

目次 第23卷 第1期 2015年1月25日

◆ 含能快递 .....	(1)
◆ 观点	
固体推进剂技术的创新与发展规律 .....	庞爱民, 黎小平 (3)
◆ 研究论文	
复合半导体桥的电爆特性 .....	徐兴, 张文超, 秦志春, 邓吉平, 王军, 徐振相, 周彬, 彭金华 (7)
两种呋唑并[3,4- <i>b</i> ]四唑并[1,2- <i>d</i> ]吡嗪化合物的合成、晶体结构及热性能 .....	刘宁, 王伯周, 李辉, 李亚南, 霍欢, 翟连杰, 朱蔚鹏 (13)
3,4-双(3-硝基呋唑-4-氧基)呋唑合成、晶体结构及热性能(英) .....	翟连杰, 王伯周, 霍欢, 胡怀明, 苏鹏飞, 樊学忠, 李辉 (18)
CL-20 分子印迹聚合物微球的制备及吸附性能 .....	易娜, 殷雄飞, 赵蓓, 吴耀国, 胡思海 (23)
千克级 LLM-105 合成和三氟乙酸回收技术 .....	王友兵, 黄凤臣, 张蒙蒙, 胡琳琳, 周杰文, 张创军 (29)
五环[5.4.0.0 <sup>2,6</sup> .0 <sup>3,10</sup> .0 <sup>5,9</sup> ]十一烷/航空煤油复配燃料性能 .....	邱贤平, 韦伟, 王亚, 陈克海, 鲁统洁, 金凤, 叶丹阳 (33)
BAMO/AMMO 共聚物基高能固体推进剂能量特性计算和分析 .....	裴江峰, 赵凤起, 宋秀铎, 徐司雨, 姚二岗, 李猛 (37)
含咪唑类铅盐催化剂的 RDX-CMDB 推进剂燃烧性能 .....	张超, 杨立波, 陈俊波, 袁志锋 (43)
温度对 RDX 基 PBX 压制成型内部质量的影响 .....	吕珂臻, 韩超, 高铁榜, 陈学平, 冯立羊, 朱兴虎, 兰琼 (48)
落锤冲击加载下炸药基体内不同粒度 AP 颗粒破碎特征的分析 .....	孙培培, 王晓峰, 南海, 郭昕 (53)
发射装药破碎程度表征方法研究 .....	王燕, 芮筱亭, 冯宾宾, 陈涛, 王国平 (57)
某 RDX 基含 Al 炸药发射安全性 .....	肖玮, 李亮亮, 屈可朋, 付改侠 (62)
基于亚历山大效应测量固体火箭发动机燃气温度 .....	胡松启, 陈静, 刘凯, 黄洪勇 (67)
QuEChERS-超高效液相色谱法同时测定硝基酚类物质方法的研究 .....	刘玉, 张同来, 杨利, 刘芮, 刘影 (73)
六硝基芪的高效液相色谱法分析 .....	赵允颖, 陈军, 陈芳, 曹端林, 王建龙 (80)
基于 NESSUS 的某拔销器可靠性设计与优化 .....	穆慧娜, 温洋, 郭少伟, 张瑶 (85)
◆ 综述	
固体推进剂用燃烧催化剂的研究进展 .....	王雅乐, 卫芝贤, 康丽 (89)
◆ 研究快报	
四唑基功能化的单壁碳纳米管的制备与表征 .....	纪晓唐, 卜建华, 葛忠学, 李陶琦, 苏海鹏, 刘庆, 朱勇, 肖啸 (99)
◆ 读者·作者·编者	
《含能材料》“观点”征稿(52) 《含能材料》固体推进剂专栏征稿(52) 《含能材料》高品质炸药晶体研究专栏征稿(61) 《含能材料》高效毁伤弹药专栏征稿(66) 《含能材料》编辑部开展优秀论文评比(102)	

