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超高分子量聚乙烯纤维

全球专业化生产工厂

UHMWPE GLOBAL SPECIALIZED

MANUFACTURING FACTORY

JIANGSU JIUJIUJIU  
TECHNOLOGY CO.,LTD.

江苏九九久科技有限公司



国家火炬计划重点高新技术企业  
全国模范职工之家  
江苏省文明单位  
江苏省管理创新示范企业  
江苏省安全生产诚信企业  
江苏省依法治企先进单位



九九恒久远、伴君创辉煌  
JIUJIUJIU WILL CREATE A BRILLIANT  
FUTURE WITH YOU

主营业务

新材料

新能源

药物中间体

精细化工

MAIN LINES

New material products , New energy products ,  
Pharmaceutical intermediates , Fine chemicals



# MESSAGE FROM THE DIRECTOR OF BOARD

董事长致辞



尊敬的各位朋友：

江苏九九久科技有限公司是一家集新能源、新材料、精细化工生产于一体的现代化企业，目前正朝着超高分子量聚乙烯纤维全球专业化生产工厂的方向战略转型。回顾九九久一路发展历程，我们深切感受到改革开放对公司发展的巨大助力。在新时代，九九久人将通过持续的技术创新和管理创新，不断激发九九久发展新动能，促进九九久科技迈上新的征程。

奔腾万里的长江、波澜壮阔的黄海，孕育出九九久人富于创新的智慧，锤炼出九九久人勇往直前的胆略。公司虽有多项产品在业内颇具话语权和影响力，但过往业绩只是当下的起点，我们唯有不懈奋斗，方能将九九久建设成管理科学、机制灵活、技术领先、品质一流的现代化企业集团。

当前，世界经济仍存在诸多的不确定性，中国经济已进入新常态。无论国际形势还是国内形势，都为九九久发展带来了机遇和挑战。我们将坚持客户至上的义利观，遵循价值导向，明细业务方向，积极布局新材料产业，推进管理体制和商业模式创新，努力为客户提供更好的产品和服务，为员工提供广阔的平台和良好的福利，同时积极履行社会责任，为地方多作贡献，促进公司实现可持续跨越发展！

濒江临海，打造了九九久人海纳百川的气魄和胸怀，我们真诚期待与您结缘，我们将以百倍的信心与真诚，与您相约、共创辉煌！

董事长：



<http://www.jjjkj.com>

Dear friends,

Jiangsu Jiujiju Technology Co., Ltd. is a modern enterprise committed to new energy, new materials and fine chemical production and management. It is currently transforming into the direction of specialized production facilities of UHMWPE Fibre. Looking back on the development of Jiujiju, we deeply feel the tremendous help of the reform and opening up to the company's development. In the new era, Jiujiju people will continue to kindle the new energy of company development through continuous technological and management innovation, start a new journey.

The Yangtze River in the Pentium and the magnificent Yellow Sea have nurtured the wisdom of Jiujiju people's innovation, and tempered the courage to go forward. Although the company has a lot of products in the industry with a voice and influence, but the past performance is only the starting point of the moment, we can only work hard to build Jiujiju's management science, flexible mechanism, leading technology, first-class modern enterprise.

At present, there are still many uncertainties in the world economy, and the Chinese economy has entered a new normal. Both the international situation and the domestic situation have brought opportunities and challenges to the development of Jiujiju. We will adhere to the customer-oriented concept of fairness and benefit, follow the value orientation, detail the business direction, actively deploy the new material industry, promote management system and business model innovation, strive to provide customers with better products and services, and provide employees with a broad platform and good welfare, while actively fulfilling social responsibilities, contributing to the local community and promoting sustainable development across the company!

Facing river and sea has created the spirit of Jiujiju people. We sincerely look forward to your cooperation, together we will brilliance with confidence and sincerity!

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# COMPANY PROFILE

## 企业概况

江苏九九久科技有限公司系上市公司延安必康制药股份有限公司的控股子公司，坐落于美丽富饶的江苏省南通市如东县，地处长江三角洲北翼，东濒黄海，南临长江，距洋口港30公里，距南通兴东国际机场60公里，已融入上海1.5小时经济圈，交通十分便捷。

九九久科技是江苏省高新技术企业，江苏省科技型企业，国内锂电材料、药物中间体行业龙头企业，全球最大的超高分子量聚乙烯纤维生产基地。

九九久科技秉承科技创新的发展理念，通过“产学研一体化”模式，与浙江大学、南京工业大学、中国矿业大学、东华大学等高等院校保持紧密的合作关系，建立了省企业院士工作站、省博士后创新实践基地、省工程技术研究中心和省企业技术中心等研发平台，共同研发新产品。公司曾承担国家重大科技成果转化项目、国家火炬计划项目、工信部工业转型升级强基工程项目、省科技创新和成果转化项目、国家中小企业科技创新基金项目等，主营产品超高分子量聚乙烯纤维、六氟磷酸锂、5,5-二甲基海因、二羟甲基海因、苯甲醛、三氯吡啶醇钠等均被认定为江苏省高新技术产品，苯甲醛被认定为国家重点新产品，三氯吡啶醇钠、六氟磷酸锂被认定为江苏省优秀新产品，部分产品产能居全球行业之首。

