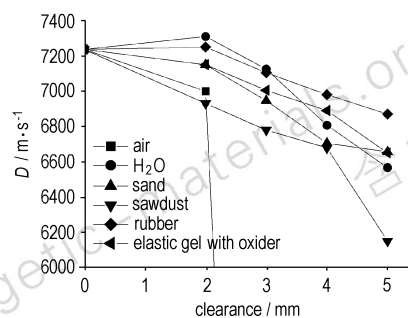


### Effect of Explosive Charge with Variable Clearance and Fillers on Detonation Performance

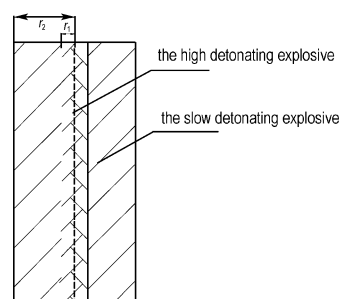
WEI Xiao-an, WANG Ze-shan, YANG Hui-qun  
*Chinese Journal of Energetic Materials*, 2006, 14(4): 241–243



The effect of explosive charge with variable clearance and fillers on detonation performance was studied by using ionization method and from testimony board method.

### Controlling Fuel Dispersion of FAE by Combination Burster

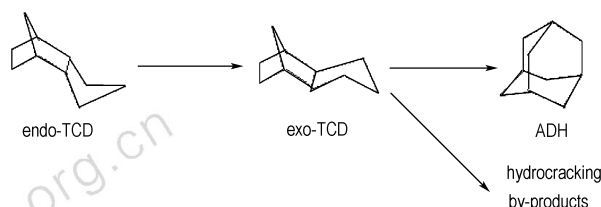
XIAO Shao-qing  
*Chinese Journal of Energetic Materials*, 2006, 14(4): 244–247



The hint form of the combination burster is made of two explosives. It can effectively control the FAE fuel dispersion and restrain the premature-combustion of the clouds.

### Synthesis of Adamantane with the Modified Molecular Sieves Catalysts

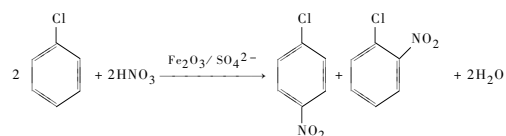
GUO Jian-wei, LIU Sa, TAN Jing-ming, LI Long-huan,  
 HUANG Bao-hua, CUI Yi-hua, YI Guo-bin  
*Chinese Journal of Energetic Materials*, 2006, 14(4): 248–251



Adamantane was synthesized by the batch reactor system in the presence of hydrogen using endo-tetrahydrodicyclopentadiene (endo-TCD) as reactant, solid super-acid  $\text{ZrO}_2\text{-SO}_4^{2-}$  (SZ) loaded REY, USY, Si-MCM-41 molecular sieves as isomerizing catalysts.

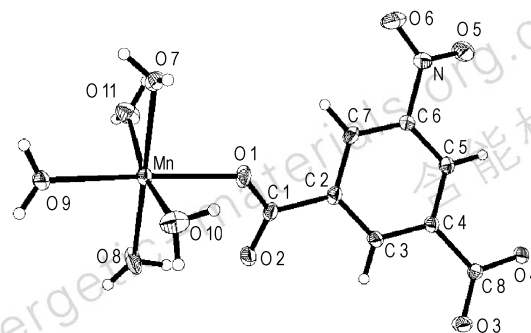
### Regioselective Synthesis of Mononitrochlorobenzene with Nanosolid Acid Catalyst

XI Li-min, YANG Yi-wen  
*Chinese Journal of Energetic Materials*, 2006, 14(4): 252–256



The nanosolid superacid  $\text{Fe}_2\text{O}_3/\text{SO}_4^{2-}$  was prepared by using nanometer chemical technology. Mononitrochlorobenzene was synthesized by catalytic regioselective nitration from chlorobenzene and nitric acid using  $\text{Fe}_2\text{O}_3/\text{SO}_4^{2-}$  as nanosolid superacid catalyst.

