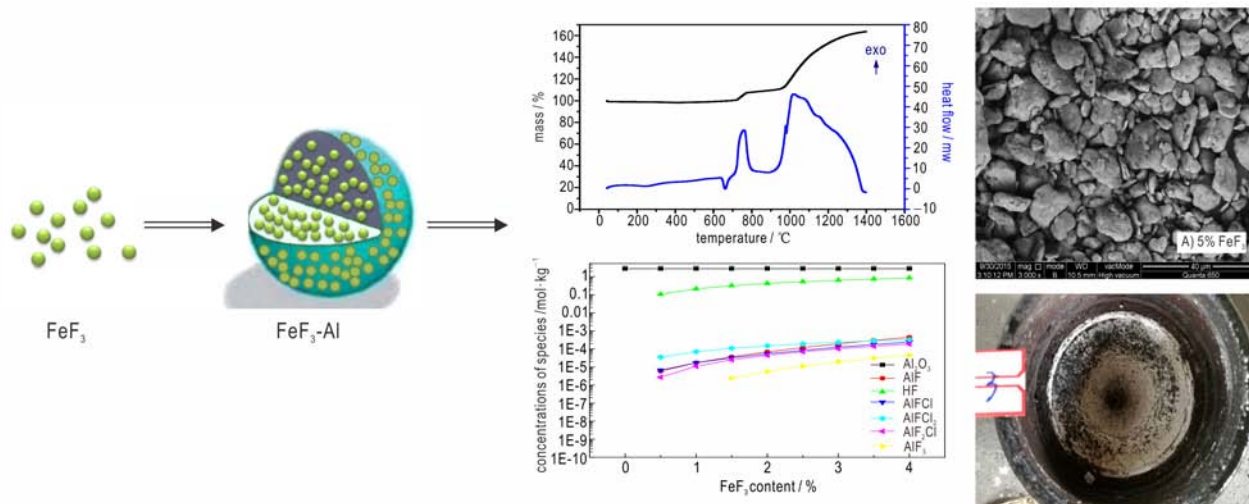


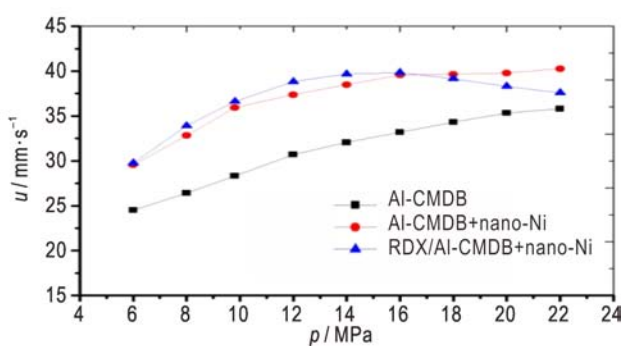
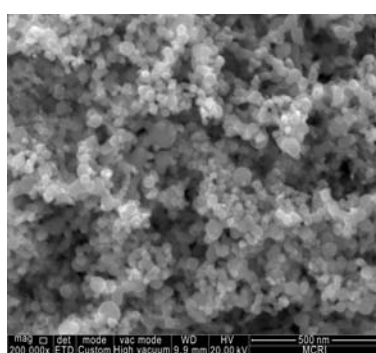
Preparation and Application Performance of Al-FeF₃ Composite Fuel



ZHU Zhao-yang, ZHANG Si, XIA De-bin, TANG Quan,
 QIU Xian-ping, YANG Yu-lin, FAN Rui-qing
Chinese Journal of Energetic Materials (Hanneng Cailiao),
 2019,27(9):720-728

The micron grade Al-FeF₃ composite was prepared by high energy ball milling, achieving a new type of fuel with good combustion performance in solid propellant.

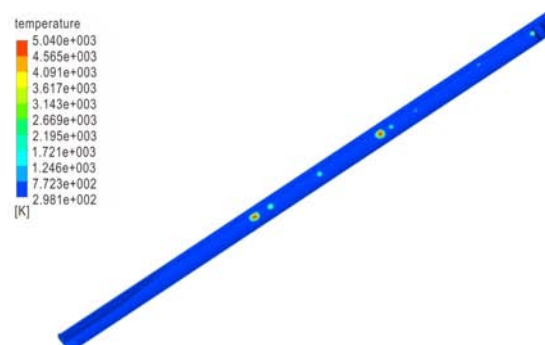
Effect of Nano-Ni on Overall Properties of Al-CMDB and RDX/Al-CMDB Propellants



YUAN Zhi-feng, LI Jun-qiang, SHU hui-ming, ZHANG Jiao-qiang,
 SONG Xiu-duo, GAO Hong-xu, ZHAO Feng-qi
Chinese Journal of Energetic Materials (Hanneng Cailiao),
 2019,27(9):729-734

The effect of nano-Ni on over-all performances of Al-CMDB and RDX/Al-CMDB propellants has been studied.

