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江苏国信协联能源有限公司
JIANGSU GUOXIN UNION ENERGY CO.,LTD

www.co-union.com

COMPANY
PROFILE—
公司简介

做传统能源高效利用的探索者
做清洁能源低碳发展的先行者
做生物科技新技术研发应用的领军者

EXPLORER OF EFFICIENT UTILIZATION OF TRADITIONAL ENERGY
BE A PIONEER IN LOW-CARBON DEVELOPMENT OF CLEAN ENERGY
BE A LEADER IN THE RESEARCH AND APPLICATION OF NEW BIOTECHNOLOGY TECHNOLOGIES

“ 致力为燃煤和燃气发电、集中供热、食品添加剂制造三大业务板块提供解决方案 ”

IT IS COMMITTED TO PROVIDING SOLUTIONS FOR THREE BUSINESS SEGMENTS: COAL AND GAS-FIRED POWER GENERATION, CENTRAL HEATING AND FOOD ADDITIVES MANUFACTURING

国信协联位于江苏宜兴经济技术开发区，包括江苏国信协联能源有限公司和江苏国信协联燃气热电有限公司。目前，国信协联已经成为综合能源服务、生物科技、生态农业三大业务板块，是国家发改委认定的资源综合利用企业、江苏省高新技术企业，柠檬酸获江苏省高新技术产品，并被国家发改委、环保部等六部委认定为国家第二批循环经济试点单位。

Guoxin Union is located in the Economic Development Zone of Yixing City in Jiangsu Province, consists of Jiangsu Guoxin Union Energy Co., Ltd. and Jiangsu Guoxin Union Fuel Gas And Thermoelectricity Co., Ltd. At present, Guoxin Union has formed three major business segments, namely comprehensive energy services, biotechnology and ecological agriculture. Guoxin Union is a comprehensive resource utilization enterprise recognized by the National Development and Reform Commission and a high-tech enterprise in Jiangsu Province. Citric acid has been recognized as a high-tech product in Jiangsu Province. Guoxin Union has been recognized as one of the second batch of national pilot units of circular economy by six ministries and commissions, including the National Development and Reform Commission, the Ministry of Environmental Protection.

江苏国信协联能源有限公司

创建于 1986 年，致力为综合能源服务、生物科技、生态农业三大业务板块提供解决方案。

JIANGSU GUOXIN ENERGY CO.,LTD

Founded in 1986, it is committed to providing solutions for three business segments: comprehensive energy services, biotechnology and ecological agriculture.

江苏国信协联燃气热电有限公司

创建于 2012 年，属于清洁能源企业，主要利用天然气生产电力和蒸汽，目前总装机容量 840MW，供热能力 400t/h。

JIANGSU GUOXIN UNION FUEL GAS AND THERMOELECTRICITY CO., LTD.

Founded in 2012, it is a clean energy enterprise, mainly utilizes natural gas to produce electricity and steam, currently has a total installed capacity of 840MW and a heating capacity of 400t/h.

生物科技

是全球主要柠檬酸及盐类产品专业生产供应商。柠檬酸系列产品品种包括无水柠檬酸、一水柠檬酸、柠檬酸钠及其他柠檬酸盐产品，出口日本、欧洲等 100 多个国家与地区。

综合能源服务

主要生产电力和蒸汽，目前供热能力 580t/h，是宜兴市主要的集中供热热源企业，国信协联致力于节能降耗的服务者、能源咨询的提供者、用电安全的守护者。

生态农业

公司以淀粉质为原料，采用液体深层发酵技术，成功开发了有机水溶肥、土壤生物改良剂、发酵碳源等系列产品，已获得 3 项国家专利、1 项国际专利授权。农业领域创新发展的“含金量”正不断提升。

BIOTECHNOLOGY

It is a major global supplier specializing in production of citric acid and its salts. The citric acid range includes citric acid anhydrous, citric acid monohydrate, sodium citrate and other citric acid salts, these products are exported to more than 100 countries and regions such as Japan and Europe.

COMPREHENSIVE ENERGY SERVICES

It mainly produces electricity and steam, and currently has a heating capacity of 580t/h. It is the main centralized heating source enterprise in Yixing City, and Guoxin Union is committed to being a service provider of energy saving and consumption reduction, a provider of energy consultation, and a guardian of electricity safety.

ECOLOGICAL AGRICULTURE

Taking starch as raw material and with the liquid deep fermentation technology, a series of products such as organic water soluble fertilizer, soil biological improver and fermented carbon source have been successfully developed, three national patents and one international patent have been granted. The "gold content" of innovation and development in the field of agriculture is constantly increasing.