### Synthesis, Crystal Structure and Thermal Behavior of 5-Nitroisophthalate Complex with Mn( II )

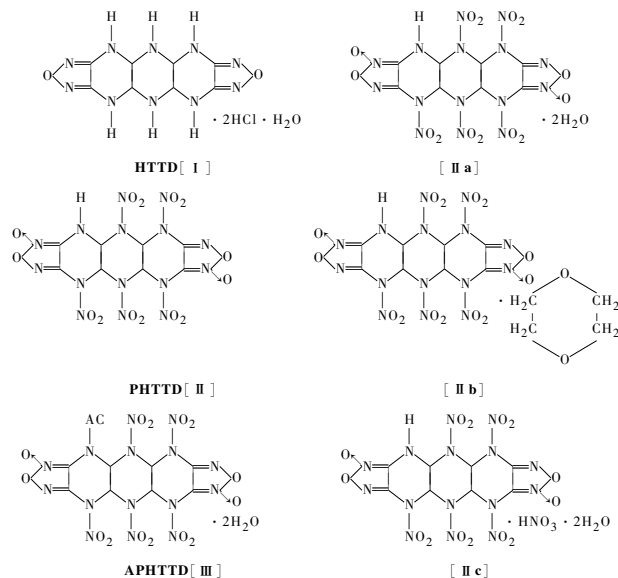


GUO Jin-yu, ZHANG Tong-lai, ZHANG Jian-guo, LIU Yan-hong, YU Kai-bei

*Chinese Journal of Energetic Materials*, 2006, 14(4): 257–261

The crystal of  $Mn(nip)(H_2O)_5$  was prepared and its structures and thermal behaviors were characterized by X-ray single crystal diffraction, FT-IR, DSC and TG-DTG techniques.

### Synthesis and Properties of Pentanitrohexaazatricyclootetradecanedifuroxan

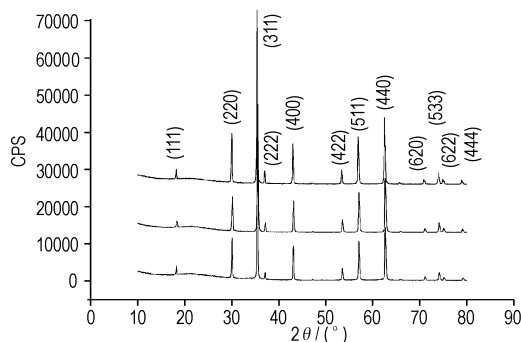


LIANG Rui, YU Zhi-yu, JIAO Guang-lian, YU Jiang-yong

*Chinese Journal of Energetic Materials*, 2006, 14(4): 262–264

PHTTD [ II ] and APHTTD · 2H<sub>2</sub>O [ III ] were synthesized by nitration of HTTD [ I ], [ II a ] and [ II b ] were synthesized by reaction of PHTTD [ II ] and water ( or dioxane ).

### Thermal Compatibility between Magnetite Nanoparticles and Explosives in Common Use ( II )



YU Wen-guang, ZHANG Tong-lai, YANG Li, ZHANG Jian-guo, SUN Cui-na, QIAO Xiao-jing

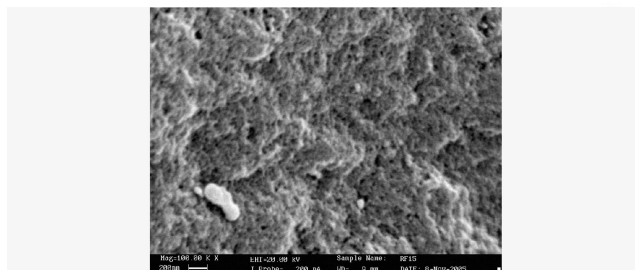
*Chinese Journal of Energetic Materials*, 2006, 14(4): 265–267

The magnetite sample prepared by the oxidation-precipitation method was characterized with the X-ray diffraction and thermal compatibility between magnetite nanoparticles and explosives such as RDX, GTG, KDNBF and PETN was determined by DSC.

### Preparation of RDX/Resorcinol-formaldehyde (RF) Nano-composite Energetic Materials by Sol-Gel Method

GUO Qiu-xia, NIE Fu-de, YANG Guang-cheng, LI Jin-shan,  
CHU Shi-jin

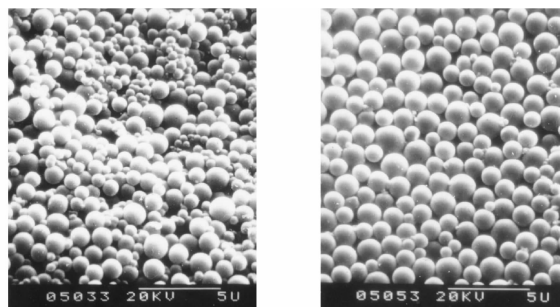
*Chinese Journal of Energetic Materials*, 2006, 14(4): 268 – 271



RDX/RF nano-composite energetic materials with 85% RDX was prepared by sol-gel method.