九九久科技重视各项基础管理工作，实施精细化、规范化管理，通过ISO9001、ISO14001、OHSAS18001、职业健康安全管理体系、IATF16949汽车质量管理体系、知识产权体系认证以及能源管理体系认证，被评为江苏省文明单位、江苏省管理创新示范企业、江苏省劳动保障诚信示范企业、江苏省安全生产标准化二级企业和南通市现场管理良好行为企业。

未来九九久科技在继续巩固药物中间体、消毒剂等传统产业优势地位的同时，将进一步拓展新能源、新材料市场，着力打造超高分子量聚乙烯纤维全球专业化生产工厂和国内锂电材料生产标杆企业，促进企业实现跨越发展。

Jiangsu Jiujiju Technology Co., Ltd. is a full subsidiary of YanAn BiCon Pharmaceutical Listed Company. It is located in Rudong County, Nantong City, Jaingsu Province, on the north side of Yangtze Delta. Yellow Sea to the east, Yangtze River to the south, with Yangkou Port only 30 km away and Nantong Xindong Airport 60km away, it enjoys a convenient and fast communication.

It is one of Hi-Tech Enterprises at province level, leading manufacturer of Lithium based battery materials and pharmaceutical intermediates. It is also the world's biggest UHMWPE Fiber manufacturer.

Under an 'integrated manufacturing-study-research' model, the company established long term ties with high education and research institutes such as Zhejiang University, Nanjing Industrial University, China University of Mining and Technology and Donghua University, and founded at provincial level academician workstation, post PHD innovative practice base, engineering research center and technology center. Its main products, such as LPF6, UHMWPE Fiber, 7-ADCA and NaTCP, were awarded provincial Hi-tech Products and capacity of some products enjoys worldwide leading position.

Jiujiju also pays much attention to basic management, and carries out refined and standard management. It is ISO9001: 2008, ISO14001: 2004, OHSAS18001: 2007, IATF16949, GB/T 29490-2013 and GB/T 23331-2012 certified. It is also rewarded Gold Medal of Jiangsu Province's Excellent New Product in 2012 and listed as National Industrial Upgrade Program in 2013. In 2014, it is listed as Model Industrialization Project of National Torch Program. Our main products of UHMWPE Fiber, 5,5-Dimethyl Hydantoin, 1,3-Dihydroxymethyl-5,5-Dimethyl Hydantoin, Benzaldehyde and NaTCP were all recognized as Hi-Tech Product at Provincial Level. Benzaldehyde was rewarded Nation's Important New Product.

Jiujiju will further develop new energy and new material market to build world's leading UHMWPE Fiber and Lithium based battery materials facilities, while keep enhancing its dominance in traditional lines, such as pharmaceutical and pesticide intermediates, promote enterprises to achieve leapfrog development.





# QUALIFICATIONS AND HONORS

资质荣誉

积累沉淀，硕果累累。这里沉淀的，是汗水营造的胜利光芒，是激情灌注的五彩梦想。  
Accumulated sedimentation, fruitful results. Precipitated here is the triumphant light created by sweat, a multicolored dream of passion.



智慧与汗水铸就的荣誉，资质为凭，信义为证。  
The honor of wisdom and sweat, the qualifications are based on the letter of faith.



# BRIEF HISTORY OF JIUJIUJIU TECHNOLOGY

企业发展历程

## I

### 单一产品阶段 SINGLE PRODUCT PERIOD

在此阶段,公司产品单一,主要从事化肥生产,以为农服务为己任。探索并积累了企业经营的丰富经验,取得了一系列的荣誉,在地方上获得了一定的知名度,为以后的发展奠定了坚实的基础。经历了诸多的波折,尤其在计划经济向市场经济转型时期,一度陷入困境。公司采取了债转股(国有股)、分裂重组、内部三项制度改革等措施,顺利进行了企业产权制度改革,实现了由国有企业向民营企业的平稳过渡,为今后的发展创造了良好的环境。

At this stage, the company's products were single, mainly engaged in fertilizer production, and it is the responsibility of agricultural services. It explored enterprise management and gained a lot of experience. It also got a series of honors, built certain popularity locally and laid a solid foundation for future development. After many twists and turns, especially in the period when the planned economy transitioned to the market economy, it was once in trouble. The measures such as debt-to-equity swaps (state-owned shares), split restructuring, and internal three-system reforms were adopted. The reform of the enterprise property rights system was smoothly carried out, and the smooth transition from state-owned enterprises to private enterprises was realized, creating a good environment for future development.