吉林协联生物科技有限公司

2021 年 4 月于吉林省镇赉县注册成立，筹建新型绿色智能化柠檬酸项目，着力打造绿色制造的标杆企业、数字化运营的示范企业、低碳发展的领跑企业。项目预计 2023 年底竣工投产，将充分体现绿色、智能、新型，实现行业赶超，达到国内领跑、全球领先的水平。项目建成后，可以增加地方居民就业，提升镇赉县粮食产业深加工能力，大力促进地方经济发展，对镇赉食品产业园的发展壮大具有深远意义，项目的建设具有良好的经济效益和社会效益。

JILIN UNION BIOTECHNOLOGY CO., LTD.

In April 2021, it was incorporated in Zhenlai County, Jilin Province, with the purpose of preparing for the construction of a new type of green and intelligent citric acid project and with an aim to build a benchmark enterprise of green manufacturing, a demonstration enterprise of digital operation and a leading enterprise of low-carbon development. The project is expected to be completed and put into operation by the end of 2023, and will fully embody the green, intelligent and new type concepts to achieve industry catch-up and reach the level of domestic leader and global advancement. After the completion of the project, it can increase the employment of local residents, enhance the deep processing capacity of grain industry in Zhenlai County, vigorously promote the development of local economy, and have far-reaching significance to the development and growth of Zhenlai Food Industry Park. The construction of the project has good economic and social benefits.

绿色制造的标杆企业

副产品全部资源化、高值化利用，实现近零排放。

数字化运营的示范企业

采用行业最先进的数字化生产技术，生产用工人数较行业平均水平下降 50%，单耗水平全球领先。

低碳发展的领跑企业

用风光电代替传统能源发电，30% 的生产用电由风光电提供。

● A benchmark enterprise of green manufacturing

All by-products are resourcefully utilized for high-value to achieve near-zero emissions.

● A demonstration enterprise of digital operation

With the industry's most advanced digital production technology, the number of workers employed in production has been reduced by 50% compared to the industry average, and the unit consumption level is advanced in the world.

● A leading enterprise of low-carbon development

Replacing conventional energy power generation with wind power and photovoltaic power, 30% of production electricity is provided by wind power and photovoltaic power.

“一体两翼”——双基地运行

"BOTH WINGS IN ONE" ——DUAL-BASE OPERATION

国信协联推进“一体两翼”发展战略

Guoxin Union promotes the development strategy of "both wings in one"

聚焦柠檬酸生产主业

FOCUS ON THE MAIN BUSINESS OF CITRIC ACID PRODUCTION

以苏南地区的技术积累为基础，实体化、全链式与高校开展产学研合作，资源化、高值化利用副产品，形成绿色生产循环经济。

Based on the technology accumulation in the southern Jiangsu Province, cooperation with universities in production, academy and research is carried out in the ways of entity and whole chain, by-products are resourcefully utilized for high-value to form circular economy with green production.

以吉林协联生物智造和绿电项目融入东北振兴，全力打造拥有产品定价权的全球龙头企业和绿色智能制造标杆企业。

Integrating into the revitalization of Northeast China with the biosmart manufacturing and green power projects of Jilin Union, it makes every effort to build a leading global enterprise with product pricing power and a benchmark enterprise of green and intelligent manufacturing.



PRODUCT INTRODUCTION

产品介绍

以柠檬酸为主产品的生物制造，在生产过程中消耗大量的蒸汽和电力，与热电产业良性互补，构成国信协联的重要产业结构优势。历经二十余年的匠心坚守，国信协联已是全球行业技术领先、规模居前的专业柠檬酸制造商，是中国发酵产业协会、中国五矿化工进出口商会理事单位，产品远销 100 多个国家和地区。

Citric acid is the main product of biomanufacturing, which consumes a large amount of steam and electricity in the production process, complements the thermoelectric industry well and constitutes an important industrial structure advantage of Guoxin Union. After more than 20 years of perseverance, Guoxin Union has become a specialized citric acid manufacturer with leading technology and scale in the global industry, and is a council member of China Fermentation Industry Association and China Chamber of Commerce of Metals, Minerals & Chemicals Importers & Exporters (CCCMC), products of Guoxin Union are sold to more than 100 countries and regions.



■ 无水柠檬酸 Citric Acid Anhydrous

性 状：无色或白色晶状粉末

主要用途：在食品、饮料、医药行业作为酸味剂、调味剂或防腐剂、保鲜剂、医药辅料；在化工、化妆品及洗涤行业中用作抗氧化剂、增塑剂、洗涤剂。

Characters: Colourless or White crystalline powder.
Main Application: Citric Acid Anhydrous has been applied in food, beverage and pharmaceutical industry as an acid condiment, flavoring agent, preservative. It is also used as an antioxidant, plasticizer and detergent builder in chemical, cosmetics and detergent industries.

■ 柠檬酸钠 Sodium Citrate

性 状：无色或白色晶状粉末

主要用途：在食品、饮料工业中用做风味剂、稳定剂；在医药工业中用做抗血凝、化痰药和利尿药，在洗涤工业之中，可替代三聚磷酸钠作为无毒洗涤剂的助剂；还用于酿造、注射液、摄影药品和电镀等。

Characters: Colourless or White crystalline powder.
Main Application: Sodium Citrate has been applied in food and beverage industry as flavor agent and stabilizer; Used in the pharmaceutical industry as anticoagulant, expectorant and diuretic; In the detergent industry, it can replace sodium tripolyphosphate as the auxiliary agent of non-toxic detergent. Also used in brewing, injection, photographic medicine and electroplating.

