

# 广东化工

# 目次

Guangdong Chemical Industry

第38卷 第5期 总第217期

1974年创刊 (月刊)

刊号 ISSN 1007-1865  
CN 44-1238/TQ

- 全国石油与化工行业优秀期刊
- 高、中级化工职称资格评审认定刊物
- 中国核心期刊(遴选)数据库收录期刊

主 管: 广东省广远石油化工有限公司

主 办: 广东省石油化工研究院

社 长: 麦裕良

主 编: 邹思民

出版发行: 《广东化工》编辑部

发行范围: 国内外公开发行

地 址: 广州市越秀区越华路116号

邮 编: 510034

电话/传真: (020) 83302517 83336009

在线投稿: <http://www.gdchem.com>

电子邮箱: [gdcic200@163.com](mailto:gdcic200@163.com)

广告经营许可证号: 440000100138

印 刷: 广东省教育厅教育印刷厂

订 购: 全国各地邮局、所

邮发代号: 46-211

出版日期: 2011年5月25日

邮局全年定价:

国内 240 元

国外 192 美元

万方数据

## ◆ 专稿

1 含溴工业杀菌剂概述 顾学斌

## ◆ 专论与综述

- 5 多溴联苯醚(PBDEs)的降解技术研究进展 孙云娜, 魏东洋, 李杰, 等
- 7 磺酸系 Gemini 表面活性剂的研究进展 叶俊, 华平, 方略韬
- 9 ABS 树脂阻燃技术的研究进展 柳乐仙, 唐宇航, 柳志学, 等
- 11 升温型吸收式热泵吸收器强化传热传质研究进展 郭俊, 方书起
- 13 生物质的研究进展 屈叶青, 朱小顺, 罗晓霞
- 15 焦炉煤气综合回收利用 蒋善勇, 张凯, 胡祥训, 等
- 16 裂解 C9 资源研究进展 谢美妮, 梁越, 谭宁梅
- 18 加氢柴油精密蒸馏工艺生产 10#变压器油 麦艺瀚
- 20 低温制氮技术中氧含量的控制 何冰清, 朱腾华, 陈甫华, 等
- 22 石油化工行业节能策略及在间歇式本体法聚丙烯工艺中的应用 邓涛
- 24 浅谈硫酸生产中的安全 郭华锋
- 26 皮革浸灰剂的研究现状 汤小燕, 李少清, 缪飞, 等
- 28 循环水水质恶化的原因分析及对策 王林峰, 齐辉, 余光勇, 等
- 30 催化裂解制低碳烯烃的研究及工业应用 董国辉, 许凌子, 王珠海, 等
- 31 共振介质中极化强度的经典振子描述 王干金, 成方, 周建英
- 33 有机/高分子光诱导电荷转移材料研究 白金瑞, 虞大红, 王燕
- 36 甲醇氧化电催化剂的理论研究 杨红梅, 曹红翠
- 39 燃煤固硫剂研究进展 张晓宇, 薛守洪
- 40 洗油精细加工现状与绿色分离过程开发 何选明, 张连斌, 潘琛, 等
- 42 碳纳米管纳米复合材料的现状及问题 张丽, 赫玉欣
- 44 广东省钢管件产品质量监督抽查结果分析与建议 丁二喜, 吴继权, 谢常欢
- 46 DOW 分析法在原油罐区安全评估中的应用浅谈 赵承建
- 48 浅谈涂装的日常工艺管理 柳清凉
- 50 药用植物内生真菌及其生物活性物质研究概况 梁卉, 李联萍, 欧阳敏, 等
- 52 超临界流体技术在分离工程领域中的应用 杜昕芳
- 54 乳酸及其低碳醇酯脱水合成丙烯酸(酯)的催化剂研究进展 李新利, 唐聪明, 王斌

## ◆ 试验与研究

- 57 迷宫螺旋泵水煤浆输送的 CFD 模拟及其内部磨损的初步探讨 王翠, 张有忱, 黎镜中
- 60 增塑剂 PC 掺杂(PEO)<sub>n</sub>-LiClO<sub>4</sub>-SiO<sub>2</sub> 电解质体系的性能研究 李云, 于涛, 毕孝国, 等
- 62 复合载体 Ni 催化剂乙醇水蒸气重整制氢研究 张鹏, 刘利平, 马晓建
- 65 五羰基铁雾化-热分解-氧化合成氧化铁纳米粒子 王行展, 张宝林
- 67 层状铋基复合氧化物固体酸及其醋酸正丁醇酯化的催化活性 唐元, 何杰, 张忠良, 等
- 69 三种絮凝剂除藻效果的比较 赵莉莉, 刘文静, 何贤珍, 等
- 72 响应面优化氨水浸提棉籽蛋白的研究 李梅红, 翁连进, 韩媛媛, 等
- 75 江西弋阳蛇纹石硫酸浸出过程工艺条件的优化研究 杨保俊, 徐玉娟, 王百年
- 77 雪莲果低聚果糖提取物的树脂脱色工艺条件优化 游懿, 魏建科, 蔡安亮, 等
- 79 低变质粉煤热解过程研究 马冬妮, 宋永辉, 李亮, 等
- 81 进口优势菌的启动研究 赵爱华, 张小娟, 李杰
- 83 球状硫化镍的制备及表征 李纯洁, 陶菲菲, 吴秋霞, 等
- 85 一种新型镍-顺丁烯二酸酐配合物的制备与性质研究 李明田, 柯瑞嵩
- 87 水杨酸铵法制备邻羟基苯甲腈的研究 李文青, 蔡照胜
- 89 Gemini 表面活性剂溶液的胶束聚集数研究 李万鑫, 李振兴, 张根成, 等
- 91 1,6-六亚甲基-2-异氰酸酯的绿色合成 刘玉华, 田恒水, 张海群
- 93 聚丙烯固相接枝改性研究 高新, 李飞, 范冬艳
- 95 TCMTB 造纸杀菌剂的研究与应用 赵天翼, 黄奇然, 李少清, 等
- 97 气液两相管道中的瞬态流动及滑管操作模型 孔冬梅
- 100 一种聚羧酸系减水剂大单体 MPEGMA 及掺入水泥的研究 周忠群, 申迎华, 陈小江, 等
- 102 响应面法优化凝胶型有机膨润土制备工艺 周海, 左黎明, 江俊, 等
- 105 N-甘氨酸基马来酰胺接枝改性聚丙烯探究 吕志平, 朱兴芳, 王文杰, 等
- 107 NiO-MoO<sub>3</sub>-TiO<sub>2</sub>/Al<sub>2</sub>O<sub>3</sub> 溶剂油脱芳烃催化剂的制备魏科年, 林西平, 关媛
- 109 氟仿萃取糠醇的模拟设计研究 卢肇麟, 苏裕清, 殷舟, 等
- 111 抗静电剂对软包装薄膜应用性能的影响 王海平, 朱新生
- 113 硅/氧化硅/锡/碳锂离子电池负极复合材料制备及电化学性能 马成海, 高立军