1968-2002

## II

### 产品多元化发展阶段 MULTIPLE PRODUCTS PERIOD

在此阶段,公司从单个产品向多个产品发展,以化肥生产为基础,走精细化工发展之路,相继成功开发上多个精细化工产品、医药中间体产品、农药中间体产品,取得了产品结构调整的大突破,同时注重技术创新,坚持走高新技术发展之路,被认定为省高新技术企业和省民营科技企业,多个产品被认定为国家重点新产品和省高新技术产品。实施名牌战略,打造精品,主导产品均获市名牌,并积极争创省名牌。产品走出了国门,实现了出口创汇零的突破。同时积极响应政府“退城进区”号召,紧抓园区开发的契机,在如东沿海经济开发区购置了600多亩土地,为企业进一步做大做强奠定了坚实的基础。

At this stage, the company developed from a single product to multiple products, based on fertilizer production, and took the road of fine chemical development. It successfully developed a number of fine chemical products, pharmaceutical intermediate products, pesticide intermediate products, and achieved a major breakthrough in product structure adjustment. Besides, focusing on technological innovation and adhering to the road of high-tech development, it has been recognized as a provincial high-tech enterprise and a provincial private owned technology enterprise. Many products have been identified as national key new products and provincial high-tech products. Implementing the famous brand strategy, creating quality products, leading products have won the famous brand of Nantong city, and strive to create provincial famous brands. Its products were exported. At the same time, it actively responded to the government's call to "return the city into the district" and seized the opportunity of the development of the park. It purchased more than 100 acres of land in the Rudong Coastal Economic Development Zone, laying a solid foundation for the company to further expand and strengthen.

2003-2010

## III

### 资本市场博弈阶段 CAPITAL MARKET PERIOD

2010年5月25日,公司在深交所成功挂牌上市,公司进入资本市场博弈的时代,迎来了更为广阔的发展机遇期。2013年3月公司整体搬迁至如东沿海经济开发区,部分产品实现了扩张,同时新上新能源、新材料产品,企业转型升级取得突破,多个产品被评为省优秀新产品和省高新技术产品。

为加快与国际市场接轨的步伐,企业开始走向国际化发展阶段,力争产品销往全球主要经济区域市场,并建立了自己的销售网络,使企业及产品在世界上有了一定的知名度和美誉度。

The company was listed on the Shenzhen Stock Exchange on May 25, 2010, and entered the era of capital market and embraced a wider development opportunity. In March 2013, the company moved to the Rudong Coastal Economic Development Zone, and expanded the capacity of some of its products. At the same time, it started developing new energy and new materials products, and breakthroughs were made in the transformation and upgrading of facilities. A number of products have been rated as provincial excellent new products and provincial high-tech products.

In order to speed up the pace of integration with the international market, Enterprises began moving toward international development, strive to sell its products to the major economic regions of the world, and established its own sales network to gain certain international reputation for the company and its products.

2010-2015

## IV

### 资产重组阶段 ASSET RESTRUCTURING PERIOD

2015年12月,公司实施重大资产重组,通过发行股份,收购陕西必康制药控股有限公司的全部资产。为理清组织架构、便于管理,2017年8月,上市公司母公司资产及人员整体下沉至江苏九九久科技有限公司。自此,公司进入了跨越发展新阶段。

In December 2015 implementing major asset restructuring. By issuing shares Reverse, Acquired all assets of Shaanxi Bicon Pharmaceutical Group Holding Limited. To clear the organizational structure and facilitate management. In August 2017, based on the assets of former Jiangsu Jiujiujiu Technology Co., Ltd., Bicon created new Jiangsu Jiujiujiu Technology Co., Ltd. Since then, the company has entered a new phase of development.

2015-至今

转型升级引领未来,  
砥砺前行,勇攀高峰。

TRANSFORMING AND UPGRADING TO LEAD THE FUTURE,  
TO FORGE AHEAD, TO CLIMB THE PEAK



# CORPORATE CULTURE 企业文化

企业文化是企业的灵魂，是推动企业发展的不竭动力。公司一直以来不断丰富和关心员工的工作及生活，使员工在企业感受到家的温馨。优秀的企业文化建设提升了员工的凝聚力、向心力，促进了企业持续健康发展。

Corporate culture is the soul of the enterprise and an inexhaustible driving force for the development of the enterprise. The company has been constantly enriching and caring for the work and life of its employees, so that employees feel the warmth of home in the enterprise. Excellent corporate culture construction is conducive to enhance the cohesiveness and centripetal force of employees, thus promoting the sustainable and healthy development of enterprises.



**企业精神：**团结 创新 诚信 共赢

**团队精神：**一家人 一条心 一股劲 一定赢

**核心价值观：**追求效益 惠及员工 回报股东 贡献社会

**CORPORATE SPIRIT:** Unity, innovation, integrity, win-win

**TEAM SPIRIT:** We will succeed through collective efforts

**CORE VALUE:** Pursue benefits, benefit employees, return shareholders, contribute to society





# ENVIRONMENT EQUIPMENT

环境和设备

工欲善其事、必先利其器，九九久人深谙此道，我们知道，只有好的管理、好的理念、好的人才是不够的，还要有精良的设备才能确保企业拥有强大的生产能力，我们引进了国际先进水平的生产设备，为产品质量和企业发展提供了强有力的保障。

Jiujiujiu people knew fully that strength comes with fine equipment as well as sound management and human resources. We introduced internationally advanced equipment and technological talents to ensure good quality.



厂区主干道 / Central road



公司办公楼 / Company office building



新材料厂区东门 / New material factory area



天时代公司大门 / Main entrance of Tianshi Chemicals Co., Ltd.



