

### 管理方略

化工企业的无事故、无伤害安全管理理念 .....	李杰	1
工程领域安全管理文化建设 .....	李明宇, 马秀娟, 马媛	4

### 人才培养

融合工程教育理念的人才培养方案 .....	张云飞, 吕小梅, 张舒婷, 李蕾, 李衍亮, 胡俊杰	7
责任关怀理念下的高职化工类专业实训教学探索 .....	龚占魁, 赵丽娟, 陈兴义	11
新工科教育背景下开设工程化学课程的重要性 .....	李雪梅, 宋江, 孟海涛, 郭勤, 李守柱	15
高职化工技术专业群“课程思政”育人模式研究与实践 .....	刘立新	19
高分子化学中逐步聚合实验课程的设计与教学体会 .....	汪称意, 赵晓燕, 戚燕俐	23
“选矿-冶金-材料”学科交叉的创新人才培养模式探索与实践 .....	韩俊伟, 覃文庆	27
服务石化行业的水污染控制工程课程设计教学改革与实践 .....	朱小彪, 胡翔, 员荣平, 张婷婷	32
劳动教育融入石油化工类专业实验教学环节的探索与实践 .....	赵立翠, 张宇, 马平华, 郑黎明	35
以工程应用能力为导向的测控工程专业实践教学研究 .....	杜青青, 侯志伟, 陈鹏, 李臻	40

### 质量与检测

4种不同除磷药剂对高浓度含磷废水除磷效果的对比研究 .....	王沙	47
合成树脂类材料的细胞毒性方法差异性分析 .....	钟文雨, 黄虹蓉, 杨安然, 孔怡然, 林钟石	50
聚丁二烯含量对MBS抗冲剂抗冲效果的研究 .....	李支松, 何梦华, 李艳芳, 郑先伟, 余华林	53
基于NIR的甲苯磺酸索拉非尼片快速指认和水分含量预测 .....	梁雪, 秦斌, 殷果, 庄莹, 陈静丽, 闫研	57

### 环保与节能

农业科研单位实验室危险废弃物的安全管理 .....	麻旭普, 张培, 崔林, 付新成, 付海龙	61
环境科学实验室废液“绿色化”管理探索与实践 .....	吴岩, 杜立宇, 肖亦农, 党秀丽, 王展, 邹洪涛	64
长三角地区工业碳排放效率时空特征分析 .....	王芳利	67
固定污染源排污登记管理中存在的问题及建议 .....	孙亚刚, 刘宇春, 解梦怡, 王博通, 张锦飞, 刘涛, 袁芳, 李强强	71

### 技术与信息

RBI技术在大型液硫罐区的应用 .....	术阿杰	77
海上油田鱼骨刺多分支水平井钻井关键技术及应用 .....	李世举, 卢昌, 夏竹君, 曹鹏飞, 李朝	81
海底混输管道GSPU湿式保温技术与应用 .....	押延宁	84
随钻核磁共振技术在深层水平井地质导向中的应用 .....	邓超, 龚一顺, 夏竹君, 姚振河, 曹鹏飞, 谢瑞永	88

# 目次

---

乳液分流酸化技术影响因素 .....	刘洋, 宋作磊, 李军, 甄宝生, 赵磊, 单胜杰	92
危险化学品重大危险源辨识分级系统V1.0的研究与实现 .....	姚丹丹	96
MATLAB软件在离心泵性能曲线测定实验数据处理中的应用 .....	邢隆飞, 张越, 于海英, 郝俊生	100

## 安全管理

高校基础化学实验教学中药品使用的问题及对策 .....	许杪, 黄雪英	106
煤化工企业技改项目施工安全管理剖析 .....	马鹏举	109
石油化工项目中储罐有限空间安全管理 .....	张灵华	113
2019—2022年工贸企业危险化学品使用事故分析及防范措施 .....	刘伟	117

## 设备运维

芳烃联合装置重沸炉烘炉新方法工业实践 .....	李宏恩	122
定向射孔作业后BCPM2损坏原因分析 .....	吕焕军, 张耿浩, 燕欢庆	125
有机硅生产设备防护设计 .....	华绍武, 于海鹰, 王富军	128
脱硝系统均匀性优化方案研究 .....	吴学斌, 王轶, 樊雄飞, 顾超, 伍力拓	132
探究基于RFID芯片的包胶橡胶传送带制备方法 .....	孔德松, 李强, 焦清伟, 沈玉海	137