- 115 二种非离子表面活性剂对钢架除锈剂缓蚀效果的影响  
徐平如, 罗群, 梁志辉, 等
- 117 溶胶-凝胶法合成掺锡硼酸钙荧光粉及其表征  
李岚
- 119 三叶鬼针草总黄酮的分离纯化工艺研究  
江海霞, 赵海
- 121 羟基磷灰石对水溶液中锌离子的吸附动力学研究  
汪华明, 薛幼江
- 123 2',3',5'-三乙酰肌苷的电位滴定  
李建军, 黄永端, 龚美义
- 125 最优回归设计在美拉德反应研究中的应用  
孙凤玲, 蔡妙颜
- 127 BYB1001 渗型古砖保护液的施工性能研究  
傅英毅, 杜慧茹, 陈芳
- 129 不同阴离子度聚丙烯酰胺与硫酸铝协同作用对煤泥水沉降处理效果的实验研究  
夏仁专
- 131 存在非均匀内热源的多孔介质内自然对流传热传质的数值研究  
李贤宇, 李栋
- 133 凹凸棒土的有机表面改性  
李隽
- 135 氯乙稀缩过程的模拟及优化  
刘兵, 张玉宁
- 137 高压脉冲电场破乳的影响因素探讨  
王尚文, 李巍, 张浩, 等

◆ 合成化学

- 139 两个新型联吡啶类化合物的合成以及表征  
王道龙, 王霖霖, 李冠君, 等
- 141 环氧乙烷氢酯基化法合成 3-羟基丙酸甲酯的研究  
刘春杰, 陈小华, 常瑜, 等
- 143 新型亲水性柔软剂的合成及应用  
胡静, 姚方
- 144 选择性胆固醇吸收抑制剂-依泽替米贝的合成工艺改进  
刘毓宏, 徐亮, 黄铁强, 等
- 146 二(异硫氰)二(三苯基膦)合镍(II)的合成与结构表征  
陈林
- 148 N-(3-环己烯-1-基甲基)-4-氨基吡啶的合成  
叶连宝, 欧小敏, 罗艳
- 149 N,N'-二乙基-2(α-萘氧基)丙酰胺的合成和拆分  
李晋, 朱开究, 谢顶彩
- 151 聚碳酸亚内酯多元醇聚氨酯的绿色合成  
张学舟, 田恒水, 潘冬冬

◆ 环境保护

- 153 石油化工污水处理场恶臭气体治理方案选择  
刘涛
- 155 微电解工艺处理印染废水的研究  
武秀文, 徐平如, 王历申
- 157 景观水体观污染成因分析  
于玉彬, 黄勇
- 159 改性玉米秸秆吸附处理含氨氮养猪废水  
阳维薇, 王中琪
- 161 城市污泥掺入煤粉配制新型煤泥可行性研究  
谭木娣, 孙创奇, 林枫, 等
- 163 混凝法深度处理城市二级出水技术研究  
陈真贤
- 165 以“蚯蚓粪-炭”为渗滤介质去除洗衣污水中的 LAS 的研究  
郑华章, 蔡凡平, 杨超跌, 等
- 167 臭氧氧化法处理硝基苯废水实验研究  
苏彤, 柴骏, 范铮
- 169 某食品厂废水资源化处理工程应用  
姚磊, 卢斌, 周朝阳, 等
- 171 三维电极反应器降解含酚废水研究  
陈建欣, 朱胜男, 陈婷
- 173 浅谈餐饮废水处理技术进展  
刘小艳, 李雅婕
- 175 MAP 法处理高浓度氨氮老龄垃圾渗滤液研究  
李国生, 颜杰, 李红, 等
- 178 稀土/臭氧联合处理印染废水的研究  
邵佳, 刘勇健
- 180 正交实验优化线路板废水处理效率的最佳条件  
苏志权
- 182 造纸废水处理技术与研究进展  
李宝义
- 184 深圳主要水源地水质总氮超标研究与治理对策  
费世东, 孙艳林
- 187 预热 ATAD 工艺处理市政污泥工程  
王成军
- 188 内陆核电站循环冷却水处理方案的研究  
张藏, 林建中
- 191 电厂烟气脱硫石膏和粉煤灰综合利用可行性分析  
陈林业
- 193 Fenton 氧化-水解酸化-SBR 组合工艺处理高浓度有机废水工程实例  
王明健
- 194 超声技术降解苯酚废水实验设计  
刘学方, 孔黎明