■ 玉米淀粉渣 Corn Starch Residue

性 状：淡黄色、棕色粉状物、气味芳香

主要用途：用于配合饲料作原料或动物饲喂，适口性强，可增加喂养动物的蛋白摄入，是替代豆粕、小麦等饲料的最佳产品。

Characters: Light yellow, brown powder, fragrant smell
Main Application: This product is used as a raw material for feed or animal feeding. It has strong palatability and can increase the protein intake of feeding animals. It is the best substitute for feeds such as soybean meal and wheat.

■ 其他产品 Other products

脱硫石膏、硫酸钙、粉煤灰、水渣

Desulfurized gypsum, calcium sulfate, fly ash and water slag

■ 一水柠檬酸 Citric Acid Monohydrate

性 状：无色或白色晶状粉末

主要用途：在食品、饮料、医药行业作为酸味剂、调味剂或防腐剂、保鲜剂、医药辅料；在化工、化妆品及洗涤行业中用作抗氧化剂、增塑剂、洗涤剂。

Characters: Colourless or White crystalline powder.
Main Application: Citric Acid Monohydrate has been applied in food, beverage and pharmaceutical industry as an acid condiment, flavoring agent, preservative. It is also used as an antioxidant, plasticizer and detergent builder in chemical, cosmetics and detergent industries.

■ 谷朊粉 Vital Wheat Gluten

性 状：淡黄色粉末

主要用途：主要成分是麦谷蛋白和醇溶蛋白，蛋白质含量高达 75% ~ 85%，含有人体必需的 15 种氨基酸，是一种营养丰富、物美价廉的植物蛋白源。

Characters: Light yellow powder
Main Application: The main components are glutenin and gliadin, the protein content is up to 75%-85%, contains essential 15 amino acids for the human body, which is a nutritious and affordable plant protein source.

■ β-石膏粉 β-gypsum powder

性 状：白色粉末

主要用途：广泛应用于建筑材料中，包括石膏板、石膏砂浆、快粘粉、石膏腻子、石膏线条、石膏工艺品等。

Characters: White powder
Main Application: This product is widely used in building materials, including gypsum board, gypsum mortar, quick bonding powder, gypsum putty, gypsum lines, gypsum crafts, etc.

QUALITY ASSURANCE

品质保证

先进的生产设备、科学的生产工艺、严格的质量体系以及苛刻的原材料采购系统，保证了协联的产品质量一直处于行业领先地位。

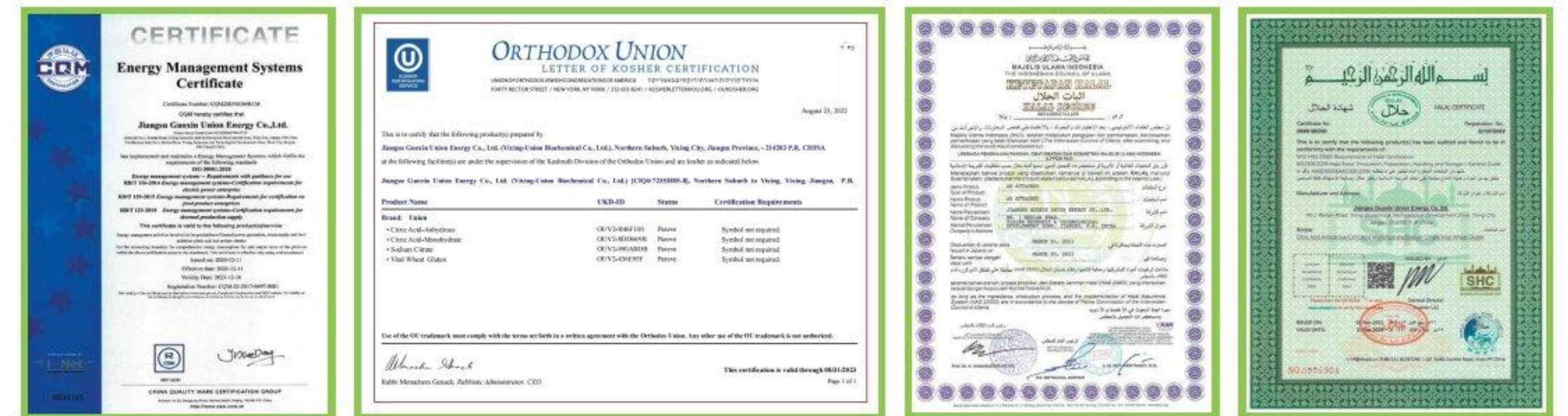
Advanced production equipment, scientific production process, strict quality system and harsh raw material procurement system ensure that the quality of products of Guoxin Union has always been in the leading position in the industry.