九九久特纤大门 / Main entrance of Jiujiujiu Special Fiber



新材料后纺卷绕机 / New material workshop's winding machine



特纤包置机线 / Specialty wrapped yarn



后纺设备 / Spinning facilities



锂盐烘房 / LiPF6 workshop's drying



前纺设备 / Spinning facilities



醇钠合成设备 / NATCP synthesizing facilities



锂盐合成设备 / LiPF6 synthesizing facilities



# ENVIRONMENT EQUIPMENT

环境和设备

我们一直坚持严格控制把关每一个环节、每一道工序，从研发到生产各个环节的质量状况。每个环节都要经历苛刻的检测程序，将产品品质控制到最优，对每一个细微之处都精益求精，控制到最完美，让客户深切感受到九九久严谨务实的品质追求.....



溴氨海因设备 / BCDMH facilities



卷绕机 / Winding machine



锂盐尾气吸收系统 / Exhaust absorbing system of LiPF6 workshop



前纺立体仓库 / Three-dimensional warehouse



前纺工段 / Spinning section



气相色谱仪器 / Gas Chromatograph



滴定管仪器 / Burette



包覆机 / Covered machine



纤维前纺工段 / Fibre spinning section



纤维成品检测线 / Fibre products' testing line



## CORE 企业核心产品 PRODUCTS

九九久依托较强的自主研发能力，长期致力于研发、生产与销售医药中间体、农药中间体、新能源新材料等，公司主营产品超高分子量聚乙烯纤维、六氟磷酸锂、三氯吡啶醇钠、5,5-二甲基海因、苯甲醛均被江苏省科技厅认定为江苏省高新技术产品；其中六氟磷酸锂、5,5-二甲基海因被认定为江苏省优秀新产品。

Relied on strong independent research and development capabilities, Jiujiujiu has long been committed to research, development, production and sales of high-value-added products such as pharmaceutical intermediates, pesticide intermediates, new energy and new materials. The company's main products, such as 5,5-dimethylhydantoin, Benzaldehyde, sodium trichloropyridinium, lithium hexafluorophosphate and high-strength high-modulus polyethylene fiber were identified as high-tech products of Jiangsu Province by the Science and Technology Department of Jiangsu Province; among them, chlorocyclohexane was identified as a national key new product. Lithium hexafluorophosphate and 5,5-dimethylhydantoin have been identified as excellent new products in Jiangsu Province.

### UHMWPE FIBRE

超高分子量  
聚乙烯纤维



### LITHIUM HEXAFLUOROPHOSPHATE

六氟磷酸锂



### 3,5,6-TRICHLOROPYRIDIN -2-OL SODIUM

三氯吡啶醇钠



### 5,5-DIMETHYL HYDANTOIN 5,5-二甲基海因 (DMH)



### BENZALDEHYDE

苯甲醛



<http://www.jjjkj.com>



# UHMWPE FIBRE

超高分子量  
聚乙烯纤维

- 超高分子量聚乙烯纤维(简称UHMWPE), 又叫高强PE纤维, 是当今世界三大高科技纤维(碳纤维、芳纶和超高分子量聚乙烯纤维)之一, 也是世界上最坚韧的纤维, 其“轻薄如纸、坚硬如钢”, 强度是钢铁的15倍。
- 美国、欧洲、日本等许多国家都将其广泛应用于武器研发、航空航天、航海、电子、兵器、造船、建材、体育、医疗等诸多领域, 其优越性能已得到了充分体现。
- UHMWPE is one of the world's three high-tech fibers (carbon fiber, aramid and ultra-high molecular weight polyethylene fiber) and the toughest fiber in the world. It is "light and thin like paper, hard as steel" and 15 times stronger than steel.
- It was widely used in The United States, Europe, Japan and many other countries in weapons research and development, aerospace, navigation, electronics, weapons, shipbuilding, building materials, sports, medical and many other fields, and its superior performance has been fully reflected.

## UHMWPE FIBRE 长丝优势 FILAMENT'S ADVANTAGES

- 耐用性, UHMWPE制成的成品使用寿命是一般尼龙涤纶材质的12倍。
- 适用性, UHMWPE制成的绳索可以在超低温-200摄氏度温度下长期使用, 也可以在酸碱性的海水中长期使用, 还可以在热带雨林的热晒雨淋风吹的恶劣环境中长期使用而不老化。
- 超强的拉力、超低的延伸率, 强力是同等截面钢丝的15倍, 比芳纶高出40%, 延展率3.5%。
- 还拥有耐磨、耐切割性能, 能更好的保护你的人身安全。
- Durability, UHMWPE products'life is 12 times than that of normal nylon polyester.
- Applicability, UHMWPE ropes can be used for a long time at ultra-low temperature (-200 degrees Celsius) and in acid-alkaline seawater.It can also weather tropical rainforest's harsh environment for a long time.
- Superior tensile strength, ultra-low elongation, its strength is 15 times than that of the same modulus steel wire, 40% higher than aramid, and its elongation rate is 3.5%.
- It's wear and cut resistance, better protect you from personal harm.

