

管理方略

加强油田安全文化建设的路径探索	张爽, 徐忆哲, 关文雯	1
石油化工生产设备全生命周期数字化转型研究	李涛	5
基于领域建模的炼化数字孪生建模与自然语言交互的研究	吕昊旻	9
基于管理熵理论的煤化工企业降本提效研究	冷军, 李顺常, 李海青	13

人才培养

材料基础化学课程思政三维开发模型构建与教学实践	余霁雯, 王芸, 胡晓熙, 赵贺楠, 李春兴, 沈俊尧	18
基于小专题和翻转课堂的结构化学课程思政设计与实践	李桂花, 于淑媛, 王福萍, 秦聪丽	22
“三全育人”视域下药理化学课程思政体系的构建研究	宋健	26

质量与检测

超声提取-ICP-OES法测定石灰性土壤中交换性钾、钠、钙、镁	郭春焕, 李俊洁, 王昊, 熊玉宝	30
X射线荧光法快速测定生石灰粉中多种氧化物含量研究	张书凡	34

技术与信息

高效化学粉末压制成型技术在树脂基复合材料制备中的应用	周易	38
化工新材料研发中无机有机复合凝胶界面相容性技术应用	段成林, 周燕燕	43
CO ₂ 在低温甲醇洗过程中的溶解行为与脱除机理分析	郝文浩, 张小玲	47
面向节能减排的甲醇制烯烃工艺系统改进研究	季磊, 李雪民, 刘正宇	51
石油化工企业安全管理信息化的实践应用	王长庚, 张衷译, 曹磊	55
基于传感技术的实验室应急响应系统设计 with 实现	荆利青	59

安全管理

精细化工生产过程中的安全风险评估与预防措施研究	袁小群	63
石油化工企业生产安全事故应急管理体系构建研究	关文雯, 徐忆哲, 王长庚	67
基于HAZOP的化工过程危险识别与改进措施	卜凡昕, 赵曙光	71
新型阻燃材料在化工火灾防控中的应用性能评估	刘书华, 赵雪刚	75
危化品装卸作业中静电引发火灾防控技术研究	章征祥	79
浅谈化工园区公共管廊安全管理的现状和提升路线	于世震	83
原油仓储罐区安全生产一体化管理平台的建设和运用研究	张俊	87
化工厂燃料气体泄漏快速检测与应急控制技术研究	李晓鹏, 周心龙	91
先进报警管理系统对宁煤安全生产的积极影响	李强	95

目次

设备运维

基于DCS系统的化工装置运行稳定性诊断与优化控制研究	洪哲龙	100
海洋石油平台开关柜机械联锁结构设计与应用	李志瑶	104
海洋石油防爆电气设备应用研究	左方晨	108

工艺管控

渤海油田某处理厂提高天然气凝液回收率精益管理实践	王雄武	112
微通道连续流中酯化反应动力学及绿色工艺放大研究	陈孚怡	116
甲醇制烯烃工艺中轻烯烃选择性提升策略探讨	李雪民, 刘正宇, 季磊	120
拟除虫菊酯类杀虫剂中间体的简易合成与表征研究	刘宏伟	124
基于SAPO-34分子筛的甲醇制烯烃工艺优化分析	刘正宇, 季磊, 李雪民	128
均苯四甲酸二酐合成工艺优化及反应机理研究	石春明, 孙赵, 王健华, 张锦凤	132
化学水处理中离子交换树脂交换特性研究	李宁	136
异硫氰酸烯丙酯水乳剂在不同pH条件下的稳定性评价	李小梅, 程晓兵, 王玉, 马豪杰	140
基于HAZOP的油气储运工艺系统危险性分析	杨添宇	144

工程与施工

深海复杂地质条件下石油钻探风险评估与防控体系构建	唐尧	148
吴起油田B油区长4+5注水效果分析及调整方案	乔宝霞	152
核磁测井技术在低孔渗储层孔隙结构分析的应用	吴帆, 吴乐军	156
苏北盆地溱潼凹陷页岩油开发实践	王波, 李新	160
埕岛中心三号平台油气集输系统运行问题分析与优化改造	向绍宏	165

彩页说明

彩页1——关于组织申报“2026年全国农化服务创新成果”的通知
彩页2——关于组织申报第十九届全国石油和化工企业管理创新成果的通知
彩页3——第二十四届中国国际橡胶技术展览会
彩页4——《化工管理》征稿简则简版
彩页5——2026年《化工管理》增刊征稿函
彩页6——《化工管理》严正声明

补白

五环承建印尼巨港项目主变电站受电(139)

CONTENTS

Management Strategy

- Exploring pathways for strengthening safety culture construction in oil fields
..... ZHANG Shuang, XU Yizhe, GUAN Wenwen 1
- Research on digital transformation of petrochemical production equipment throughout the entire life cycle..... LI Tao 5
- Research on digital twin modeling and natural language interaction of refining and chemical industry based on domain modeling LYU Haomin 9
- Research on cost reduction and efficiency improvement of coal chemical enterprises based on management entropy theory
..... LENG Jun, LI Shunchang, LI Haiqing 13