## 1 Energetic Express

### Prospective

3 PANG Ai-min, LI Xiao-ping

**Innovation and Development Laws of Solid Propellant Technology**

### Articles

7 XU Xing, ZHANG Wen-chao, QIN Zhi-chun,  
DENG Ji-ping, WANG Jun, XU Zhen-xiang,  
ZHOU Bin, PENG Jin-hua

**Electrical Explosive Characteristics of Composite Semiconductor Bridge**

13 LIU Ning, WANG Bo-zhou, LI Hui, LI Ya-nan,  
HUO Huan, ZHAI Lian-jie, LAI Wei-peng

**Synthesis, Crystal Structure and Thermal Properties of Two Furazano [3,4-*b*] tetrazolo[1,2-*d*] pyrazines**

18 ZHAI Lian-Jie, WANG Bo-Zhou, HUO Huan,  
HU Huai-Ming, SU Peng-fei, FAN Xue-Zhong,  
LI Hui

**Synthesis, Crystal Structure and Thermal Behavior of 3,4-Bis(3-nitrofurazan-4-oxo) furazan**

23 YI Na, YIN Xiong-fei, ZHAO Bei, WU Yao-guo,  
HU Si-hai

**Preparation and Recognition Performance of CL-20 Molecularly Imprinted Polymer Microspheres**

29 WANG You-bing, HUANG Feng-cheng,  
ZHANG Meng-meng, HU Lin-lin, ZHOU Jie-wei,  
ZHANG Chuang-jun

**Synthesis of LLM-105 and Recycling Technology of TFA on Kilogram Scale**

33 QIU Xian-ping, WEI Wei, WANG Ya, CHEN Ke-hai,  
LU Tong-jie, JIN Feng, YE Dan-yang

**Properties of Aviation Kerosene/Pentacyclo[5.4.0.0<sup>2,6</sup>.0<sup>3,10</sup>.0<sup>5,9</sup>] undecane Blending Fuel**

37 PEI Jiang-feng, ZHAO Feng-qi, SONG Xiu-duo,  
XU Si-yu, YAO Er-gang, LI Meng

**Calculation and Analysis on Energy Characteristics of High Energy Propellants Based on BAMO/AMMO Copolymers**

43 ZHANG Chao, YANG Li-bo, CHEN Jun-bo,  
YUAN Zhi-feng

**Combustion Performances of RDX-CMDB Propellant with Imidazoles Lead Salt Catalyst**

48 Lü Ke-zhen, HAN Chao, GAO Tie-bang,  
CHEN Xue-ping, FENG Li-yang, ZHU Xing-hu,  
LAN Qiong

**Influence of Temperature on Internal Quality of Pressed RDX-based PBX**

53 SUN Pei-pei, WANG Xiao-feng, NAN Hai,  
GUO Xin

**Fracture Feature of AP Grains with Different Sizes within Explosive Substrate under Drop Hammer Impact Loading**

57 WANG Yan, RUI Xiao-ting, FENG Bin-bin,  
CHEN Tao, WANG Guo-ping

**Characterization Method for Fragmentation Degree of Propellant Charge**

62 XIAO Wei, LI Liang-liang, QU Ke-peng, FU Gai-xia

**Launch Safety of RDX-based Aluminized Explosive**

67 HU Song-qi, CHENG Jing, LIU Kai,  
HUANG Hong-yong

**High Temperature Measurement of Combustion Gas in Solid Rocket Motor Utilizing Alexandrite Effect**

- 73 LIU Yu, ZHANG Tong-lai, YANG Li, LIU Rui,  
LIU Ying **Simultaneous Determination of 14 Nitrophenol Compounds by QuEChERS-Ultra  
Performance Liquid Chromatography**
- 80 ZHAO Yun-ying, CEHN Jun, CHEN Fang,  
CAO Duan-lin, WANG Jian-long **Assay of Hexanitrostilbene by High Performance Liquid Chromatography**
- 85 MU Hui-na, WEN Yang, GUO Shao-wei,  
ZHANG Yao **Reliability Design and Optimization of a Retracting Actuator Based on NESSUS**
- Reviews**
- 89 WANG Ya-le, WEI Zhi-xian, KANG Li **Progress on Combustion Catalysts of Solid Propellant**
- Letters**
- 99 JI Xiao-tang, BU Jian-hua, GE Zhong-xue, LI Tao-qi,  
SU Hai-peng, LIU Qing, ZHU Yong, XIAO Xiao **Preparation and Characterization of Tetrazolyl-functionalized Single Walled  
Carbon Nanotubes**