## UHMWPE FIBRE 长丝特殊性能 FILAMENT'S SPECIAL PERFORMANCE

- 高比强度, 高比模量。比强度是同等截面钢丝的十多倍, 比模量仅次于特级碳纤维。
- 纤维密度低, 密度是0.97-0.98g/cm<sup>3</sup>, 可浮于水面。
- 断裂伸长低、断裂功大, 具有很强的吸收能量的能力, 因而具有突出的抗冲击性和抗切割性。
- 抗紫外线辐射, 防中子和γ射线, 比能量吸收高、介电常数低、电磁波透射率高。
- 耐化学腐蚀、耐磨性、有较长的挠曲寿命。
- High specific strength, high specific modulus. The specific strength is more than ten times that of the same section of steel wire, and the specific modulus is second only to the special grade carbon fiber.
- Low density of 0.97-0.98g/cm<sup>3</sup>, it can float on water surface.
- The elongation at break is low, the work of breaking is large, and the ability to absorb energy is strong, so that it has outstanding impact resistance and cut resistance.
- Anti-ultraviolet radiation, anti-neutron and gamma-ray, high specific energy absorption, low dielectric constant, high electromagnetic wave transmittance.
- Chemical resistance, wear resistance, and long flex life.

## UHMWPE FIBRE 长丝物理性能 FILAMENT'S PHYSICAL PROPERTIES

- 密度: 0.97~0.98g/cm<sup>3</sup>。比水的密度低, 可以漂浮在水上。
- 强度: 2.8~4N/tex。
- 模量: 91~200N/tex。
- 延伸度: 3%~3.5%。
- 冲击吸收能比位芳酰胺纤维高近一倍, 耐磨性好, 摩擦系数小, 但应力下熔点只有145~160℃。
- Density: Low density of 0.97-0.98g/cm<sup>3</sup>, lighter than water, can float on water surface.
- Strength: 2.8~4N/tex
- Modulus: 91~140N/tex
- Elongation: 3.5%~3.7%
- Its impact absorption energy is nearly twice as high as that of the para-aramid fiber, and the wear resistance is good, and the friction coefficient is small, but the melting point is only 145-160 ° C under stress.

## UHMWPE FIBRE 技术参数 TECHNICAL DATA

产品规格	测定项目名称	单位	技术要求	测定结果
50D/40F	线密度	dtex	标称值±5.0%	58
	断裂强度	cN/dtex	≥32	34
	断裂伸长率	%	≤3.5	3
	恒量	cN/dtex	≥1100	1430
75D/40F	线密度	dtex	标称值±5.0%	80
	断裂强度	cN/dtex	≥32	35
	断裂伸长率	%	≤3.5	3.5
	恒量	cN/dtex	≥1100	1460
100D/40F	线密度	dtex	标称值±5.0%	120
	断裂强度	cN/dtex	≥32	33.5
	断裂伸长率	%	≤3.5	3.5
	恒量	cN/dtex	≥1100	1230
200D/60F	线密度	dtex	标称值±5.0%	213
	断裂强度	cN/dtex	≥32	34.5
	断裂伸长率	%	≤3.5	3.5
	恒量	cN/dtex	≥1100	1260
300D/120F	线密度	dtex	标称值±5.0%	320
	断裂强度	cN/dtex	≥32	33
	断裂伸长率	%	≤3.5	3.5
	恒量	cN/dtex	≥1100	1161
350D/120F	线密度	dtex	标称值±5.0%	370
	断裂强度	cN/dtex	≥32	33.1
	断裂伸长率	%	≤3.5	3.5
	恒量	cN/dtex	≥1100	1215
400D/240F	线密度	dtex	标称值±5.0%	450
	断裂强度	cN/dtex	≥32	33
	断裂伸长率	%	≤3.5	3.5
	恒量	cN/dtex	≥1100	1212
350D/120F	线密度	dtex	标称值±5.0%	390
	断裂强度	cN/dtex	≥32	32.5
	断裂伸长率	%	≤3.5	3.2
	恒量	cN/dtex	≥1100	1180
800D/240F	线密度	dtex	标称值±5.0%	900
	断裂强度	cN/dtex	≥32	30
	断裂伸长率	%	≤3.5	3.3
	恒量	cN/dtex	≥1100	1140



# UHMWPE FIBRE PERFORMANCE DESCRIPTION

## 性能说明

UHMWPE 物理性能表  
PHYSICAL PROPERTY TABLE

序号NO.	物理性能 PHYSICAL PROPERTIES	指标 INDEX
1	回潮 Moisture regain	无 No
2	沸水收缩率 Hot water shrinkage	<1%
3	耐酸性 Acid resistance	优 Fine
4	耐碱性 Alkali resistance	优 Fine
5	耐多数化学实际性 Resistance to many chemical reagents	优 Fine
6	耐紫外光 Anti-UV	持久 Durable
7	熔点 Melting Point	135~145℃
8	导热率(沿纤维轴向) Thermal conductivity (Along fibre Axis)	20w/mk
9	热膨胀系数 Coefficient of thermal expansion	-12x10 <sup>-6</sup> /K
10	电阻率 Resistance	>10 <sup>14</sup>
11	介电常数 Dielectric constant ( 22℃ , 10GHz )	2.25
12	介电强度 Dielectric strength	900kV/cm
13	损耗因数 Dissipation factor	2x10 <sup>-4</sup>
14	蠕变 Creep deformation ( 22℃ , 20%负荷Load )	每天1x10 <sup>-2</sup> % ( Per Day )