## 工艺管控

一氧化碳羰化偶联合成草酸二甲酯生产工艺特点及过程控制 .....	万乾德	141
LNG接收站槽车储罐余气回收工艺分析 .....	殷先平, 余伟, 付海泉, 周彬	144
利用碳素铬铁结晶提纯制备铁铬电解液的研究 .....	周小江, 车莹, 华蔓, 杨合雄, 宋德生, 肖晋宜	147
集流体在锂电池中的研究进展和应用 .....	王臣, 袁美蓉, 马茵婷	151
4-氯乙酰乙酸乙酯的连续合成工艺 .....	沈介发, 陈代祥, 马晓明, 辜顺林	156

## 工程与施工

一种钻屑处置配套的钻井平台改造方法探讨 .....	范永刚, 岳明, 张启龙, 张春芳, 齐琳	162
职业本科高校制药专业现代虚拟仿真实训中心的建设 .....	徐雪峰, 代德财, 张玉, 闫浩, 杜金凤	165

# CONTENTS

## Management Strategy

- Concept of Accident Free and Injury Free Safety Management in Chemical Enterprises .....LI Jie 1  
Construction of Safety Management Culture in the Engineering Field.....LI Mingyu, MA Xiujian, MA Yuan 4

## Personnel Culturing

- Talent Cultivation System based on Engineering Education Philosophy  
..... ZHANG Yunfei, LYU Xiaomei, ZHANG Shuting, LI Lei, LI Yanliang, HU Junjie 7  
Exploration on Practical Teaching of Chemical Engineering Specialty in Higher Vocational Colleges under the Concept  
of Responsible Care ..... GONG Zhankui, ZHAO Lijuan, CHEN Xingyi 11  
Importance of Offering the Course of Engineering Chemistry in the Context of Education  
.....LI Xuemei, SONG Jiang, MENG Haitao, GUO Qin, LI Shouzhu 15  
Research and Practice on the “Curriculum Ideological and Political” Education Model of Chemical Technology  
Majors in Higher Vocational Education ..... LIU Lixin 19  
Design and Teaching Experience of the Experimental Course of Step Polymerization in Polymer Chemistry  
..... WANG Chenyi, ZHAO Xiaoyan, QI Yanli 23  
Exploration and Practice of the “Mineral Processing-metallurgy-materials” Mode of Cross-discipline for Innovative  
Talents Cultivation .....HAN Junwei, QIN Wenqing 27  
Teaching Reform and Practice of Water Pollution Control Engineering Course Design based on Serving the Petrochemical  
Industry ..... ZHU Xiaobiao, HU Xiang, YUAN Rongping, ZHANG Tingting 32  
Exploration and Practice of Integrating Labor Education into Experimental Teaching of Petrochemical Engineering Major  
..... ZHAO Licui, ZHANG Yu, MA Pinghua, ZHENG Liming 35  
Research on Practical Teaching of Measurement and Control Engineering Majors Guided by Engineering Application  
Ability ..... DU Qingqing, HOU Zhiwei, CHEN Peng, LI Zhen 40

## Quality and Testing

- Comparative on the Phosphorus Removal Effect of Four Different Phosphorus Removal Agents on High Concentration  
Phosphorus Containing Wastewater..... WANG Sha 47  
Differential Analysis of Cytotoxicity Methods for Synthetic Resin Materials  
..... ZHONG Wenyu, HUANG Hongrong, YANG Anran, KONG Yiran, LIN Zhongshi 50  
Research on the Effect of Polybutadiene Content on Impact Resistance Effect of MBS Impact Resistance  
.....LI Zhisong, HE Menghua, LI Yanfang, ZHENG Xianwei, YU Hualin 53  
Rapid Identification and Prediction of Water Content of Sorafenib Tosylate Tablets based on Near Infrared Spectroscopy  
..... LIANG Xue, QIN Bin, YIN Guo, ZHUANG Ying, CHEN Jingli, YAN Yan 57

## Environmental Protection and Energy Saving

- Safety Management of Hazardous Waste in Laboratories of Agricultural Scientific Research Institution  
.....MA Xupu, ZHANG Pei, CUI Lin, FU Xincheng, FU Hailong 61  
Exploration and Practice of “Green” Management of Waste Liquid in Environmental Science Laboratory  
..... WU Yan, DU Liyu, XIAO Yinong, DANG Xiuli, WANG Zhan, ZOU Hongtao 64  
Spatio-temporal Characteristic Analysis of Industrial Carbon Emission Efficiency in Yangtze River Delta  
..... WANG Fangli 67  
Problems and Suggestions in the Registration and Management of Fixed Pollution Source Pollutant Discharge  
..... SUN Yagang, LIU Yuchun, XIE Mengyi, WANG Botong, ZHANG Jinfei, LIU Tao, YUAN Fang, LI Qiangqiang 71