◆ 分析测试

- 196 聚丙烯熔体流动指数测试与分析  
张声春, 陈正年, 寇波, 等
- 197 正硅酸乙酯溶胶-凝胶行为的超声波原位监测研究  
钟群英, 袁文斌, 金国梁, 等
- 199 显色光度法测药物中的抗坏血酸含量  
王凤翔, 郭红梅
- 201 芹菜叶中黄酮类化合物的提取与测定  
张洪杰, 李小吉
- 203 蔬菜水果中硝酸盐与亚硝酸盐的测定及其储藏过程中的含量变化  
陈洪伟, 曹晓红, 罗群, 等
- 205 葡萄糖催化氧化产物分光光度法测定与碘量法残糖量测定的比较  
李品将, 张艳鸽
- 207 微波消解-原子吸收光谱法测定葛粉中的微量元素  
唐赤, 段敏, 雷存喜
- 209 气相色谱-质谱联用法测定漆膜中邻苯二甲酸酯类化合物  
谢月亮, 沈洪涛, 李思源, 等
- 211 同时分离与测定鸡血中的五种喹诺酮药物的高效液相色谱法研究  
刘平, 李安运, 陈星斌, 等
- 213 原料乳及乳制品中三聚氰胺的快速测定  
高平, 胡琼予, 黄国方, 等
- 215 乙酰丙酮法测定玩具中甲醛的前处理方式探讨  
陈晓红, 陈泽平
- 216 主成分分析法在卷烟质量评价中的应用  
张慧筠, 王玉胜, 陈玉筠
- 218 海水 COD 测定方法的现状和研究进展  
吴碧玉, 黄文虹
- 220 反相高效液相色谱法测定生活饮用水中的西维因  
舒艺, 彭虹
- 221 压片法 X 射线荧光光谱在测定铁矿石组分上的应用  
张辉
- 224 易制毒化学品管理与检测  
丘燕

- P5 多溴联苯醚(PBDEs)的降解技术研究进展
- P7 磺酸系 Gemini 表面活性剂的研究进展
- P9 ABS 树脂阻燃技术的研究进展
- P11 升温型吸收式热泵吸收器强化传热传质研究进展
- P13 生物质的研究进展
- P15 焦炉煤气综合回收利用
- P60 增塑剂 PC 掺杂(PEO)<sub>8</sub>-LiClO<sub>4</sub>-SiO<sub>2</sub> 电解质体系的性能研究
- P62 复合载体 Ni 催化剂乙醇水蒸气重整制氢研究
- P65 五羧基铁雾化-热分解-氧化合成氧化铁纳米粒子
- P67 层状铝基复合氧化物固体酸及其醋酸正丁醇酯化的催化活性
- P69 三种絮凝剂除藻效果的比较
- P72 响应面优化氨水浸提棉籽蛋白的研究
- P75 江西弋阳蛇纹石硫酸浸出过程工艺条件的优化研究
- P77 雪莲果低聚果糖提取物的树脂脱色工艺条件优化
- P79 低变质粉煤热解过程研究
- P81 进口优势菌的启动研究
- P83 球状硫化镍的制备及表征
- P85 一种新型镍-顺丁烯二酸混配配合物的制备与性质研究
- P87 水杨酸铵法制备邻羟基苯甲腈的研究
- P89 Gemini 表面活性剂溶液的胶束聚集数研究
- P139 两个新型联吡啶类化合物的合成以及表征
- P141 环氧乙烷氢酯基化法合成 3-羟基丙酸甲酯的研究
- P143 新型亲水性柔软剂的合成及应用
- P144 选择性胆固醇吸收抑制剂-依泽替米贝的合成工艺改进
- P155 微电解工艺处理印染废水的研究
- P157 景观水体观污染成因分析
- P159 改性玉米秸秆吸附处理含氨氮养猪废水
- P205 葡萄糖催化氧化产物分光光度法测定与碘量法残糖量测定的比较
- P249 材料科学与工程专业无机与分析化学教学改革探索
- P250 高职院校工科专业学生实践能力培养探讨
- P254 化工热力学剩余性质推导
- P255 在本科有机化学实验中培养学生的科研与创新能力的研究与探索
- P256 TRIZ 理论九屏幕法应用于大学生科研立项的改革探析
- P258 工程热力学课程教学方法的探讨与实践
- P259 物理化学实验考核评价体系的探索与改革
- P260 化学制药工艺学实验教学内容建设与学生素质培养
- P262 新建地方本科院校生物化工专业实习体系的构建
- P264 有机化学精品课程建设促进研究性教学实施研究
- P265 以教学创新培养学生创新能力——《生物分离工程》教学改革与探索心得
- P267 功能高分子材料课程教学改革的思考
- P268 环境工程专业开设《环保产业与职业》课程的探索与实践
- P270 节能减排与高分子材料加工专业教学改革
- P271 高职有机化学教学中培养学生专业技能的研究

## 设计与装备

- 226 对管道工程进度的纠偏 颜汉波  
228 基于 ANSYS 的旋合卡箍式封头优化设计 潘锦泰, 李国成  
230 储罐焊接中防止变形的一些建议 张志军, 刘洋, 付群, 等  
232 管内非饱和蒸发与水膜分布实验研究 赵强  
234 硫酸厂冷却塔缺水超温自动保护系统技术改造 高翔慧  
236 锅炉机组四管泄漏原因分析及防治措施 杨国谋  
238 事故状态下 1-丁烯储罐倒料作业的实践 张威武, 宋煜龙  
239 硫磺回收装置自动包装机控制系统的实现 夏玉萍  
241 SD-822 中和缓蚀剂在常压装置中的应用 乔治才, 张生财, 陈晓东, 等  
243 石油天然气工程安全阀选型与热泄放计算 赵来会, 陈小宁  
245 汽车阻尼片生产线冷却成型工艺及设备的设计及运行 王树江, 张洪刚, 尹丽  
247 储罐材料概预算关键点的研究 周地