UHMWPE 耐化学性能表  
CHEMICAL RESISTANCE TABLE

序号NO.	试剂名称 CHEMICAL REAGENT	湿润6个月的保留强度 ( % )
1	蒸馏水 Distilled water	100
2	海水 sea water	100
3	10%洗涤剂 Detergent	100
4	煤油 Kerosene	100
5	汽油 Gasoline	100
6	冰醋酸 Glacial acetic acid	100
7	磷酸 ( 10% ) Phosphoric acid	100
8	甲苯 Toluene	100
9	29%氢氧化铵 Ammonium hydroxide	100
10	氨水 ( 29% ) NH <sub>4</sub> OH	100
11	氢氧化钠 ( 5mol/L ) NaOH	100
12	盐酸 ( 1mol/L ) HCL	100
13	Clorox Liquor溶液 ( 含有Contamin0.525%NaClO )	91

UHMWPE 耐光性能表  
LIGHT RESISTANCE PERFORMANCE TABLE

序号NO.	耐光测定方法 TEST	照射6个月的保留强度 ( % )
1	超高分子量聚乙烯纤维在紫外线照射经1500小时暴露	90

序号NO.	加工性能 PROCESSING CHARACTERISTICS	加工性能 PROCESSING CHARACTERISTICS
1	耐磨 Abrasion resistance(直至破坏的循环次数)	>110×10 <sup>3</sup>
2	耐弯曲 Bending resistance(直至破坏的循环次数)	>240×10 <sup>3</sup>
3	勾结强度 Cohesion strength(g/d)	10—15
4	成环强度 Looping strength(g/d)	12—18

# UHMWPE FIBRE USAGE

## 应用领域



## 雷达罩、防爆、防弹用品 RADOME, BLAST SHELTER AND BULLETPROOF PRODUCTS

超高分子量聚乙烯纤维增强材料，不仅强度高、质量轻，而且还具较好的介电性能和优良的高频声呐透透性，可广泛用于航天雷达罩、X 光机工作台以及安全防护罩和抗冲击容器。用它来制造舰艇的高频声呐罩，有效提高了舰艇的探测、扫雷能力。UHMWPE reinforced materials are not only of high strength, light weight, but also of good dielectric properties and excellent high frequency sonar permeability, can be widely used in space radome, X-ray machine workbench and security protective cover and impact resistant container. They are used to build the high-frequency sonar shroud of the ship, which effectively improved the mine detection and mine-sweeping capabilities of the ship.



## 头盔、防弹服、盾牌 HELMET, BULLETPROOF VEST AND SHIELD

高分子量聚乙烯纤维具有很强的吸收能量能力，可用于防弹产品，制成的防弹背心具有重量轻、强度高优点。使用该产品制造的 UD 材料，做成复合防弹板，不仅可以用于防弹衣插板，还可以用作运钞车、警车、装甲车以及头盔的防护材料。UHMWPE has strong energy absorption capacity and can be used for bulletproof products. The bulletproof vest made from UHMWPE has the advantages of light weight and high strength. Using the UD material made of this product, it can be made into a composite bulletproof board, which can be used not only for bulletproof clothing inserts, but also as a protective material for money transport vehicles, police cars, armored vehicles and helmets.



# UHMWPE FIBRE APPLICATION AREA

应用领域



## 特种伞材 SPECIALTY PARACHUTE MATERIALS

超高分子量聚乙烯纤维制成的航天、航空用特种伞绳，具有强度高、质量轻、抗张、抗撕裂能力强等特点。  
UHMWPE parachute rope for aerospace and aviation featuring high strength, light weight, tensile strength and tear resistance.

## 击剑服、放切割手套 FENCING SUITS, CUT-RESISTANT GLOVES

超高分子量聚乙烯纤维吸收能量性能也应用于防切割和防刺场合。有短纤维经过非织造工艺制得的非织造毡以及有细纤维编织的织物，在防护手套、击剑服等应用中发挥着优良的保护作用。  
The energy absorption properties of UHMWPE fibers are also applied to cut and stab resistant applications. Non-woven mats made of short fibers and non-woven fabrics, as well as fabrics made of fine fibers, play an excellent role in protective gloves, fencing suits and other.



## 降落伞、帆船 PARACHUTE, SAIL BOAT

超高分子量聚乙烯纤维具有高强度、低密度、耐磨损和减震性（震动阻尼）等特性，可用于制造钓鱼线、风筝线、滑翔伞索、赛艇、帆船船体增强板、船帆、弓弦、网球拍、滑雪橇等体育用品。  
UHMWPE has high strength, low density, wear resistance and shock absorption (vibration damping). It can be used to make sports equipment such as fishing line, kite line, paragliding rope, racing yacht, sailing hull reinforcement board, sail, bow string, tennis racket and sled.