权威认证

AUTHORITATIVE CERTIFICATION

公司一贯重视现代化科学管理，建立完善的规章制度和管理手册，并制定了切实可行的执行和监督办法，保证企业自始至终都沿着规范化、制度化的道路不断发展壮大。同时，公司不断强化自身管理，建立完善的质量保证体系，通过 ISO9001 质量管理体系，ISO14001 环境管理体系，ISO50001 能源管理体系，BRC 食品安全全球标准管理体系，HACCP，IP 非转基因认证、美国犹太认证、伊斯兰清真认证、FSSC22000 食品安全认证等体系认证。

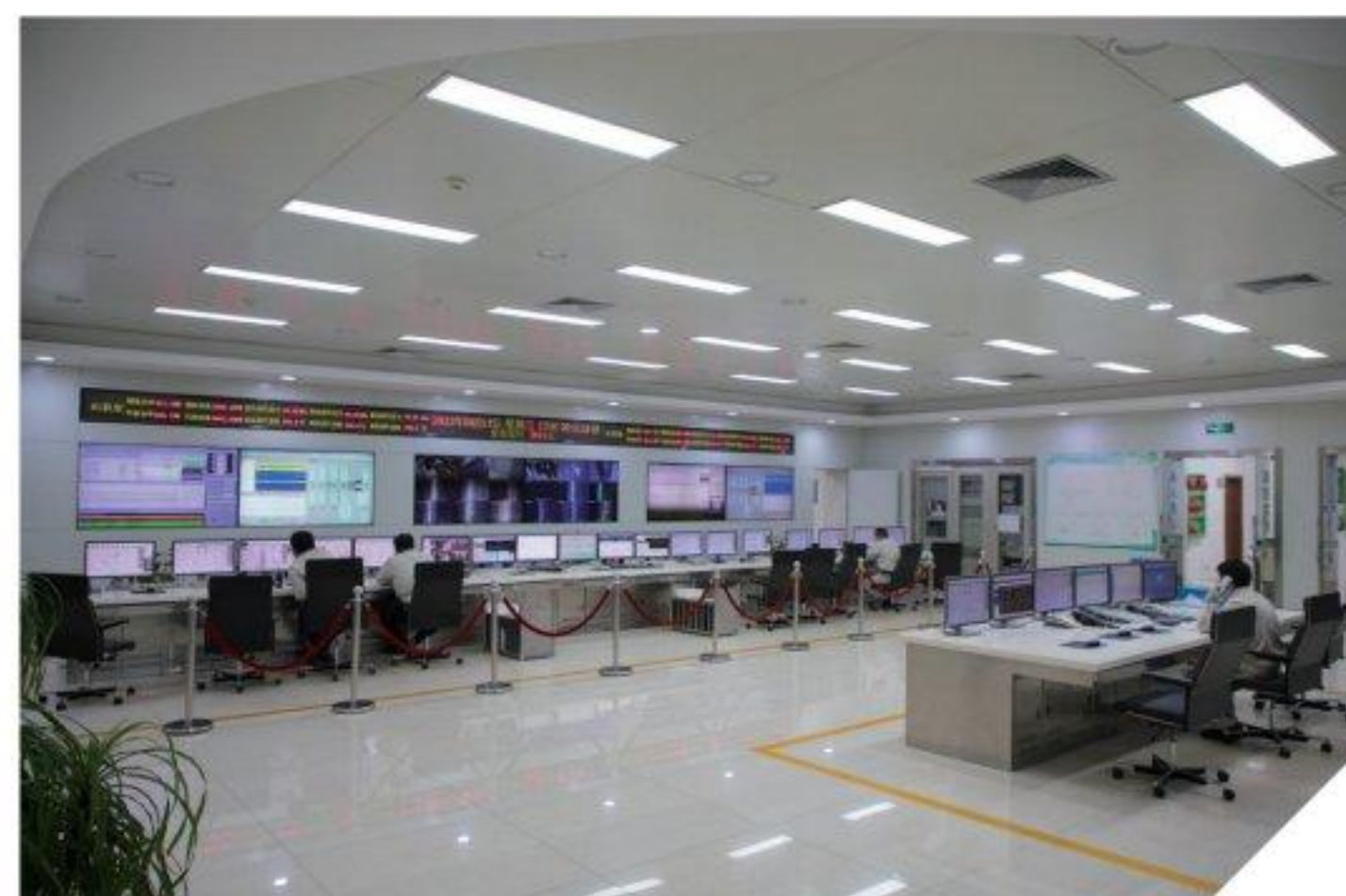
The Company has always attached importance to modern scientific management, established perfect rules and regulations and management manuals, and formulated practical implementation and supervision regulations to ensure that the Company can always develop and grow along the path of standardization and institutionalization from the beginning to the end. Meanwhile, the Company constantly strengthens its own management and establishes a perfect quality assurance system, and has passed ISO9001 Quality Management System, ISO14001 Environmental Management System, ISO50001 Energy Management System, BRC Global Standard Management System for Food Safety, Hazard Analysis Critical Control Point (HACCP), IP Non-GMO Certification, American Kosher Certification, Islamic Halal Certification, FSSC22000 Food Safety Certification and other.