## 经验交流

- 249 材料科学与工程专业无机与分析化学教学改革探索 李海红, 杜伟, 孙学勤, 等  
250 高师院校工科专业学生实践能力培养探讨 杨性坤, 江伟静  
252 基于工作过程的《环境监测》课程开发 张丽, 吴志敏  
254 化工热力学剩余性质推导 胡光辉, 潘湛昌, 魏志钢  
255 在本科有机化学实验中培养学生的科研与创新能力的研究与探索 彭东明, 王福东, 彭彩云, 等  
256 TRIZ 理论“九屏幕法”应用于大学生科研立项的改革探索 许俊强, 赵清华, 邹姝妹, 等  
258 工程热力学课程教学方法的探讨与实践 刘曦, 李学来, 许巧玲, 等  
259 物理化学实验考核评价体系的探索与改革 赵晓君, 李晶莹, 李喜兰, 等  
260 化学制药工艺学实验教学内容建设与学生素质培养 罗容珍, 杜怀明, 张利, 等  
262 新建地方本科院校生物化工专业实习体系的构建 曾小颀  
264 有机化学精品课程建设促进研究性教学实施研究 郁有祝, 郭玉华  
265 以教学创新培养学生创新能力——《生物分离工程》教学改革与探索心得 王桃云, 胡翠英, 顾华杰, 等  
267 功能高分子材料课程教学改革的思考 齐民华  
268 环境工程专业开设《环保产业与职业》课程的探索与实践 杨艳琴, 任屹罡, 牛晓霞, 等  
270 节能减排与高分子材料加工专业教学改革 马立波  
271 高职有机化学教学中培养学生专业技能的探究 杨铭  
273 基础化学实验开放研究式教学可行性分析 唐仕明  
275 多媒体在绿色化学教学中的应用 张萍波, 蒋平平  
276 制药工程专业药理学理论课教学改革探索 常勇慧, 宋鑫明, 陈光英  
278 分析化学前沿讲座与大学生创新能力培养的探讨 杜甫佑, 阮贵华, 张云, 等  
280 环境影响评价课程中案例教学的研究与实践 王开峰  
282 从选题入手谈应用专业毕业论文改革 孔小红, 马晓燕, 薛丽梅, 等  
283 化学专业英语教学初探 张艳鸽, 李品将  
284 热力学内容总结课的教学探讨 杨守洁  
285 浅谈高职院校有机化学的教学方法 罗大为, 张俊松, 张英  
287 建构主义理论指导下的化工仿真教学实践 胡可云  
289 关于大学物理化学教学方式的探讨 肖咏梅, 毛璞, 闫向阳

## 新工艺新技术

- 290 盐酸重量法测定合金中银含量的方法探究 潘齐存, 王兴隆, 戴品中, 等  
292 甲醇储罐泄漏环境风险事故后果计算及预测 郑丽娜, 王虹, 刘恒明  
294 生物法治理恶臭气体的中试试验 李环, 王卫东, 刘光利, 等  
296 分子印迹开管柱的制备及水产品中恩诺沙星的检测 张倩, 吕运开  
298 基于区域经济建设的地方高校发展机遇研究——以鄱阳湖生态经济区为例 时淑华, 汤明  
299 浅谈我国自主研发的气流床煤气化技术现状与发展 曾上游  
301 顶空固相萃取法用于饮用水源水中环氧氯丙烷的测定 温佐钧, 赖永忠  
303 无溶剂条件下微波辅助合成硫氰酸酯类化合物 徐利亚, 宋芳锐  
305 浅谈压力容器封头工艺减薄 张玉柱  
306 螯合沉淀技术在电镀工业园废水处理中的应用实践 王琦, 曲寒松  
309 离子对反相高效液相色谱法直接测定鸡肉组织中六种氟喹诺酮类药物的残留 秦丽娟, 吕运开

## 其他

全国优秀化工期刊《广东化工》2011 年投稿须知(目录前)  
广东化工》征稿启事(14) 《广东化工》广告索引(311)  
阿克苏诺贝尔全新胶体二氧化硅工厂落户广州(288) 浙江丰利粉碎设备有限公司和宁波工程学院联合研发皮革废弃物用作橡塑填充材料新技术(311)

## 投稿指南

《广东化工》为月刊, 国内外公开发  
行, 征稿范围: 石油化工、医药化工、农  
药化肥、电化学、化工设计及装备、日用  
化工、食品化工、化工环保、工业水处理  
涂料与油墨、胶粘剂、生物化工、燃气化  
工等学科和行业科技类文章。

### 投稿方式:

#### 1. 在线投稿

为确保稿件即时到达编辑部, 并确  
保作者联系电话、通讯地址等信息准确、  
完整, 投稿请上网使用本刊“在线投稿系  
统”, 稿件将在第一时间获得处理。

在线投稿网址: [www.gdchem.com](http://www.gdchem.com)

#### 2. 邮箱投稿、查询(若“在线投稿”不成 功, 可使用邮箱投稿)

投稿 Email: [gdcc200@163.com](mailto:gdcc200@163.com)

投稿邮件主题: 第一作者名/稿件题目

## 《广东化工》理事会

### 理事长:

麦裕良(广东省石油化工研究院 院长)

### 理事:

李安喜(中石化集团公司茂名石化公司

经理、党委书记)

陈炳琳(茂名新华粤石化股份有限公司

董事长兼总经理)

崔若平(中山凯达精细化工股份有限公司

副总经理)

邵建聪(茂名环星炭黑有限公司 总经理)

吴年发(广东寰球产业工程有限公司 董  
事长)

黄志红(广东南方碱业股份有限公司 董  
事长)

杨益新(广州农药厂 厂长)

## 《广东化工》欢迎网上在线投稿

[www.gdchem.com](http://www.gdchem.com)