## Technology and Information

- Application of RBI Technology in Large Liquid Sulfur Tank Farm ..... SHU Ajie 77

# CONTENTS

---

Key Technologies and Applications of Fishbone Spur Multi-branch Horizontal Well Drilling in Offshore Oilfields .....	LI Shiju, LU Chang, XIA Zhujun, CAO Pengfei, LI Zhao	81
Application of GSPU Wet Insulation Technology in Submarine Mixed Transport Pipeline .....	YA Yanning	84
Application of Nuclear Magnetic Resonance While Drilling Technology in Geological Steering of Deep Horizontal Wells .....	DENG Chao, GONG Yishun, XIA Zhujun, YAO Zhenhe, CAO Pengfei, XIE Ruiyong	88
Influence Factors of Emulsion Diversion Acidification Technology .....	LIU Yang, SONG Zuolei, LI Jun, ZHEN Baosheng, ZHAO Lei, SHAN Shengjie	92
Research and Implementation of Identification and Classification System V1.0 based on Major Hazard Installations of Hazardous Chemicals .....	YAO Dandan	96
Application of MATLAB Software in Measurement Experimental Data Processing of Centrifugal Pump Characteristic Curve .....	XING Longfei, ZHANG Yue, YU Haiying, HAO Junsheng	100

## Safety Management

Problems and Countermeasures on the Use of Chemicals in Basic Chemistry Experimental Teaching in Universities .....	XU Miao, HUANG Xueying	106
Analysis on Construction Safety Management of Technical Modification Projects in Coal Chemical Enterprises .....	MA Pengju	109
Safety Management of Confined Space of Storage Tank in Petrochemical Project.....	ZHANG Linghua	113
Analysis and Prevention Measures of Hazardous Chemical Usage Accidents in Industrial and Trade Enterprises from 2019 to 2022.....	LIU Wei	117

## Equipment Operation and Maintenance

Industrial Practice of a New Method for Drying the Reboiler Furnace in Aromatic Hydrocarbon Joint Plant.....	LI Hongen	122
Analysis of the Cause of BCPM2 Fault after Directional Perforation Operation .....	LYU Huanjun, ZHANG Genghao, YAN Huanqing	125
Protective Design of Organic Silicon Production Equipment .....	HUA Shaowu, YU Haiying, WANG Fujun	128
Research on Optimization for Uniformity of Denitration System .....	WU Xuebin, WANG Yi, FAN Xiongfei, GU Chao, WU Lituo	132
Explore the Preparation Method of Rubber-coated Rubber Conveyor Belt based on RFID Chip .....	KONG Desong, LI Qiang, JIAO Qingwei, SHEN Yuhai	137

## Process Control

Production Process Characteristics and Process Control of Dimethyl Oxalate by Carbonylation Coupling of Carbon Monoxide .....	WAN Qiande	141
Analysis on the Recovery Process of Residual Gas from Tank Car Storage Tank in LNG Receiving Stations .....	YIN Xianping, YU Wei, FU Haiquan, ZHOU Bin	144
Study on Preparation of Iron Chromium Electrolyte by Crystallization Purification of Carbon Chromium Iron .....	ZHOU Xiaojiang, CHE Ying, HUA Man, YANG Hexiong, SONG Desheng, XIAO Jinyi	147
Research Progress and Application of Current Collectors in Lithium-ion Batteries .....	WANG Chen, YUAN Meirong, MA Yinting	151
Continuous Synthesis Process of Ethyl 4-Chloroacetoacetate.....	SHEN Jiefa, CHEN Daixiang, MA Xiaoming, GU Shunlin	156

## Engineering and Construction

Discussion on A Method for Transforming Drilling Platforms for Drilling Cuttings Treatment .....	FAN Yonggang, YUE Ming, ZHANG Qilong, ZHANG Chunfang, QI Lin	162
Construction of Modern Virtual Simulation Practical Training Center for Pharmaceutical Majors in Vocational Undergraduate Universities.....	XU Xuefeng, DAI Decai, ZHANG Yu, YAN Hao, DU Jinfeng	165