领先装备 LEADING EQUIPMENT

国信协联立足固本培元，着眼产能循环，不断优化生产工艺的同时，探索资源高效综合利用。先进的生产设备、不断壮大的产业规模，为国信协联提高产品质量和市场竞争能力提供了坚实的后备力量。

Based on strengthened foundation, Guoxin Union focuses on the production capacity cycle, explores the efficient and comprehensive use of resources while continuously optimizing the production processes. The advanced production equipment and growing industrial scale provide solid backup strength for Improving product quality and market competitiveness of Guoxin Union.



控制室
Control Room



研发中心
R & D Center



发酵大楼
The Fermentation Building



蒸发系统
Evaporation system



净化水系统
The purify water system



过滤系统
The Filtering System



实验室
The Laboratory

我们的仓储物流 OUR STORAGE AND LOGISTICS



现代化多层框架仓储，极大地利用了空间，同时达到了分类标准堆放要求、ERP 库存管理系统，更准确、高效地进行物流管理。

The modern multi-storey frame warehousing makes great use of space, and also meets the requirements of standard stacking by categories and ERP inventory management system for more accurate and efficient logistics management.



GREEN
DEVELOPMENT
—
绿色发展

发展战略：低碳化、智能化、国际化
DEVELOPMENT STRATEGY: LOW CARBON, INTELLI-
GENT, INTERNATIONAL

作为首批国家排污达标柠檬酸生产企业及国务院批准的全国循环型经济第二批试点单位，公司在创立之初就确定了其对于环境保护和资源节约的理念，以实践循环经济、建设生态协联为目标，致力打造“绿色协联、和谐协联”。

公司围绕热电、生化之间的能源梯级利用和废物循环利用，应用污水脱氮、中水回用技术，从源头实现污染治理，促进清洁生产，推进循环经济，有效提高资源利用的效率，为下一代创建一个更加清洁、环保与和谐的环境。

As one of the first batch of national manufacturers of citric acid with standard emissions and one of the second batch of national pilot units of circular economy approved by the State Council, the Company has established its concept of environmental protection and resource conservation since its inception, aiming at practicing circular economy and building ecological Union and striving to build "Green Union and Harmonious Union".

The Company centers on energy cascade utilization and waste cyclic utilization between thermoelectricity and biochemistry, applies wastewater denitrification and reclaimed water reuse technologies to achieve pollution control at source, promotes clean production, advances circular economy, effectively improves the efficiency of resource utilization and creates a cleaner, more environment-friendly and harmonious environment for the next generation.

环境导向，持续发展 ENVIRONMENT-ORIENTED, SUSTAINABLE DEVELOPMENT

国信协联致力于经济效益和环境保护双赢，积极用高效清洁能源替代传统能源，不断提升柠檬酸绿色智能制造水平。

2011 年投资 20 亿元，建设 2×420MW 燃气热电联产机组。

2015 年，国信协联抓住禁燃区淘汰燃煤锅炉的机遇，依托自身的资源优势，投资 2.5 亿元，建设长距离供热管线，对和桥、宜兴经开区、芳桥周铁集中供热，关停 169 台小锅炉，每年减少标煤耗用 67000 吨，减少 SO₂ 排放 1174 吨、NO_x 排放 383 吨、烟尘排放 251 吨、CO₂ 排放 17600 吨，极大改善了区域环境质量。

2021 年 4 月于吉林省筹建新型绿色智能化柠檬酸项目，项目将充分体现绿色、智能、新型，实现行业赶超，达到国内领跑、全球领先的水平。

Guoxin Union is committed to win-win for economic benefits and environmental protection, actively replaces traditional energy with efficient and clean energy, and continuously improve the level of citric acid green intelligent manufacturing.

In 2011, 2 billion yuan was invested in the construction of 2×420MW gas-fired cogeneration units.

In 2015, Guoxin Union seized the opportunity of eliminating coal-fired boilers in the no-burn zone, relied on its own resource advantages, invested 250 million yuan to build long-distance heating pipelines for providing central heating for Heqiao, Yixing Economic Development Zone and Fangqiao Town and Zhoutie Town, shut down 169 small boilers, reduced standard coal consumption by 67,000 tons per year, reduced SO₂ emissions by 1,174 tons, NO_x emissions by 383 tons, soot emissions by 251 tons and CO₂ emissions of 17,600 tons, greatly improved the regional environmental quality.

In April 2021, a new green intelligent citric acid project was prepared in Jilin Province, which will fully reflect green, intelligent and new, achieve industry catch-up, and reach the domestic leading and global leading level.