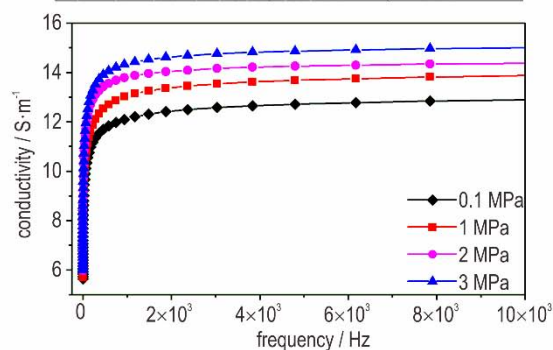
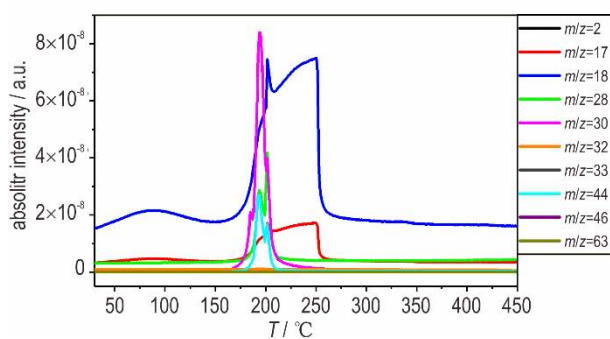
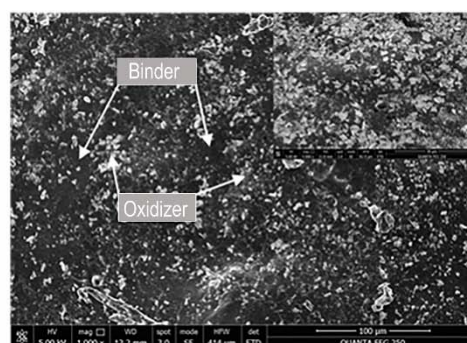
Size Effect and Numerical Simulation of Cook-off Tests for HTPE Propellant



SONG Liu-fang, LI Shang-wen, WANG Zheng, WU Zhuo, LI Hong-xu
Chinese Journal of Energetic Materials (Hanneng Cailiao),
 2019,27(9):735–742

In order to study the size effect of propellant cook-off characteristics, the slow cook-off and fast cook-off tests of HTPE propellant have been carried out for three samples with different sizes. The temperature distribution inside the samples during the tests has been analyzed by the corresponding simulation models.

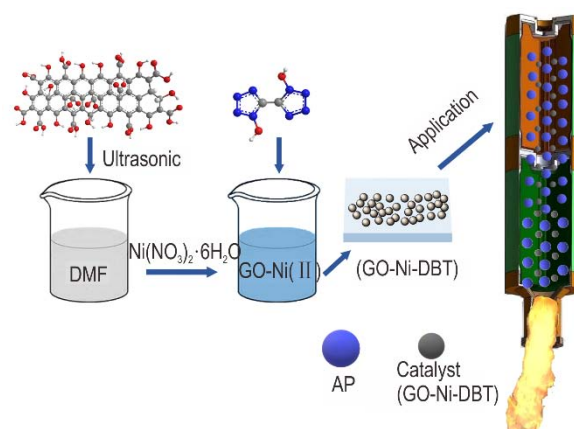
Thermal Decomposition and Conductivity Characteristics of HAN-Based Electrically Controlled Solid Propellants



BAO Li-rong, ZHANG Wei, CHEN Yong-yi, Chen Su-hang,
 SHEN Rui-qi, YE Ying-hua
Chinese Journal of Energetic Materials (Hanneng Cailiao),
 2019,27(9):743–748

The thermal decomposition behavior and electron conductivity of hydroxylamine(HAN)-based electrically controlled solid propellant(ECSP) were studied by TG-DSC-MS and impedance-frequency scanning techniques.