## Contents

◆ **Special topics**

1 Overview of Bromine Industrial Bactericide Gu Xuebin

◆ **Summarize**

5 The Research of Polybrominated Diphenyl Ethers (PBDEs) Degradation Sun Yunna, Wei Dongyang, Li Jie, Xu Zhencheng

7 The Research Progress of the Sulfonate Gemini Surfactants Ye Jun, Hua Ping, Fang Lutao

9 The Development of Research on ABS Flame Retardancy Liu Yuexian, Tang Yuhang, Liu Xingxue, Cui Xiuguo

11 Progress of Investigations on Heat and Mass Transfer Enhancement in Absorber of a AHT System Guo Jun, Fang Shuai

13 Research Progress of Biomass Energy Qu Yeqing, Zhu Xiaoshun, Luo Xiaohui

15 Comprehensive Recycling of Coke Oven Gas Jiang Shanyong, Zhang Kai, Hu Xiangxun, Liu Jiongtian

16 Cracking C9 Resources Research Xie Meini, Liang Yue, Tang Ningmei

18 A Kind of Technology of Producing 10# Transformer Oil from Hydrogenation Diesel by Precision Distillation Mai Yihan

20 The Way to Control Oxygen Content in Producing Nitrogen He Bingqing, Zhu Tenghua, Chen Fuhua, Yang Jun, Yan long, Gong Mingming

22 Energy Saving Strategies Analysis of Chemical Technology and Their Applications in Batch Liquid Phase Bulk Polymerization of Polypropylene Deng Tao

24 The Safety in Production of Sulphuric Acid Guo Huafeng

26 Review of the Liming in Leather Making Tang Xiaoyan, Li Shaoqing, Miao Fei, Chen Xiaodan

28 The Cause Analysis and Countermeasures of Circulating Water Deterioration of Water Quality Wang Linfeng, Qi Hui, Yu Guangyong, Wang Huiheng

30 Research and Industry Application of Light Olefins Produced by Catalytic Cracking Dong Guohui, Xu Lingzi, Wang Zhuhai, Shi Weizhen

31 Description of Classical Oscillator of Polarization Intensity in Resonance Media Wang Ganquan, Chen Fang, Zhou Jianying

33 Photoinduced Electron Transfer Processes of Organic/Polymeric Functional Materials Bai Jinrui, Yu Dahong, Wang Yan

36 Study of Methanol Electro-oxidation Catalyst Yang Hongmei, Cao Hongcui

39 Progress of Experimental Development on Fixed-sulfur Sorbents during Coal Combustion Zhang Xiaoyu, Xue Shouqun

40 Production Process and Development of Green Separation of Fine Chemicals in Wash Oil He Xuanming, Zhang Lianbin, Pan Chen, Peng Hongjie, Wu Liangsen, Chen Kang, Pan Ye

42 The Present Status and Key Problems of Carbon Nanotube Based Polymer Composites Zhang Li, He Yuxin

44 Analysis of Guangdong Product Quality Supervision Spot Test of Steel Pipe Ding Erxi, Wu Jiquan, Xie Changhuan

46 Application of Dow Chemical Fires and Explosive Index Analysis Method in Oil Depot Safety Evaluation Zhao Chenjian

48 About Everyday Production Technology Management in Coating Liu Qingliang

50 A Review of the Studies on Endophytic Fungi and Their Bioactive Metabolites Liang Hui, Li Lianping, Ou Yangming, Liu Changfu

52 Application of Supercritical Fluids Technology in Separation Engineering Fluids Du Xinfang

54 Advance of Catalysts for Dehydration of Lactic Acid/its Lower Alcohol Esters to Acrylic Acid/its Esters Li Xinli, Tang Congming, Wang Bin

◆ **Experiment & research**

57 CFD Simulation of Labyrinth Screw Pump for Transporting the Coal Water Slurry and the Preliminary Discussion of the Pump's Wear Mechanism Wang Cui, Zhang Youchen, Li Jingzhong

60 Properties of (PEO)<sub>n</sub>-LiClO<sub>4</sub>-SiO<sub>2</sub> electrolytes doped PC Li Yun, Yu Tao, Bi Xiaoguo, Cheng Ming, Zhang Shihong

62 A Research on Hydrogen Production by Ethanol Steam Reforming over Ni Based Catalysts with Composite Support Zhang Peng, Liu Liping, Ma Xiaojian

65 Preparation of Iron Oxide Nanoparticles by Atomization, Thermal-Decomposition and Oxidation of Iron Pentacarbonyl Wang Xingzhan, Zhang Baolin

67 Esterification of Acetic Acid and Butanol Catalyzed by Layered Niobium Matrix Composite Oxides Solid Acid Tang Yuan, He Jie, Zhang Zhongliang, Li An, Cai Weimeng

69 Comparison of Algae Removal Effect of Three Kinds of Flocculant Zhao Lili, Liu Wenjing, He Xianzhen, Jia Jinyi, Peng Shuchuan

72 Extraction of Cottonseed Protein by Ammonia and Optimization by Response Surface Method Li Meihong, Weng Lianjin, Han Yuanyuan, Yang Xin, Pan Anjun

75 Study on Technological Conditions of the Sulfuric Acid Leaching Process of Serpentine from Yiyang Jiangxi Yang Baojun, Xu Yujuan, Wang Bainian

77 Optimum Conditions of Decoloring in Fructo-Oligosaccharide Extracts of Yacon You Yi, Wei Jianke, Cai Anan, Liu Ping, Gong Fuchun

79 The Study of Pyrolysis Process of Low Rank Pulverized Coal Ma Dongni, Song Yonghui, Li Liang, Kang Juan, Hui Jian

81 Study on the Startup of Superior Strains Zhao Aihua, Zhang Xiaojuan, Li Jie

83 Preparation and Characterization of Sphere-Like Nickel Sulfide Li Chunqing, Tao Feifei, Wu Quixia, Liu Hailing, Wang Haiyan

85 Synthesis, Characterization and Properties of a Mixed-ligand Complex Constructed by Ni(II) and Malate Li Mingtian, Yang Ruisong

87 Study on the Preparation of 2-hydroxybenzimidazole from Ammonium Salicylate Li Wenqing, Cai Zhaosheng

89 The Study on Micellar Aggregation Numbers in the Solution of Gemini Surfactants Li Wanxin, Li Zhenxin, Zhang Gengcheng, Fei Zhenhao

