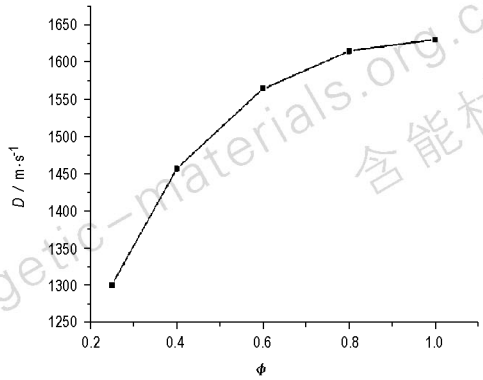
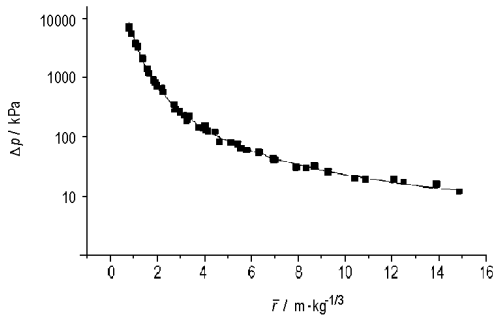
Parameters of Detonation in Suspended Aluminum Dust



HONG Tao, QIN Cheng-sen
Hanneng Cailiao, **2004**, **12**(**3**): **129**

The parameters of detonation were obtained in suspended aluminum dust with different concentration of aluminum dust. Also the lower detonation limit was obtained.

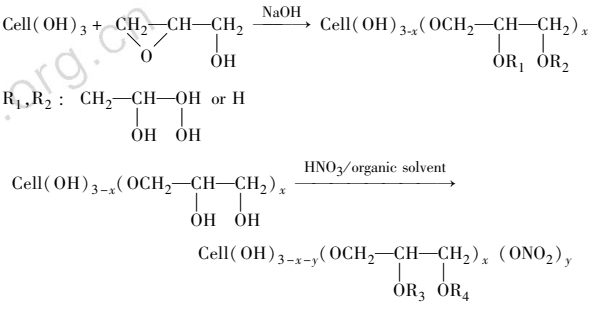
Experimental Study on the Explosion Performance of SEFAE



CHEN Ying, LIU Jia-cong, XIE Li-feng, CHEN Wang-hua, PENG Jin-hua, HU Yi-ting
Hanneng Cailiao, **2004**, **12**(**3**): **134**

The curve of overpressure and impulse comparing with distance was created, and a function of them to distance was fitted in accordance with explosion comparability.

The Synthesis and Characterization of Nitric Acid Ester of Dihydroxypropyl Cellulose



SHAO Zi-qiang, WANG Fei-jun, YANG Fei-fei, ZHAO Feng-qi, TAN Hui-min
Hanneng Cailiao, **2004**, **12**(**3**): **138**

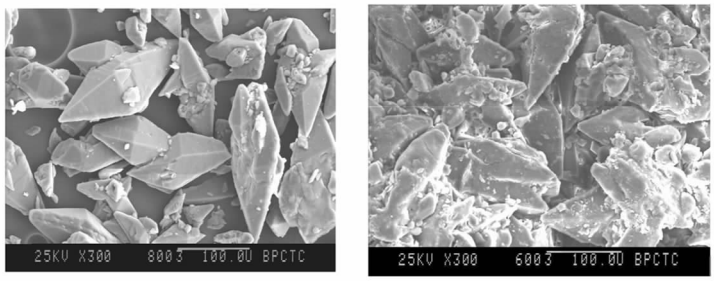
Novel energetic adhesive for solid propellant nitrodihydroxypropyl cellulose (NDHPC) was synthesized.

Pre-ignition Reaction Mechanism of B/Pb_3O_4 Delay Composition

YU Jin-liang, HAO Jian-chun
Hanneng Cailiao, **2004**, **12**(**3**): **143**

The thermal mechanism of the pre-ignition reaction of B/Pb_3O_4 pyrotechnic delay compositions has been investigated by means of DTA, TG, DSC-TG and XRD. The theoretical chemical reaction formula in stoichiometry has been proposed.