Personnel Culturing

- Construction of a three-dimensional development model for ideological and political education in the course of basic chemistry of materials and teaching practice YU Aiwen, WANG Yun, HU Xiaoxi, ZHAO Henan, LI Chunxing, SHEN Junyao 18
- Design and practice of ideological and political education in structural chemistry course based on small thematic teaching and flipped classroom LI Guihua, YU Shuyuan, WANG Fuping, QIN Congli 22
- Research on the construction of ideological and political education system of pharmaceutical chemistry course from the perspective of “three-complete education” SONG Jian 26

Quality and Testing

- Determination of exchangeable potassium, sodium, calcium and magnesium contents in calcareous soil by ultrasonic extraction-ICP-OES method GUO Chunhuan, LI Junjie, WANG Hao, XIONG Yubao 30
- Study on rapid determination of various oxides in quicklime powder by X-ray fluorescence spectrometry
..... ZHANG Shufan 34

Technology and Information

- Application of efficient chemical powder compression molding technology in the preparation of resin-based composite materials ZHOU Yi 38
- Application of inorganic organic composite gel interfacial compatibility technology in the research and development of new chemical materials DUAN Chenglin, ZHOU Yanyan 43
- Analysis of the dissolution behavior and removal mechanism of CO₂ during low-temperature methanol washing
..... HAO Wenhao, ZHANG Xiaoling 47
- Research on the improvement of methanol-to-olefins process system for energy conservation and emission reduction
..... JI Lei, LI Xuemin, LIU Zhengyu 51
- Information technology application in safety management of petrochemical enterprises
..... WANG Changgeng, ZHANG Zhongyi, CAO Lei 55
- Design and implementation of laboratory emergency response system based on sensor technology JING Liqing 59

Safety Management

- Research on safety risk assessment and preventive measures in fine chemical production process YUAN Xiaoqun 63
- Research on the construction of emergency management system for production safety accidents in petrochemical enterprises GUAN Wenwen, XU Yizhe, WANG Changgeng 67
- Hazard identification and improvement measures in chemical processes based on HAZOP
..... BU Fanxin, ZHAO Shuguang 71

CONTENTS

Application performance evaluation of new flame retardant materials in chemical fire prevention and control	LIU Shuhua, ZHAO Xuegang	75
Research on fire prevention and control technology caused by static electricity in hazardous chemical loading and unloading operations.....	ZHANG Zhengxiang	79
A brief discussion on the current situation and improvement routes of public utility tunnel safety management in chemical industrial parks.....	YU Shizhen	83
Research on the construction and application of an integrated safety production management platform for crude oil storage tank farms.....	ZHANG Jun	87
Research on rapid detection and emergency control technology for fuel gas leakage in chemical plants	LI Xiaopeng, ZHOU Xinlong	91
Positive impact of advanced alarm management systems on the safe production of Ningxia coal industry	LI Qiang	95

Equipment Operation and Maintenance

Research on diagnosis and optimal control of operational stability of chemical plants based on DCS system	HONG Zhelong	100
Design and application of mechanical interlocking structure for offshore oil platform switchgear	LI Zhiyao	104
Research on the application of offshore oil explosion-proof electrical equipment	ZUO Fangchen	108

Process Control

Lean management practice for improving natural gas condensate recovery rate in a treatment plant of Bohai oilfield	WANG Xiongwu	112
Kinetics of esterification reaction in microchannel continuous flow and green process scale-up study	CHEN Fuyi	116
Discussion on strategies for enhancing the selectivity of light olefins in methanol-to-olefins processes	LI Xuemin, LIU Zhengyu, JI Lei	120
Study on the simple synthesis and characterization of intermediates for pyrethroid insecticides	LIU Hongwei	124
Optimization analysis of methanol-olefin production process based on SAPO-34 molecular sieve	LIU Zhengyu, JI Lei, LI Xuemin	128
Optimisation of the synthesis process and study of the reaction mechanism for tetraphthalic anhydride	SHI Chunming, SUN Zhao, WANG Jianhua, ZHANG Jinfeng	132
Study on ion exchange characteristics of resins in chemical water treatment	LI Ning	136
Evaluation of the stability of allyl isothiocyanate emulsion under different pH conditions	LI Xiaomei, CHENG Xiaobing, WANG Yu, MA Haojie	140
Hazard analysis of oil and gas storage and transportation process system based on HAZOP.....	YANG Tianyu	144

Engineering and Construction

Construction of risk assessment and prevention system for oil drilling under complex geological conditions in deep sea	TANG Yao	148
Analysis and adjustment plan for water injection effect of Chang 4+5 in block B of Wuqi oilfield	QIAO Baoxia	152
Application of NMR logging technology in pore structure characterization for low-porosity-low-permeability reservoirs	WU Fan, WU Lejun	156
Shale oil development practice in Qintong sag of Subei basin.....	WANG Bo, LI Xin	160
Analysis on operation problems and optimization of oil and gas gathering and transportation system of Chengdao central No.3 platform	XIANG Shaohong	165