91 Green Synthesis of Hexamethylene Diisocyanate Liu Yuhua, Tian Hengshui, Zhang haqun

93 Research of Polypropylene Olid Grafting Modification Gao Xin, Li Fei, Fan Dongyan

95 Research and Application of TCMTB on Paper Bactericide Zhao Tianyi, Huang Qiran, Li Shaoqing, Yang Weihe

97 Transient Flow and Piggung Operation in Gas-Liquid Two Phase Pipelines Kong Dongmei

100 Development of Macromer MPEGMA for a Polycarboxylate Superplasticizer and Mixes the Cement Zhou Zhongqun, Shen Yinghua, Chen Xiaoping, Ma Yutang

102 Optimization of Preparation Technology of Organic Bentonite Gel by Response Surface Analysis Zhou Hai, Zuo Liming, Jiang Jun, Tian Xue, Wang Gang

105 Study on Graftmodification of Polypropylene by N-glycine Maleic Amide Acid Lv Zhiping, Zhu Xingfang, Wang Wenjie, Li Xiaoning

107 Preparation of Solvent Oil Dearomatization Catalyst over NiO-MoO<sub>3</sub>-TiO<sub>2</sub>/Al<sub>2</sub>O<sub>3</sub> Wei Kenian, Lin Xiping, Guan Yuan

109 Industrial Design and Simulation on Extraction Process of Furfural as CHCl<sub>3</sub> Extraction Lu Zhaolin, Su Yuqing, Yan Dan, Chen Fengjun, Zhou Hua

111 The Influence of Antistatic to Film Flex-Packaging Application Wang Haiping, Zhu Xinsheng

113 Preparation and Electrochemical Performance of Si-SiO<sub>x</sub>-Sn/C Composite Anode Material for Lithium-ion Battery Ma Chengtai, GaoLijun

115 The Effect of Two Kinds of Non-ionic Surface Active Agent on the Corrosion of Steel Rust Remover Wu Pingru, Luo Qun, Liang Zhizhui, Zhou Mingcan

117 Preparation and Properties of Eu: La<sub>2</sub>CaB<sub>10</sub>O<sub>19</sub> by Sol-gel Method Li Lan

119 Study on the Purification Technology of Flavones in Bidens Pilosa L Jiang Haixia, Zhao Hai

121 Adsorption and Kinetic Study of Hydroxyapatite on Zinc Ions in Aqueous Solution Wang Huaming, Xue Youjiang

123 2',3',5'-triacetyl-L Inosine of Electrolytic Titration Li Jianjun, Huang Yongchang, Gong Meiyi

125 The Application of Optimal Regression Design in the Study of Maillard Reaction Sun Fengling, Cai Miaoyan

127 The Study of BYB1001 Penetrating Protection Liquid for Ancient Brick Fu Yingyi, Du Huiru, Chen Fang

129 PAM and Different Anion Degrees of Alumina Synergy Slime Water Falling Treatment Effect Experimental Study Xia Renzhuhan

131 Numerical Analysis of Heat and Mass Transfer in Porous Media With a Non-uniform Heat Source Li Xianyu, Li Dong

133 Organic Surface Modification of Attapulgite Li Jun

135 Simulation and Optimization of Vinyl Chloride Distillation Processes Liu Bing, Zhang Yuning

137 Discussions on Influencing Factors of Demulsifying by High-voltage Pulsed Electric Field (HPEF) Wang Shangwen, Li Wei, Zhang Hao, Zhou Xiangang

◆ **Composed chemistry**

139 Synthesis and Characterization of Two Novel Bypyridine Complexes Wang Daolong, Wang Pi-pi, Li Guanjun, Yuan Wenbing

141 Study on Hydroesterification of Ethylene Oxide for Preparing Methyl 3-Hydroxypropanoate Liu Chunjie, Chen Xiaoping, Chang Yu, Ma Yutang, Liu Baosheng

143 Synthesis of Novel Hydrophilic Softener and Application Hu Jing, Yao Fang

144 Selective Inhibitor of Cholesterol Absorption-an Improved Process for the Synthesis of Ezetimibe Liu Yuhong, Xu Liang, Huang Tiejian, Dai Lianhua