纵向延伸，产能循环 VERTICAL EXTENSION, PRODUCTION CAPACITY CYCLE

国信协联响应“绿色发展”号召，做生态文明建设的践行者。

2018 年建成污泥烘干焚烧处置环保项目，每年可处理 13 万吨城市生活污水；

2020 年，年产 5 万吨β建筑石膏粉的循环经济项目全面投产，将柠檬酸副产石膏加工成高附加值、受市场欢迎的优质建材产品。

2022 年投入 2000 余万元进行脱硝超低排放改造，进一步降低排放水平。

In response to the call for "green development", Guoxin Union acts as a practitioner of ecological civilization.

The sludge drying, incineration and disposal environmental protection project was completed in 2018, with a capacity to process 130,000 tons of urban domestic sludge per year;

In 2020, a circular economy project with an annual output of 50,000 tons of β building gypsum powder has been put into full operation, the project can process gypsum (a by-product of citric acid) into high value-added, marketable and high-quality building materials.

Over 20 million yuan will be invested in 2022 for denitration and ultra-low emission transformation to further reduce emission levels.

横向拓展，生态应用 HORIZONTAL EXPANSION, ECOLOGICAL APPLICATIONS

国信协联积极响应国家鼓励土地整治、保护粮食安全、助力乡村振兴的政策，在吉林和新疆实施大面积的盐碱地改良，探索高效农业生产模式，实施有机肥部分替代化肥，推进资源科学利用，在改良土壤的同时促进作物增产，提升柠檬酸生产原料供应的韧性，降低生产成本，创造巨大的社会价值。通过第一和第二产业的融合，打造全产业链的循环利用，提升核心竞争力。

In an active response to the national policies of encouraging land remediation, protecting food safety and helping rural revitalization, Guoxin Union has implemented large areas of saline-alkali land improvement in Jilin and Xinjiang, with the purposes of exploring efficient agricultural production modes, implementing partial substitution of chemical fertilizers with organic fertilizers, promoting scientific use of resources, promoting crop yield increase while improving soil, enhancing the toughness of raw material supply for citric acid production, reducing production costs and creating great social value. Through the integration of primary and secondary industries, Guoxin Union will create the cyclic utilization of the whole industrial chain and enhance its core competitiveness.



CORPORATE
CULTURE
—
企业文化

奋斗者精神

THE SPIRIT OF THE STRUGGLERS

让奋斗者有地位
让奉献者受尊重
让老实人不吃亏

GIVING STATUS TO THE STRUGGLERS
MAKING CONTRIBUTORS RESPECTED
LETTING THE HONEST NOT SUFFER LOSS



柠檬酸 CITRIC ACID

性 状: 无色或白色晶状粉末。

主要用途: 在食品、饮料、医药行业作为酸味剂、调味剂或防腐剂、保鲜剂、医药辅料；在化工、化妆品及洗涤行业中用作抗氧化剂、增塑剂、洗涤剂等。

普通特性: 无水柠檬酸分子式: $C_6H_8O_7$

分子量: 192.1

一水柠檬酸分子式: $C_6H_8O_7 \cdot H_2O$

分子量: 210.1

质量标准: BP、USP、EP、CP、FCC、E330、JSFA、GB、企业标准等。

Characters: Colourless or White crystalline powder.

Main Application: Citric Acid has been applied in food, beverage and pharmaceutical industry as an acid condiment, flavoring agent, preservative. It is also used as an antioxidant, plasticizer and detergent builder in chemical, cosmetics and detergent industries.

Common Features: Citric Acid Anhydrous Molecular Formula: $C_6H_8O_7$
Molecular Weight: 192.1.
Citric Acid Monohydrate Molecular Formula: $C_6H_8O_7 \cdot H_2O$ Molecular Weight: 210.1.

Quality Criterion: BP, USP, EP, CP, FCC, E330, JSFA, GB, Enterprise standard, etc.

