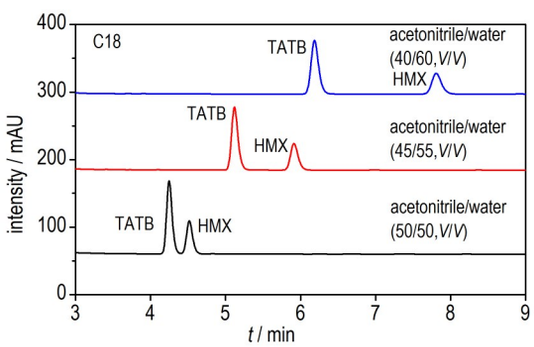


GUO Rong, DUAN Xiao-hui, LI Hong-zhen, WU Bo

Chinese Journal of Energetic Materials **(*Hanneng Cailiao*), 2020,28(12):1147−1155**

The phonon spectra and thermodynamic properties of CL-20/1, 4-DNI cocrystal and co-formers were studied by DFT calculations with TS correction.

Liquid Chromatographic for Component Content in HMX/TATB Explosive Formulations

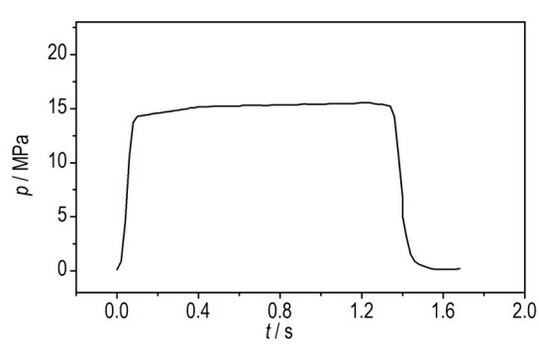


A rapid and accurate high performance liquid chromatographic method with dual wavelength detection was developed for the simultaneous determination of TATB and HMX in explosive mixtures. The influences of dissolve time and chromatographic seperation condition on results were studied.

CHEN Ling, ZHAO Yin-bin, PANG Xiao-qing, ZHANG Yong

Chinese Journal of Energetic Materials **(*Hanneng Cailiao*), 2020,28(12):1156−1162**

Crystal Structure, Thermal Properties of Hydrazinium 3,5-Dinitroamino-1,2,4-triazole and Application in CMDB Propellant

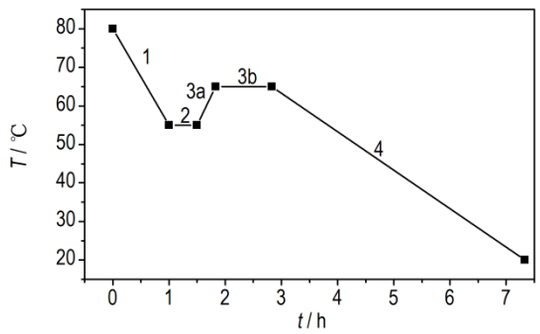


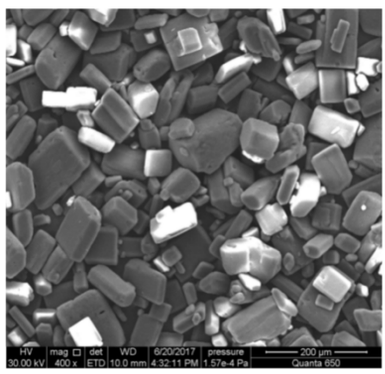
The single crystal of HDNAT was obtained, and its structure was determined. The thermal behavior was studied by TG-DTG. The CMDB propellant formulation based on HDNAT was designed and prepared, and its energy characteristics and combustion characteristics were tested.

ZHOU Cheng, LI Ji-zhen, LI Xiang-zhi, Qu Bei, CHANG Pei, WANG Bo-zhou, LIU Ning

Chinese Journal of Energetic Materials **(*Hanneng Cailiao*), 2020,28(12):1163−1169**