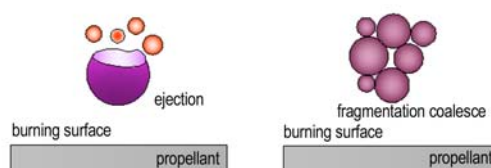
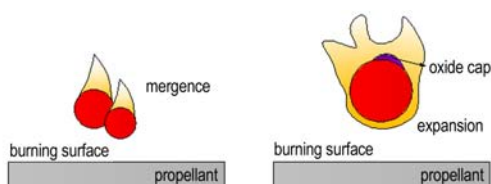
Graphene-templated Energetic 5,5'-Bistetrazole Coordination Polymers and Their Catalytic Effects on Thermal Decomposition of RDX and AP



ZHANG Xue-xue, LÜ Jie-yao, HE Wei, CHEN Shu-wen,
YANG Zhi-jian, YAN Qi-long
Chinese Journal of Energetic Materials (Hanneng Cailiao),
2019,27(9):749–758

Novel bis-tetrazole energetic coordination polymers (GO-Ni-DBT, GO-Ni-BT, GO-Co-DBT and GO-Co-BT) were designed and prepared. Their crystallization mode was influenced by graphene oxide.

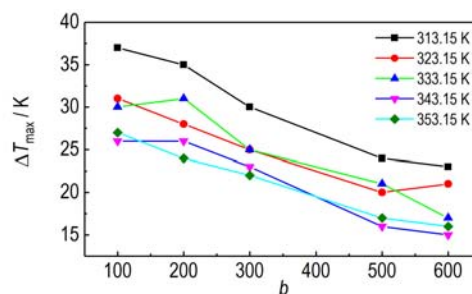
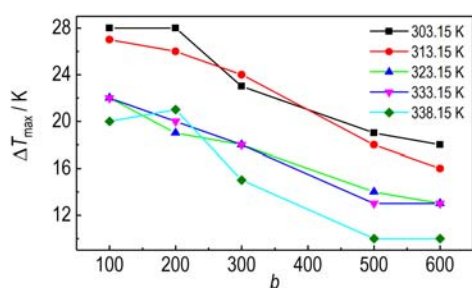
Agglomeration Characteristics of Aluminum Particles in Aluminum-magnesium Oxygen-poor Propellant



LI Lian-bo, CHEN Xiong, ZHOU Chang-sheng, ZHU Min,
LAI Hua-jin
Chinese Journal of Energetic Materials (Hanneng Cailiao),
2019,27(9):759–765

The aluminum droplets are ejected from the burning surface and continue to burn, undergoing a series of changes, mer-gence, expansion, ejection and fragmentation. The combustion behavior of agglomerates detached from the burning surface can lead to the formation of even larger agglomerates.

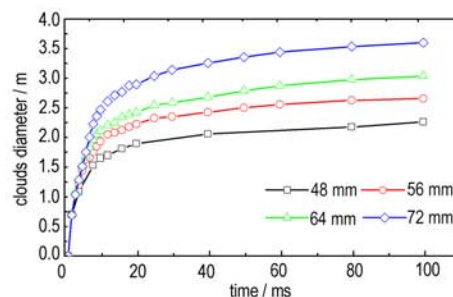
Measurement of Solubility, Metastable Zone and Induction Period of ADN



LIU Xin-yu, SUN Jie, LUO Yi-fen, WANG Ling-yu, GONG Jun-bo,
DONG Wei-bing
Chinese Journal of Energetic Materials (Hanneng Cailiao),
2019,27(9):766–772

The solubilities of ADN in *n*-butanol, isopropanol and mixed solvent of water and isopropanol (volume ratio as 1:10 and 1:6) were measured by dynamic method. The effects of stirring speed and cooling rate on the metastable zone width and the effects of supersaturation on the induction period were investigated, respectively.

Experimental Study on Explosive Dispersion Characteristics and Variation Laws of Cloud Parameters of Short Carbon Fibers



Focusing on the test and analysis of explosive dispersion characteristics and cloud parameters of short carbon fibers, two high-speed cameras were used to record the fracture process of the shell and the macro-expansion process of the cloud. The characteristics of shell fracture and cloud dispersion formation were obtained, and the curves of the diameter, height and expansion velocity of explosive dispersion cloud with time were established. The relationship between initial cloud parameters and the bomb parameters was analyzed.