Investigation of Coating-desensitization of Hexanitrohexaazaisowurtzitane(HNIW)



JIN Shao-hua, YU Zao-xing, OU Yu-xiang, CHEN Shu-sen, SONG Quan-cai
Hanneng Cailiao, 2004, 12(3): 147

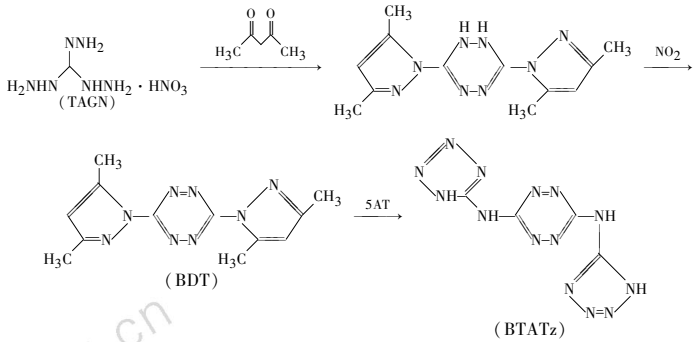
The ε-HNIW was coated by several kinds of materials as fluororubber and chemigum by means of extruding-prilling, solution suspension and water suspension methods. The coated HNIW sample were evaluated by means of SEM and impact sensitivity test.

Study on Evaluation Method of Reliability Growth for High Cost Initiating Explosive Devices

CAO Jian-hua, CAI Rui-jiao, DONG Hai-ping
Hanneng Cailiao, 2004, 12(3): 151

A conversion method for phase test data was presented to utilize all of the data in the process of reliability growth of initiating explosive devices. Based on converted data and binomial distribution, the corresponding classical and Bayesian approaches were given respectively to evaluate the reliability of the last phase.

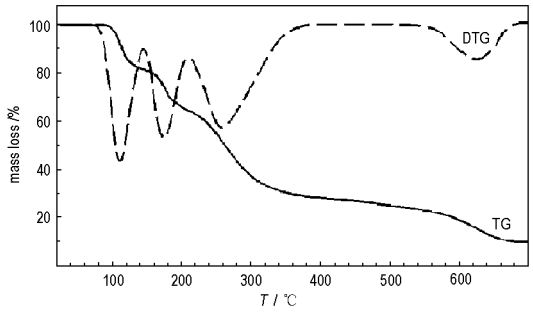
Synthesis and Properties of 3,6-bis(1H-1,2,3,4-tetrazol-5-yl-amino)-1,2,4,5-tetrazine



YUE Shou-ti, YANG Shi-qing
Hanneng Cailiao, 2004, 12(3): 155

An insensitive high nitrogen compound 3,6-bis(1H-1,2,3,4-tetrazol-5-yl-amino)-1,2,4,5-tetrazine was synthesized. The properties of the title compound have been experimentally studied.

The Thermal Decomposition Mechanism and the Quantum Chemical Calculation of $[Mg(H_2O)_6](NTO)_2 \cdot 2H_2O$



MA Hai-xia, SONG Ji-rong, XU Kang-zhen, HU Rong-zu, WEN Zhen-yi
Hanneng Cailiao, 2004, 12(3): 158

The thermal decomposition mechanism of $[Mg(H_2O)_6](NTO)_2 \cdot 2H_2O$ was studied by DSC, TG/DTG and IR methods. The theoretical calculation on the title compound as a structure unit was carried out and the population analysis has been discussed.

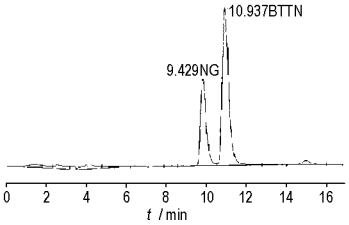
Preliminary Study on Environment-friendly Colored Smoke

SONG Zhi-min, ZHAO Jia-yu, DU Zhi-ming, TANG Gui-lin, MI Yue

***Hanneng Cailiao*, 2004, 12(3): 161**

Formulations of colored smoke with environment friendly dyes were studied. Optimum quantity for red, yellow and blue dyes added into the primary color formulations was 50%. The proportions of color dyes added for purple, orange and green smoking materials were given.

API-ESI-HPLC-MS Analysis of the Mixture of BTTN and NG

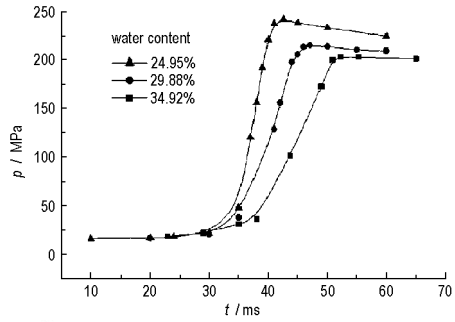


ZHANG Min, SUN Li-xia, CHEN Zhi-qun

***Hanneng Cailiao*, 2004, 12(3): 165**

The binary mixture of BTTN and NG was separated and determined by AIP-ES-LC-MC technique. Information was obtained on the testing conditions of obtaining the perfect mass spectra of BTTN and NG using the negative ion mode.