## 绳索、缆绳、深海养殖网箱 ROPES, CABLES, DEEP SEA CULTIVATION CAGES

超高分子量聚乙烯纤维编织的缆绳，具有机械强度高、重量轻、柔曲性好、耐磨损、不吸水、绝缘性好等优点。与钢丝绳、麻绳相比，强度高、伸长低、直径小、耐用，可以用于船舶的缆绳、牵引缆绳、拉索绳、钻井平台缆绳、采油平台缆绳、电力牵引缆索、户外防护用绳、机械升降绳等方面，有效减少缆绳的重量。使用该产品编织的渔网，重量轻，强力大，拉网阻力比普通渔网减少 10% 以上，提高了捕鱼效率，降低了渔网的破损率。

UHMWPE fiber braided cable has the advantages of high mechanical strength, light weight, good flexibility, abrasion resistance, non-absorption, and good insulation. Compared with steel wire rope and hemp rope, it has high strength, low elongation, small diameter and durability. It can be used for ship ropes, traction cables, cable ropes, drilling platform cables, oil platform platform ropes, electric traction ropes, outdoor protection. With ropes, mechanical lifting ropes, etc., the weight of the rope is effectively reduced. The fishing net woven with this product is light in weight and strong in strength, and the resistance of the netting is reduced by more than 10% compared with the ordinary fishing net, which improves the fishing efficiency and reduces the breakage rate of the fishing net.



## 极地帐篷、特种光缆 POLAR TENT, SPECIAL OPTICAL CABLE

该产品还可用于超低温材料、特种滤布、帐篷材料、通讯光缆补强材料、超导绝缘材料、特殊建筑增强材料、机场跑道快速修复材料、非织造布、纸张增强材料、纤维增强复合板材料等。

The product can also be used for ultra-low temperature materials, special filter cloth, tent materials, communication cable reinforcement materials, superconducting insulation materials, special building reinforcement materials, airport runway quick repair materials, non-woven fabrics, paper reinforcement materials, fiber reinforced composite panels, etc.



# LITHIUM 六氟磷酸锂 HEXAFLUOROPHOSPHATE

## 新能源

### NEW ENERGY MATERIALS

白色结晶或粉末，相对密度1.50，潮解性强，易溶于水，还溶于低浓度的甲醇、乙醇、碳酸酯类的有机溶剂。暴露空气中或加热时分解，遇水蒸气作用，放出PF<sub>5</sub>而产生白色烟雾，具有腐蚀性。

White crystal or powder, relative density 1.50, strong deliquescent, soluble in water, soluble in low concentration of organic solvents such as methanol, ethanol and carbonate. It decomposes when exposed to air or heated. When it is exposed to water vapor, it releases PF<sub>5</sub> and produces white smoke, which is corrosive.

### 技术参数 TECHNICAL DATA

分子式	LiPF <sub>6</sub>
结构式	$\begin{array}{c} \text{F} \\   \\ \text{Li}^+ \text{---} \text{P} \text{---} \text{F} \\   \quad   \quad   \\ \text{F} \quad \text{F} \quad \text{F} \end{array}$
分子量	151.91
含量, %	≥99.99
DMC不溶物, %	≤0.01
游离酸 (HF), %	≤0.008
杂质阳离子, %	≤0.0001

### 应用领域 USAGE

作为锂离子电解质，主要用于锂离子电池、锂离子储能电池及其他日用电池。As a lithiumion electrolyte, it is mainly used in lithium ion power batteries, lithium ion energy storage batteries and other daily batteries. daily batteries.r reinforcement materials, fiber reinforced composite sheets, etc.



储能是智能电网、可再生能源高占比能源系统。“互联网+”智慧能源的重要组成部分和关键支撑技术。作为综合能源系统的重要支撑，储能可以起到削峰填谷作用，提高风、光、水力等可再生能源的消纳水平，支撑分布式电源及微网，促进能源生产消费开放共享和灵活交易、实现多能协同。到2020年，储能总装机规模最高将达24.2GW，市场规模将达1000亿元。

Energy storage is an important component and key supporting technology for smart grids, energy systems in which renewable energy accounts for a high percentage, and “Internet plus” smart energy. As an important pillar of the integrated energy system, energy storage can play the role of cutting peaks and filling valleys, improving the level of consumption of renewable energy such as wind, light and water, supporting distributed power sources and microgrids, and promoting open sharing and flexible transaction of energy production and consumption, achieving multifunctional synergy. By 2020, the total installed capacity of energy storage will reach 24.2GW, and the market size will reach 100 billion yuan.



便携式储能充电宝 / Portable power supply



数码产品储能电池 / Chargeable batteries for digital gadgets



风力发电+储能 / Wind power and energy storage



光伏发电+储能 / Photovoltaic power and energy storage



水力发电+储能 / Water power and energy storage



# SODIUM ALCOHOLATE

## 3,5,6-TRICHLOROPYRIDIN-2-OL SODIUM

### 三氯吡啶醇钠

#### 农药中间体

#### PESTICIDE INTERMEDIATES

- 纯品为类白色粉末，微溶于水，在冰水中饱和溶液浓度为0.5%，在沸水中饱和溶液浓度约为20%。易溶于乙腈、甲醇、乙醇等有机溶剂，在酸性条件下转化为3,5,6-三氯吡啶-2-酚。
- 用内衬聚乙烯塑料袋的塑料编织袋或纸板桶包装。每件净重25kg或根据顾客需要确定。贮存中保持物料的干燥，不得与强氧化剂、酸类物质接触。
- Off white powder, slightly soluble in water, with a saturated solution concentration of 0.5% in ice water and a saturated solution concentration of about 20% in boiling water. It is easily converted to 3,5,6-trichloropyridin-2-ol under acidic conditions in an organic solvent such as acetonitrile, methanol or ethanol.
- Packed in woven PE bags or cardboard drums lined with polyethylene plastic bags. Each piece has a net weight of 25kg or is determined according to customer needs. Keep the materials dry during storage and transportation, and keep away from strong oxidants and acid substances.