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柠檬酸质量标准

QUALITY STANDARD OF CITRIC ACID

检测项目 Item	协联企业标准 Standard of Union	BP	EP	USP	FCC	E330	JSFA	JECFA	GB 1886.235	CP (monohydrate)	
性状 Characters	无水 Anhydrous 一水 Monohydrate	色泽：白色或无色 Color: white or colorless. 状态：结晶状颗粒或粉末，无臭，味极酸，一水柠檬酸在干燥空气中略有风化 Status: crystal granular or powder, odourless, taste very acid, citric acid monohydrate slightly weathering in dry air.									
鉴别试验 Identification		符合试验 Pass test	符合试验 Pass test	符合试验 Pass test	符合试验 Pass test	符合试验 Pass test	符合试验 Pass test	符合试验 Pass test	符合试验 Pass test	/	符合试验 Pass test
溶液澄清度和色泽 Clarity and Color of solution		符合试验 Pass test	符合试验 Pass test	符合试验 Pass test	符合试验 Pass test	/	/	/	/	/	符合试验 Pass test
水分 Water	无水 Anhydrous	≤0.15%	≤1.0%	≤1.0%	≤1.0%	≤0.5%	≤0.5%	≤0.5%	≤0.5%	≤0.5%	/
	一水 Monohydrate	7.50%~8.80%	7.5%~9.0%	7.5%~9.0%	7.5%~9.0%	≤8.8%	≤8.8%	≤8.8%	7.5%~8.8%	7.5%~9.0%	7.5%~9.0%
含量 Content		99.5%~100.5%	99.5%~100.5%	99.5%~100.5%	99.5%~100.5%	99.5%~100.5%	≥99.5%	≥99.5%	99.5%~100.5%	99.5%~100.5%	99.5%~100.5%
易炭化物 Readily Carbonisable Substances		≤1.0(不深于标准) ≤1.0(Not exceeding the standard)	不深于标准 Not exceeding the standard	不深于标准 Not exceeding the standard	不深于标准 Not exceeding the standard	A≤0.52,T≥30%	不深于标准 Not exceeding the standard	不深于标准 Not exceeding the standard	不深于标准 Not exceeding the standard	≤1.0	不深于标准 Not exceeding the standard
钙盐 Calcium		≤0.001%	/	/	/	/	/	符合试验 Pass test	/	≤0.02%	不得产生浑浊 No turbidity forms
氯化物 Chloride		≤0.0005%	/	/	/	/	/	/	/	≤0.005%	≤0.0005%
硫酸盐 Sulphate	无水 Anhydrous 一水 Monohydrate	≤0.002%	≤150ppm	≤150ppm	≤0.015%	/	/	≤0.048%	≤150mg/kg	≤0.01% ≤0.015%	/ ≤0.015%
草酸盐 Oxalates		≤0.002%	≤360ppm	≤360ppm	≤0.036%	≤100mg/kg	≤100mg/kg	符合试验 Pass test	≤100mg/kg	≤0.01%	不得产生浑浊 No turbidity forms
重金属 Heavy metals		≤1mg/kg	≤10ppm	/	/	/	/	/	/	/	≤5mg/kg
铅 Lead		≤0.5mg/kg	/	/	/	≤0.5mg/kg	≤0.5mg/kg	≤0.5μg/g	≤0.5mg/kg	≤0.5mg/kg	/
铝 Aluminium		≤0.2ppm	≤0.2ppm	≤0.2ppm	≤0.2ppm	/	/	/	/	/	/
砷 Arsenic		≤0.2mg/kg	/	/	/	/	≤1mg/kg	≤3μg/g	/	≤1.0mg/kg	≤0.0001%
汞 Mercury		≤0.1mg/kg	/	/	/	/	≤1mg/kg	/	/	/	/
硫酸灰分 / 炽灼残渣 Sulphated ash /Residue on ignition		≤0.03%	≤0.1%	≤0.1%	≤0.1%	≤0.05%	≤0.05%	≤0.1%	≤0.05%	≤0.05%	≤0.1%
细菌内毒素 Bacterial endotoxins		≤0.5IU/mg	≤0.5IU/mg	≤0.5IU/mg	符合试验 Pass test	/	/	/	/	/	/
三月桂胺 Tridodecylamine		≤0.1mg/kg	/	/	/	≤0.1mg/kg	/	/	/	/	/
多环芳香烃 Polycyclic aromatic hydrocarbons (PAH)		≤0.05 (260-350nm)	/	/	/	/	/	/	/	/	/
异柠檬酸 Isocitric acid		符合试验 Pass test	/	/	/	/	/	符合试验 Pass test	/	/	/
铁 Iron		/	/	/	/	/	/	/	/	/	≤0.001%
无菌试验 Sterility tests		符合试验 Pass test	/	/	符合试验 Pass test	/	/	/	/	/	/

柠檬酸钠 SODIUM CITRATE

性 状: 无色或白色晶状粉末。

主要用途: 在食品、饮料工业中用做风味剂、稳定剂；在医药工业中用做抗血凝、化痰药和利尿药；在洗涤工业之中，可替代三聚磷酸钠作为无毒洗涤剂的助剂；还用于酿造、注射液、摄影药品和电镀等。

普通特性: 分子式: $C_6H_5O_7Na_3 \cdot 2H_2O$
分子量: 294.1

质量标准: BP、USP、EP、CP、FCC、E331、JSFA、GB、企业标准等。

Characters: Colourless or White crystalline powder.

Main Application: Sodium Citrate has been applied in food and beverage industry as flavor agent and stabilizer; Used in the pharmaceutical industry as anticoagulant, expectorant and diuretic; In the detergent industry, it can replace sodium tripolyphosphate as the auxiliary agent of non-toxic detergent. Also used in brewing, injection, photographic medicine and electroplating.