146 The Synthesis and Characterization of Nickel (II) Diisothiocyanato Bis(triphenylphosphine) Chen Lin

148 Synthesis of 4-Amino-1-(3-Cyclohexen-1-ylmethyl)Piperidine Ye Lianbao, Ou Xiaomin, Luo Yan

149 A Study on Synthesis and Resolution of Napropamide Li Jin, Zhu Kaixian, Xie Dingshan

151 The Green Synthesis Process of Polyurethane with Poly Propylene Polyols Zhang Xuezhou, Tian Hengshui, Pan Dongdong

◆ **Environmental protection**

153 Malodorous Gases Management Scheme Selection of Petroleum Chemical Sewage Farm Liu Tao

155 Study on Treatment of Dyeing Wastewater by Micro-electrolysis Technology Wu Xiuwen, Xu Pinru, Wang Lishen

157 Analysis on Cause of the Apparent Pollution of Scenic Water Yu Yubin, Huang Yong

159 Treatment of Swine Wastewater Containing NH<sub>3</sub>-N with Modified Corn Stalk Yang Weiwei, Wang Zhongqi

- 161 Combustibility Research of Sludge and Coal Powder Mixture Tan Mudi, Sun Chuangqi, Lin Feng, Li Xuebin  
 163 Research on Advanced Treatment of Secondary Effluent of Municipal Wastewater by Coagulation Chen Zhenxuan  
 165 Study on Removing LAS in Laundry Wastewater Purification by Vermicompost-Carbon Filtration Media Zheng Huazhang, Cai Fanping, Yang Chaoyi, Huang Zhuolie
- 167 Experimental Study of Oxidation of Nitrobenzene with Ozone Su Tong, Chai Jun, Fan Zheng  
 171 A Project for Treatment and Reuse of Foodstuff Factory Wastewater Yao Lei, Lu Bin, Zhou Zhaoyang, Liu Feng, Ma Sanjun  
 173 Study on Degradation of Wastewater Containing Phenol with Three-dimensional Electrode Reactor Chen Jianxin, Zhu Shengnan, Chen Ting  
 175 The Introduction Treatment Technology for Restaurant Wastewater Liu Xiaoyan, Li Yajie  
 177 Treatment of Mature Landfill Leachate by Microwave-enhanced Fenton Oxidation Li Guosheng, Yan Jie, Li Hong, Shao Yang, Wang Xiuli  
 178 Study on Treatment of Printing and Dyeing Waste Water by Rare Earth and Ozone Tai Jia, Liu Yongjian  
 180 Optimization of Treatment Conditions of PCB Wastewater by Orthogonal Test Su Zhiqian  
 182 Analysis and Research Development of Paper-making Wastewater Treatment Technologies Li Baoyi  
 184 Assessment of Total Nitrogen over the Criteria in Shenzhen Water Sources and Its Countermeasures Fei Shidong, Sun Yanlin  
 186 Pilot Test of Sludge Preheated Autothermal Thermophilic Aerobic Digestion Wang Chenjun  
 188 Study on the Scheme for Circulating Cooling Water Treatment in Inland Nuclear Power Plant Zhang Ying, Lin Jianzhong  
 191 Feasibility Study on Comprehensive Utilization of FGD Gypsum and Fly Ash in Power Plants Chen Linye  
 193 High Concentration Organic Wastewater Treated by Fenton - hydrolytic Acidification-SBR Combined Process Wang Mingjun  
 194 Experiment Design on Degradation of Phenol Wastewater by Ultrasound Technology Liu Xuefang, Kong Liming
- ◆ **Analysis testing**  
 196 Testing and Analyze of Melt Flow Index for Polypropylene Zhang Shengchun, Chen Zhengnian, Kou Bo, Han Bing  
 197 Ultrasonic In-situ Monitoring on Ethyl Orthosilicate Sol-gel Behavior Zhong Qunying, Yuan Wenbin, Jin Guoliang, Li Yafu, Dong Yuanjun  
 199 Determination of Ascorbic Acid in the Medicine by Color Spectrophotometry Wang Fengxiang, Guo Hongmei  
 201 The Extraction and Determination of Flavonoids from Celery Leaves Zhang Hongjie, Li Xiaojie  
 203 Determination and Assessment of Nitrate and Nitrite in Vegetables and Fruits Chen Hongwei, Zeng Xiaohong, Luo Qun, Liang Zhihui, Ye Lingyun  
 205 Comparison with Spectrophotometry Determination of Sodium Gluconate and Iodometry Determination of Residual Glucose Li Pinjiang, Zhang Yang  
 207 Determination of Trace Element in the Power of Radix Puerariae by Microwave Digestion-Atomic Absorption Spectroscopy Tang Chi, Duan Ming, Lei Cunxi  
 209 Determination of Phthalate Esters in Coating Film by GC-MS Xie Yucliang, Shen Hongtao, Li Shiyuan, Yang Jiantong  
 211 The Simultaneous Determination of Five Quinolones in Chicken Plasma Sample Using Reversed-Phase High Performance Liquid Chromatography Liu Ping, Li Anyun, Chen Xingbin, Chen Jinqing, Wang Gongjun
- 213 A Rapid Method for Determination of Melamine in Raw Milk and Dairy Products Gao Ping, Hu Qiongyu, Huang Guofang, Huang Chunli, Liu Wenxia, Li Zhiqing  
 215 Discussion on the Pre-treatment Way to Determine Formaldehyde in Toys by Acetylacetone Method Chen Xiaohong, Chen Zeping  
 216 Application of Principal Component Analysis in Evaluation of Cigarette Quality Zhang Huijun, Wang Yusheng, Chen Yujun  
 218 Research Progress of Measuring COD in Seawater Wu Biyu, Huang Wenguo  
 220 Determination of Carbaryl in Drinking Water by RP-HPLC Method Shu Yi, Peng Hong  
 221 Application of XRF Spectrometry with powder Pressed-dis Technique in Determination of Elements of Iron Ores Zhang Hui  
 224 Management and Inspection of Precursor Chemical Qiu Yan
- ◆ **Design & equipment**  
 226 Schedule Corrected during Project of Piping Yan Hanbo  
 228 The Optimization Design of Circle Clamp Head Based on ANSYS Pan Jintai, Li Guocheng  
 230 Some Suggestions to Avoid Deformation during Tank Welding Zhang Zhijun, Liu Yang, Fu Qun, Wang Zhiyong, Li Zhiping  
 232 The Research on Unsaturated Evaporation Inside the Tube and Water Film Distribution Zhao Qiang  
 234 Vitriolic Factory Cooling Tower Water Over Temperature Automatic Protection System Technical Reformation Gao Xianghui  
 236 Reason Analysis and Countermeasure on Boiler Heating Surface Leakage in Power Plant Yang Guomou  
 238 The Practice of 1-butene Storage Tank Pour Material Homework on Accident Situation Zhang Weiwu, Song Yulong  
 239 The Realization of the Control System of Automatic Packaging Machine in Sulfur Recovery Unit Xia Yuping  
 241 Application of SD-822 Neutralization Corrosion Inhibitor for Atmospheric Unit Qiao Zhicai, Zhan Shengcai, Chen Xiaodong, Hou Wenwen, Xu Lei  