#### 技术参数 TECHNICAL DATA

分子式	C <sub>8</sub> HONCL <sub>3</sub> Na
结构式	
分子量	220.5
含量, %	≥85
水分, %	≤10

#### 应用领域 USAGE

用于生产高效低残留杀虫杀螨剂毒死蜱、甲基毒死蜱。

Used in the production of high-efficiency, low-residue insecticidal and acaricidal chlorpyrifos and methyl chlorpyrifos.



# HYDANTOIN

## 5,5-DIMETHYL HYDANTOIN (DMH)

### 5,5-二甲基海因



#### 消毒杀菌剂

#### ANTISEPTIC

- 从水或乙醇中析出者为白色柱状结晶
- 25kg塑料编织袋内衬塑料袋
- White columnar crystals precipitated from water or ethanol
- Packed in 25 Kg woven PE bags lined with PE bags

#### 技术参数 TECHNICAL DATA

分子式	C <sub>5</sub> H <sub>8</sub> N <sub>2</sub> O <sub>2</sub>
结构式	
分子量	128.14
初熔点, °C	≥175
水分, %	≤0.5
含量, %	≥99

#### 应用领域 USAGE

本品用作氨基酸、特种环氧树脂、水溶性树脂、杀菌剂、防腐剂的合成原料，其衍生物用途也很广。

It is used as a synthetic raw material for amino acids, special epoxy resins, water-soluble resins, fungicides, and preservatives, and its derivatives are also widely used.





# BENZALDEHYDE

## 苯甲醛

- 无色或淡黄色液体，有苦杏仁气味
- 微溶于水，可混溶于乙醇、乙醚、苯、氯仿。能挥发，性质很不稳定、露置空气中或见光色变黄，易氧化成苯甲酸。比重1.046g/cm，沸点：179°C，闪点：62.8°C。
- Colorless or light yellow liquid with bitter almond smell
- Slightly soluble in water, miscible in ethanol, ether, benzene, chloroform. It can be volatilized, its properties are very unstable, it can be oxidized to benzoic acid when exposed to air or yellow. The specific gravity is 1.046 g/cm, the boiling point is 179°C, and the flash point is 62.8°C.

### 技术参数 TECHNICAL DATA

分子式	C7H6O
结构式	
分子量	106.12
含量，%	≥99.8
酸值，%	≤0.5

### 应用领域 USAGE

用于制作月桂醛、苯乙醛和苯酸苄酯等，也用作食品香料或日化香精。

Used in making lauric aldehyde, phenylacetaldehyde and benzyl benzoate, etc. Also used as food flavor or daily flavor.



超高分子量聚乙烯纤维全球专业化生产工厂  
UHMWPE SPECIALIZED PRODUCTION PLANT

## TAKING THE WIND AND BREAKING THE WAVES, WE WILL SAIL TO THE BLUE SEA.

### 乘风破浪会有时，直挂云帆济沧海

多年来，九九久持续改革创新，不断提升品质，经济效益日益提升，生产规模不断扩大，公司在进一步巩固农药中间体等传统优势地位的同时，将进一步拓展新能源新材料市场，不断改善公司治理结构，持续提高自主研发能力，积极开拓国内外市场，致力把公司建成技术自主创新、产品结构合理、市场适应性强、具有行业领先地位的现代化综合性现代化企业，促进转型升级，不断提升企业核心竞争力。

Over the years, Jiujiujiu has been reforming and innovating to improve its quality, increase its economic efficiency, expand its production scale and increase its annual production capacity. At the same time, the company will further consolidate the dominant position of traditional lines such as pharmaceutical intermediates and pesticide intermediates, further expand the new energy and new materials market, continuously improve the corporate management structure, continuously improve its independent research and development capabilities, and actively explore domestic and foreign markets. The company has built a modern comprehensive chemical enterprise with independent technological innovation, reasonable product structure, strong market adaptability and leading position in the industry to promote transformation and upgrading of enterprises and enhance their core competitiveness.



### 产品销售国家及地区 SELLING AREAS

中国、美国、德国、英国、印度、埃及、巴西、阿根廷、墨西哥、印尼、西班牙、韩国、比利时、土耳其、日本、南非、巴基斯坦、斯里兰卡、洪都拉斯、台湾地区等。

China, USA, Germany, UK, India, Egypt, Brazil, Argentina, Mexico, Indonesia, Spain, South Korea, Belgium, Turkey, Japan, South Africa, Pakistan, Sri Lanka, Honduras, Taiwan, etc.