Study on Property of HAN Hydrogel

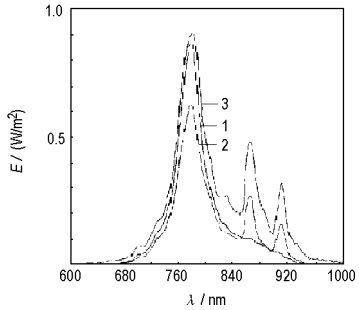


QU Yan-bin, XIAO Zhong-liang

***Hanneng Cailiao*, 2004, 12(3): 168**

The preparation of hydroxylammonium nitrate (HAN) hydrogel was introduced and related properties of the gel was characterized.

Influence of the $CsNO_3$ on the Radiant Intensity of the Near-infrared Illuminant(0.7 ~ 1.1 μm) Composed of KNO_3-Mg-Si-$C_{48}H_{42}O_7$



PAN Gong-pei, PENG Zhi-ming, ZHOU Zun-ning, GUAN Hua

***Hanneng Cailiao*, 2004, 12(3): 171**

Small proportion $CsNO_3$ can evidently affect radiant intensity of near-infrared illuminant (0.7 ~ 1.1 μm), which can enhance detecting distance and conceal oneself of active infrared thermal image set.

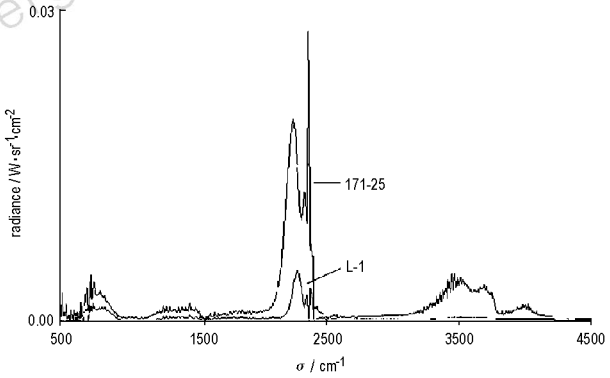
Research on Correlation of Thermal Shock Damage of PBX JOB-9003

TIAN Yong, ZHANG Wei-bin, WEN Mao-ping, YANG Zhan-feng, HAO Ying, LI Jing-ming

Hanneng Cailiao, 2004, 12(3): 174

A typical correlation among thermal shock temperature gap, ultrasonic gain variation and damage percentage of PBX JOB-9003 was experimentally revealed.

Determination of the Combustion Gas Radiance of Solid Rocket Propellant by Remote Fourier Transform Infrared Spectroscopy



WANG Hong, LI Chun-ying, ZHANG Xiao-ling

Hanneng Cailiao, 2004, 12(3): 178

The combustion gas radiance distribution of the solid propellants 171-25 and L-1 in rocket motor was studied by Remote Fourier Transform Infrared Spectroscopy.

Explanation on *K-I* Sensitivity Curve of Commercial Electric Detonator

HAO Jian-chun, YU Jin-liang

Hanneng Cailiao, 2004, 12(3): 181

The curve of the initiation impulse(K) to the initiation current (I) of commercial electric detonator is proposed and analysed, which shows great importance in the estimation of the firing sensitivity.

Advance on Lead-free Combustion Catalysts for Solid Rocket Propellant

SONG Xiu-duo, ZHAO Feng-qi, CHEN Pei

Hanneng Cailiao, 2004, 12(3): 184

The up-to-the-minute progress in non-lead-containing catalysts used in solid propellant is reviewed in present paper, including carbon fiber, lithium fluoride, energetic lead-free combustion catalyst and bismuth compounds. And the application characteristics and development prospect of these catalysts are analyzed.

Progress in Synthesis and Properties of Polynitro Cubanes

JI Yue-ping, WANG Bo-zhou, ZHANG Zhi-zhong, LU Qian, ZHU Chun-hua

Hanneng Cailiao, 2004, 12(3): 189

The systhesis and properties of polynitro cubanes are reviewed.

Executive editor: WANG Yan-xiu; Computer typesetter: LI Shao-hui