LIU Zhi-long, WANG Xuan-yu, YAO Wei-zhao, DONG Wen-jie, BAI Hai-tao

Chinese Journal of Energetic Materials (Hanneng Cailiao), 2019,27(9):773-778

Output Characteristics of a Non-primary Explosive Percussion Primer

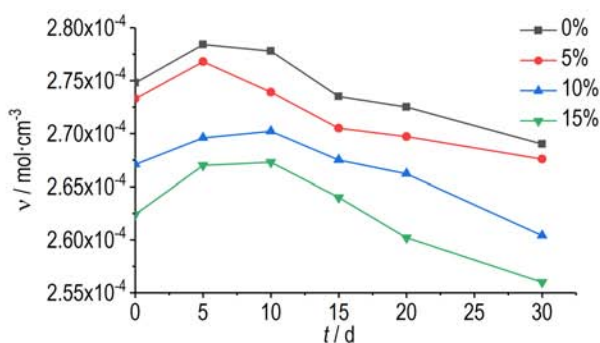
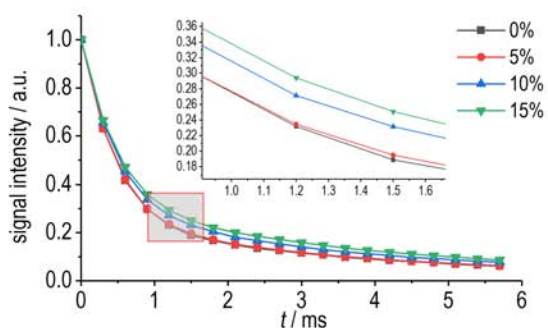


PENG Jia-bin, WEI Ling, WANG Xue-yan, LIU Shuai, CHANG Xin, ZHANG Hu

Chinese Journal of Energetic Materials (Hanneng Cailiao), 2019,27(9):779-785

A kind of non-primary explosive percussion primers were made with the non-primary explosive charge composed of 50 nm Ti and 5 μm KClO_4 mixture. Their output characteristics (flame/ash/50% characteristic ignition distance) were studied by the high-speed camera and other experiments.

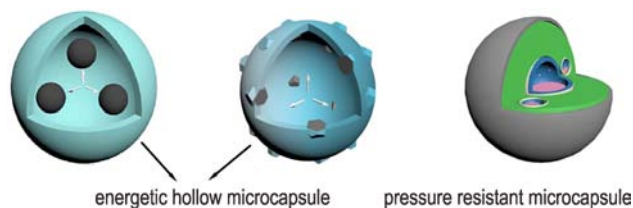
Cross-linking Density Aging Model of HTPB Liner under the Accelerated Aging Condition with Constant Strain



DU Yong-qiang, ZHENG Jian, ZHI Jian-zhuang, ZHANG Xiao
Chinese Journal of Energetic Materials (Hanneng Cailiao),
 2019,27(9):786-791

The constant strain accelerated aging test of HTPB liner was carried out. The transverse relaxation characteristics and cross-linking density of HTPB liner were tested by ^1H NMR CPMG sequence, and the cross-linking density aging model was established.

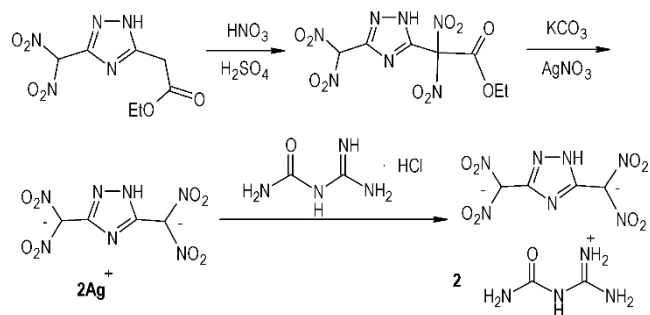
Preparation and Application of Functional Hollow Microcapsules in Emulsion Explosives



CHENG Yang-fan, FANG Hua, LIU Wen-jin, HAN Ti-fei,
 GONG Yue, TAO Chen, YAO Yu-le, SHEN Zhao-wu
Chinese Journal of Energetic Materials (Hanneng Cailiao),
 2019,27(9):792-800

Two kinds of energetic hollow microcapsules and a novel pressure resistant microcapsule were developed.

Synthesis and Properties of Diguanylurea 3, 5-Bis (dinitromethyl)-1, 2, 4-triazolate



HUO Huan, ZHAI Lian-jie, GUO Tao, BI Fu-qiang, WANG Zi-jun,
 WANG Bo-zhou
Chinese Journal of Energetic Materials (Hanneng Cailiao),
 2019,27(9):801-804

Using ethyl 2-(3-(dinitromethyl)-1H-1, 2, 4-triazol-5-yl) acetate as a starting material, diguanylurea 3,5-bis(dinitromethyl)-1,2,4-triazolate(DMDNMT) was firstly designed and synthesized via the reactions of nitration, hydrolysis and methathesis.

Executive editor: ZHANG Qi WANG Yan-xiu GAO Yi JIANG Mei