### Effect of Reaction Composition on Al/PS Microcapsules Size and Distribution

ZHANG Kai, FAN Jing-hui, HUANG Yu-hong, TAN Yun  
*Chinese Journal of Energetic Materials*, 2006, 14(4): 272 – 275

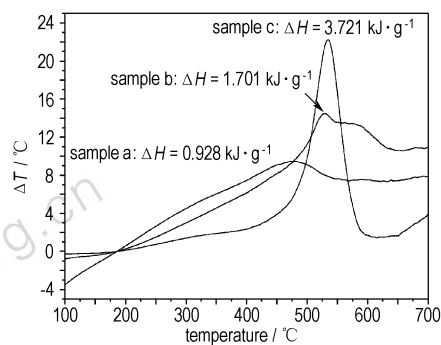


The affecting factors of preparing Al/PS microcapsules with in situ dispersion polymerization of styrene were studied. The composition of reaction system including amounts of monomer, initiator, stabilizer and nano-aluminium particles had great influences on the morphology, size and distribution of Al/PS microcapsules.

### Effect of Particle Size on Activity of Aluminum Nanopowders Produced by High Frequency Induction Heating

GUO Lian-gui, SONG Wu-lin, XIE Chang-sheng, HU Mu-lin,  
WANG Jian-jun

*Chinese Journal of Energetic Materials*, 2006, 14(4): 276 – 279

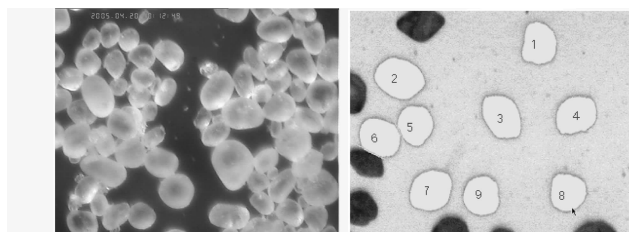


Aluminum nanopowders with mean particle size of 20 nm (sample a), 25 nm (sample b), and 50 nm (sample c) were synthesized by high frequency induction evaporation condensation method.

### Quantitative Characterization of HMX Particle Sphericity

XU Rui-juan, KANG Bin, HUANG Hui, LI Jin-shan,  
HUANG Heng-jian

*Chinese Journal of Energetic Materials*, 2006, 14(4): 280 – 282



The shapes of spherical HMX particles were studied by digital optical microscope and image manipulation technology.

### Safety of Heating TNT in Microwave Oven

ZUO Jun, HAN Chao, YONG Lian

*Chinese Journal of Energetic Materials*, 2006, 14(4): 283–285

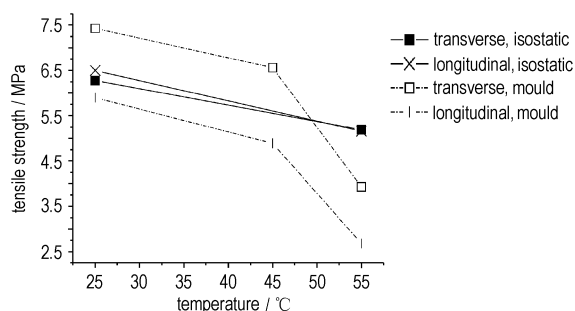


TNT was heated in the special microwave oven at 70–360 W. The experimental results show that TNT is melted in microwave field.

### Study on Mechanical Isotropic of PBX

WEN Mao-ping, LI Ming, PANG Hai-yan, LI Jing-ming

*Chinese Journal of Energetic Materials*, 2006, 14(4): 286–289

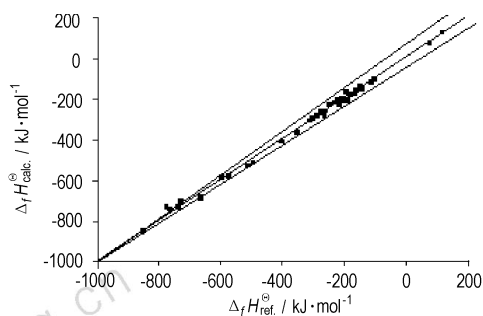


Although compression strength between transverse and portrait does not appear obvious difference for mould pressing J PBX, tensile strength shows apparent difference, so mould pressing J PBX is anisotropic.

### Prediction of Enthalpy of Formation for Polynitro Compounds by Using Molecular Subgraph

SHAO Ke, TIAN De-yu, LIU Jian-hong, HONG Wei-liang, ZHAO Feng-qi, LUO Zhong-kuan, CHEN Li, ZHAO Qi

*Chinese Journal of Energetic Materials*, 2006, 14(4): 290–293

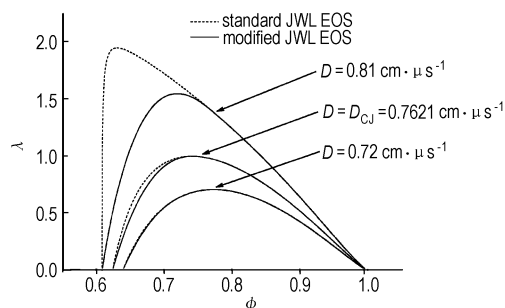


With different groups of polynitro compound molecules acting as descriptor codes (i. e. molecular subgraphs), multiple linear regression equation has been established, of which the correlation coefficient is 0.9950.