Crystal Morphology Control and Characterization of Triaminoguanidinium Nitrate



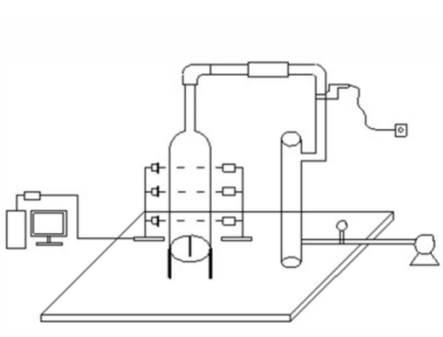


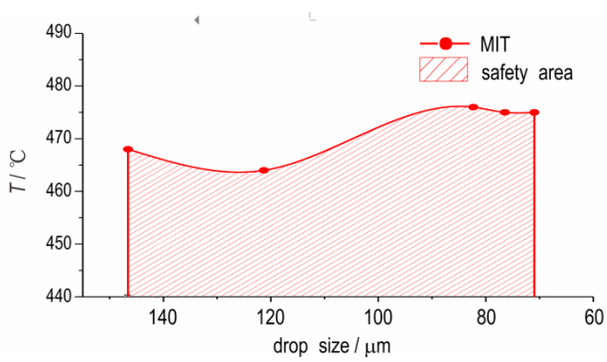
REN Xiao-ting, LI Gang, WANG Ye-teng, DING Ning, HE Jin-xuan

Chinese Journal of Energetic Materials **(*Hanneng Cailiao*), 2020,28(12):1170−1177**

Uniform short block-like TAGN crystal particles were prepared by ultrasound assissted cooling crystallization in water. And the influencing factors of crystal modifier, ultrasonic and cooling process for controlling crystal growth, were analyzed by SEM and particle size analysis.

Experimental Study on the Minimum Ignition Temperature of Vapor-Liquid Two-Phase Ethanol/Air Mixtures



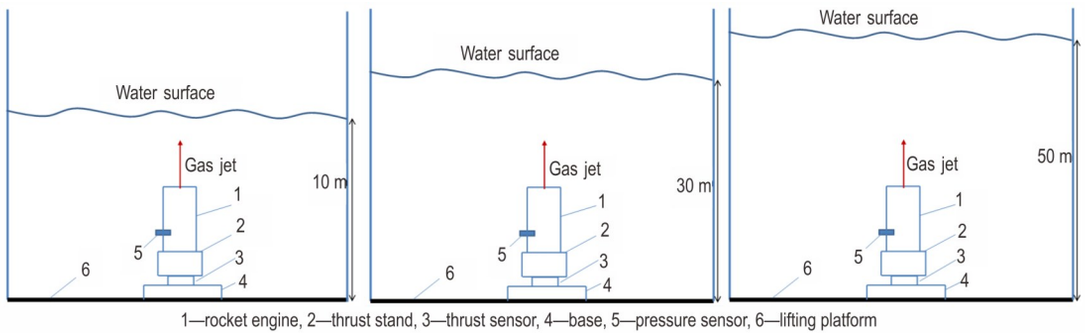


SUN Chu-yan, SU Hang, ZHANG Qi

Chinese Journal of Energetic Materials **(*Hanneng Cailiao*), 2020,28(12):1178−1183**

The measurement system of instantaneous concentration and particle size is used to study flammable and explosive properties of mists formed by combustible liquid fuel. The minimum ignition temperature(MIT) of ethanol was experimented and results show that both particle size and flowing velocity are important factors to affect the MIT.

Experimental Research on Thrust Characteristics of Solid Rocket Engine Working Underwater

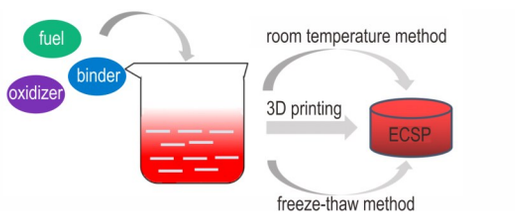


An experimental study on the underwater work of rocket engine was carried out on the lifting platform connected to the hull, the thrust characteristics of the rocket engine under the water depth of 10, 30 m and 50 m were compared and analyzed.

ZHANG Lei, SHE Hu-qing

Chinese Journal of Energetic Materials **(*Hanneng Cailiao*), 2020,28(12):1184−1189**

Review on Preparation Methods and Properties of Electrically Controlled Solid Propellants

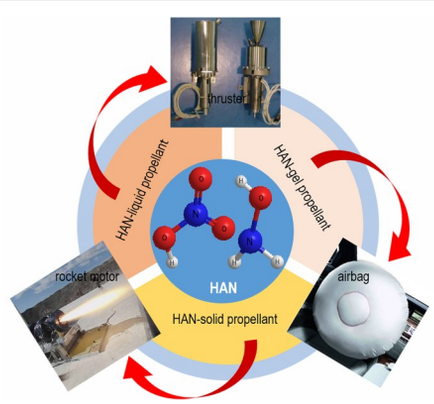


The preparation methods of electrically controlled solid propellants (ECSPs) mainly include swelling method, melt mixing method, room temperature method, freeze-thaw method and 3D printing method. The properties of ECSPs such as thermal stability, mechanical strength, ignition and combustion performance, resistance characteristics, aging performance and arc ablation characteristics are introduced.