 243 Type Selection and Thermal Relief Calculation for Safety Valve Used in Gas and Oil Project Zhao Laihui, Chen Xiaojing  
 245 Design and Operation of Cooling-molding Process of Auto Damping Slice Wang Shujiang, Zhang Honggang, Yin Li  
 247 The Keys of Material Budget for Storage Tanks Zhou Di
- ◆ **Experience communication**  
 249 The Research of Teaching Reform on Inorganic and Analytical Chemistry of Materials Science and Engineering Li Haihong, Du Wei, Sun Xueqin, Wang Zhuo  
 250 Exploration about the Training of the Practical Abilities of the Students of Engineering Majors in a Normal University Yang Xingkun, Jiang Weijing  
 252 The Development of Environmental Monitoring Curriculum Based on Working Process Zhang Li, Wu Zhimin  
 254 Deduction of Residual Property of Chemical Thermodynamics Hu Guanghui, Pan Zhanchang, Wei Zhigang  
 255 Study and Exploring on Cultivation of Students' Scientific Research and Innovation Abilities by Organic Chemistry Experiment Teaching Peng Dongming, Wang Fudong, Peng Caiyun, Li Lin, Li Rongdong
- 256 Reform and Analysis on the Application of Nine Screen Method of TRIZ Theory in the College Student Scientific Research Project  
 Xu Junqiang, Zhao Qinghua, Zou Shushu, Li Jun, Quan Xuejun  
 258 Exploration and Practice of Teaching Method on Engineering Thermodynamics Liu Xi, Li Xuelai, Xu Qiaoling, Huang Yunyun, Zhao Chao  
 259 The Exploring and Innovation of a Scoring Regulation at the Physical Chemistry Experiment Zhao Xiaojun, Li Jingying, Li Xilan, Zhao Mingzhi  
 260 The Construction of Chemical Pharmaceutics Experiment-teaching Content and Student Character Cultivation Luo Rongzhen, Du Huaiming, Zhang Li, Li Zaixin  
 262 On the Establishment of the Practice System for Biochemical Engineering in Newly Established Local Universities Zeng Xiaobao  
 264 The Study on the Promoting Implementation of Research-based Teaching by the Construction of Excellent Curricula of Organic Chemistry Yu Youzhu, Guo Yuhua  
 265 To Training Students' Creative Ability by Teaching Innovation-Capriccioso from Teaching Reform and Exploration of Bioseparation Engineering Wang Taoyun, Hu Cuiying, Gu Huajie, Qian Wei
- 267 Thinking of Functional Polymer Curriculum Teaching Qi Minhua  
 268 Exploration and Practice on Setting the Course of Environmental Protection Industry and Career for Environmental Engineering Yang Yanqin, Ren Yigang, Niu Xiaoxia, Zhang Hongzhong
- 270 Energy Conservation and Emission Reduction and Polymer Processing Major Teaching Reform Ma Libo  
 271 Study on how to Develop Professional Skills of Vocational College Student's in Organic Chemistry Education Yang Ming  
 273 Feasibility Analysis of Open-researching Teaching of Basic Experimental Chemistry Tang Shiming  
 275 Application of Multimedia Techniques in Green Chemistry Teaching Zhang Pingbo, Jiang Pingping  
 276 Study on Reform of Pharmacology Theory Teaching for Pharmaceutical Engineering Chang Yonghui, Song Xinming, Chen Guangying  
 278 A Discussion on the Frontier Lecture in Analytical Chemistry and the Innovative Capability of College Students Du Fuyou, Ruan Guihua, Zhang Yun, Pan Hongcheng  
 280 The Study and Practice of Case Analysis in the Course of Environmental Impact Assessment Wang Kaifeng  
 282 Teaching Reform of Undergraduate Thesis of Applied Chemistry-Starting from the Selecting Theme Kong Xiaohong, Ma Xiaoyan, Xue Limei, Jiang Chuanli  
 283 Discussion on Teaching of Professional English in Chemistry Zhang Yan'ge, Li Pinjiang  
 284 The Discussion on Summarize Lessons of the Thermodynamics Content Yang Shoujie  
 285 Study on the Teaching of Organic Chemistry in Vocational Colleges Luo Dawei, Zhang Junsong, Zhang Ying  
 287 Emulation Teaching Practice of Chemical Simulation under Constructivism Theory Hu Keyun  
 289 Discussion on the Teaching of Physical Chemistry in University Xiao Yongmei, Mao Pu, Yan Xiangyang
- ◆ **New Technology & New craft**  
 290 Study on Determination of Silver Content in the Silver Alloys by Hydrochloric Acid Gravimetric Method Pan Qicun, Wang Xinglong, Dai Pinzhong, Jin Bi  
 292 After Effect Calculation and Prediction of Methanol Tank Leak's Environmental Risk Accident Zheng Lina, Wang Hong, Liu Hengming  
 294 The Middle Test on Removing Malodorous Gases by ORGANISM PROCESS Li Huan, Wang Weidong, Liu Guangli, Qi Guoqing  
 296 Synthesis of a Molecularly Imprinted Open-tubular Column for Determination of Enrofloxacin from Aquatic Products Zhang Qian, Lv Yunkai  
 298 The Local Universities Development Opportunities Based on the Construction of Regional Economy Shi Shuhua, Tang Ming  
 299 The Status and Development of Flow Bed Gasification Technology with Self-owned Intellectual Property in China Zeng Shangyou  
 301 Determination of Epichlorohydrin in Drinking source Water with Head Space Solid Phase Microextraction Wen Zuojun, Lai Yongzhong  
 303 Solvent-Free and Microwave-assisted Synthesis of Thiocyanates Xu Liya, Song Fangrui  
 305 Simple Discussion on Pressure Vessel Head Process Reduction Zhang Yuzhu  
 306 An Industrial Practice of Chelating Precipitation to Treat the Wastewater of Electroplating Industry Park Wang Qi, Qu Hansong  
 309 Multiresidue Determination of Fluoroquinolones in Chicken Tissue by Ion-pair High Performance Liquid Chromatography Qin Lijuan, Lv Yunkai

**Sponsor and Publisher: Guangdong Province Chemicals Institute**  
**Editor: The Editorial Office of "Guangdong Chemical Industry" Editor in Chief: Zou Simin**

**Address: The Editorial Office of "Guangdong Chemical Industry", 116 Yuehua Road, Guangzhou, 510034 China**  
**Tel/Fax: 86-20-83336009**  
**E-mail: gdcic200@163.com** **http://www.gdchem.com**