### Matching Relation Between Artificial Viscosity and Mesh Size in Numerical Modeling of Detonation of Insensitive High Explosives

HUANG Yong, PAN Hao, HU Xiao-mian

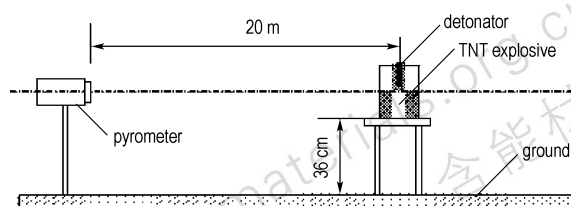
*Chinese Journal of Energetic Materials*, 2006, 14(4): 294–296



The modified JWL equation of states (EOS) of the products and Hybrid reaction model are used to obtain the matching relationship between artificial viscosity and mesh size of insensitive high explosives of PBX9502 and compare with other reaction models.

### Development and Application of Single-wavelength Pyrometer Used for Evaluating the Effects of Thermal Damage

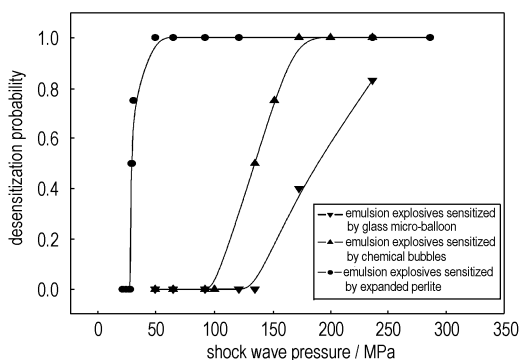
XIE Li-jun, ZHOU Kai-yuan, LIU Geng-ran, YANG Zhi  
*Chinese Journal of Energetic Materials*, 2006, 14(4): 297–301



A single-wavelength pyrometer used for evaluating the effects of thermal damage was developed. It offered a new method to describe the temperature changes of explosive products during explosion.

### Relationship Between Structure Changes and Desensitization of Emulsion Explosives Under Dynamic Pressure

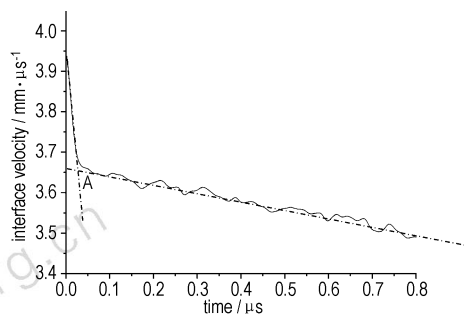
CHEN Dong-liang, SUN Jin-hua, YAN Shi-long, LIU Yi, CHEN Jing  
*Chinese Journal of Energetic Materials*, 2006, 14(4): 302–305



Profile of desensitization probability of emulsion explosives sensitized by varied methods under shock wave pressure was studied.

### Reaction Zone Width of High Explosive by Photoelectric Technique

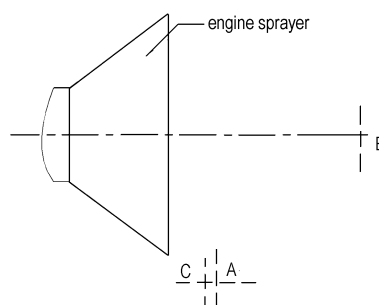
WANG Xiang, HUANG Yi-min, LU Xiao-jun, LU Bin, HE Song-wei  
*Chinese Journal of Energetic Materials*, 2006, 14(4): 306–309



The detonation reaction zones of JO-9159 and JB-9014 explosives were investigated by photo-electric technique.

### Influence of High Heat Fluxes on the Safety of Self-destruction System

YIN Ya-xia, LI Jian, WU Shuang-zhang  
*Chinese Journal of Energetic Materials*, 2006, 14(4): 310–314

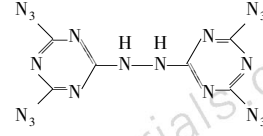


The safety of pyrotechnics of self-destruction system in hot-splitting process was studied.

### Review on High-Nitrogen Energetic Materials

ZHOU Yang, LONG Xin-ping, WANG Xin, SHU Yuan-jie,  
TIAN An-min

*Chinese Journal of Energetic Materials*, 2006, 14(4): 315–320



The recent development and applications of high-nitrogen energetic materials are reviewed. The experimental and theoretical research progress of azine, azido and tetrazole compounds are introduced.

Executive editor: WANG Yan-xiu;

Computer typesetter: LI Shao-hui



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