HE Zhi-cheng, XIA Zhi-xun, HU Jian-xin, MA Li-kun

Chinese Journal of Energetic Materials **(*Hanneng Cailiao*), 2020,28(12):1190−1199**

Review on Hydroxylammonium Nitrate Based Green Propellant

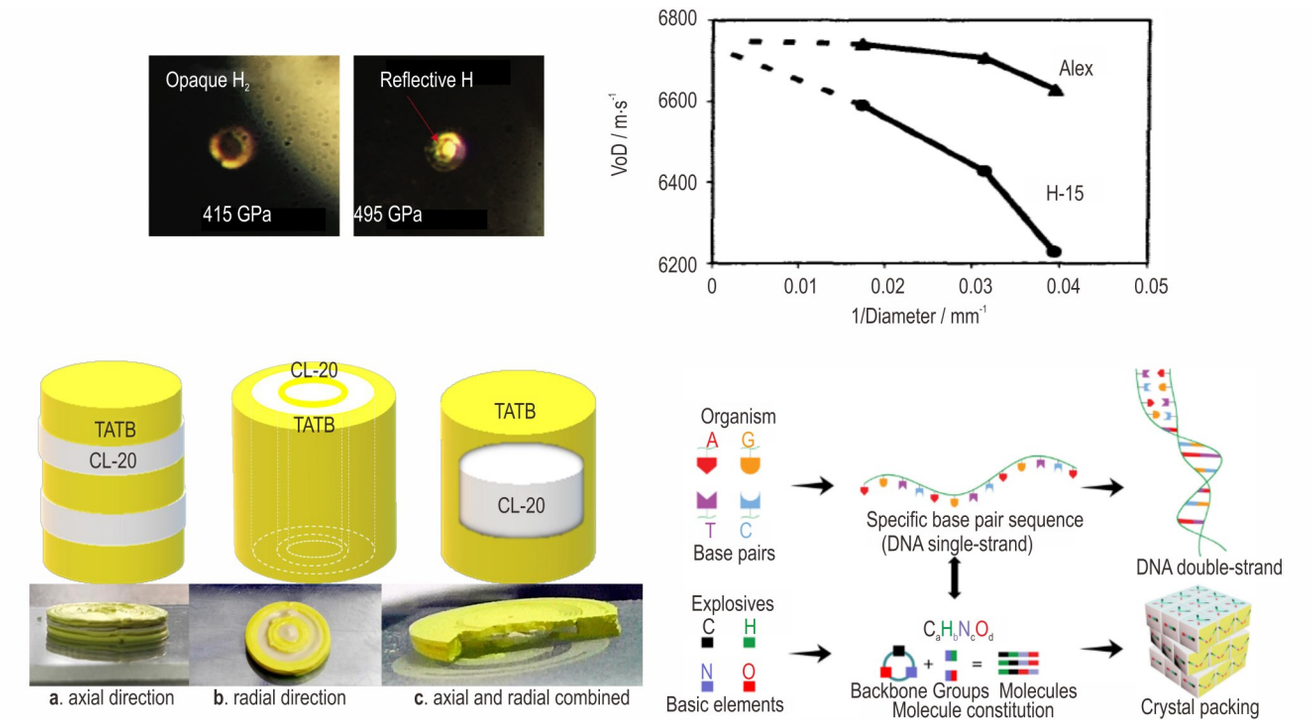


Hydroxylammonium nitrate (HAN)-based propellant has the advantages of high energy, insensitive and non-toxic combustion products. The formula composition, decomposition characteristics, ignition and combustion performance and application technology of HAN-based propellant were introduced.

BAO Li-rong, WANG Hui, CHEN Yong-yi, ZHANG Wei, ZHANG Xiao-jun, HUANG Yin-sheng, SHEN Rui-qi, YE Ying-hua

Chinese Journal of Energetic Materials **(*Hanneng Cailiao*), 2020,28(12):1200−1210**

Progress on Several Disruptive Technologies of Energetic Materials Field



ZENG Gui-yu, QI Xiu-fang, LIU Xiao-bo

Chinese Journal of Energetic Materials (***Hanneng Cailiao***), **2020,28(12):1211-1220**

Four disruptive technologies of energetic materials field were introduced, including ultra-high energy technology, nanometer technology, additional manufacturing technology and materials genome technology. The research progress of each technology at home and abroad are summarized.

Executive editor: JIANG Mei WANG Yan-xiu GAO Yi