Common Features: Molecular Formula: $C_6H_5O_7Na_3 \cdot 2H_2O$
Molecular Weight: 294.1

Quality Criterion: BP, USP, EP, CP, FCC, E331, JSFA, GB, Enterprise standard, etc.

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QUALITY STANDARD OF SODIUM CITRATE

β-石膏粉 β-GYPSUM POWDER

性 状: 白色粉末

主要用途: 广泛应用于建筑材料中, 包括石膏板、石膏砂浆、快粘粉、石膏腻子、石膏线条、石膏工艺品等。

主要指标: 白度 90%, 2h 抗折强度 2.0MPa 以上, 标稠 83%、初凝时间 5-6 分钟, 终凝时间 17 分钟左右。

Characters: White powder

Main Application: This product is widely used in building materials, including gypsum board, gypsum mortar, quick bonding powder, gypsum putty, gypsum lines, gypsum crafts, etc.

Main Indicators: Whiteness: 90% ; 2h bending strength: more than 2.0MPa; standard consistency: 83%; initial setting time: 5-6 minutes; final setting time: about 17 minutes.

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β- 石膏粉质量标准

QUALITY STANDARD OF β-GYPSUM POWDER

中国国家标准				
GB/T 9776-2008				
检测项目	等级	1.6 级	2.0 级	3.0 级
细度 (0.2mm 方孔筛余) /%		≤10	≤10	≤10
凝结时间 /min	初凝	≥3	≥3	≥3
	终凝	≤30	≤30	≤30
2h 强度 /Mpa	抗折	≥1.6	≥2.0	≥3.0
	抗压	≥3.0	≥4.0	≥6.0



玉米淀粉渣 CORN STARCH RESIDUE

性 状: 淡黄色、棕色粉状物、气味芳香

主要用途: 用于配合饲料作原料或动物饲喂，适口性强，可增加喂养动物的蛋白摄入，是替代豆粕、小麦等饲料的最佳产品。

普通特性: 是来源于玉米的高蛋白产品，同时含有丰富的氨基酸、维生素及促进生长代谢的各种微量元素。

Characters: This product is light yellow, brown powder, fragrant and aromatic.

Main Application: It is used as compound feed as raw material or animal feeding. It has strong palatability and can increase the protein intake of feeding animals.

Common Features: It is a high-protein product derived from corn. It is also rich in amino acids, vitamins and various trace elements that promote growth and metabolism.

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玉米淀粉渣质量标准

QUALITY STANDARD OF CORN STARCH RESIDUE

检测项目	协联企业标准
外观	淡黄色至褐色粉状，色泽一致，无发霉、变质、结块现象
气味	具有该产品正常气味，无霉味和酸败味
水分	≤12%
粗脂肪	≥7%
粗蛋白	≥24%
淀粉含量（干基）	≥20%
卫生指标	产品的卫生指标应符合 GB 13078 的相关规定



谷朊粉 VITAL WHEAT GLUTEN

性 状: 淡黄色粉末。

主要用途: 主要成分是麦谷蛋白和醇溶蛋白，蛋白质含量高达 75%~85%，含有人体必需的 15 种氨基酸，是一种营养丰富、物美价廉的植物蛋白源。由于其自身具有的粘弹性、延伸性、薄膜成型性、吸脂性和良好的机械性能，谷朊粉被广泛应用于面条、方便面和面包等食品行业，用于肉制品中保持水分以改善储藏品质，同时也被作为基础材料加入到高档水产饲料中。

Characters: Light yellow powder

Main Application: The main components are glutenin and gliadin, the protein content is up to 75%-85%, contains essential 15 amino acids for the human body, which is a nutritious and affordable plant protein source. Because of the viscoelastic, extensibility, film forming, liposuction and good mechanical properties, gluten and are widely used in the noodles, instant noodles, bread and other food industry, can also be used to keep moisture in the meat products to improve the storage quality, also referred to as base material added to the high-grade aquatic feed.

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谷朊粉质量标准

QUALITY STANDARD OF VITAL WHEAT GLUTEN

中国国家标准 Chinese national standards

GB/T 21924-2008

检测项目 Item	一级 Level 1	二级 Level 2
水分 Water content	≤8%	≤10%
粗蛋白 (N*6.25, 干基) Crude protein (N*6.25, Dry Basis)	≥85%	≥80%
灰分 (干基) Ash content (Dry Basis)	≤1%	≤2%
粗脂肪 (干基) Crude fat (Dry Basis)	≤1%	≤2%
吸水率 (干基) Water absorption (Dry Basis)	≥170%	≥160%
感官要求 Sensory requirements	呈淡黄色粉末状, 无酸味, 无异味, 无杂质, 不粘手 It is light yellow powder, without sour taste, peculiar smell, impurities and sticky hands	
粗细度 Granularity	CB30 筛通过率≥99.5%, 且 CB36 筛通过率≥95% Pass rate of CB30 sieve ≥ 99.5%, and pass rate of CB36 sieve ≥ 95%	
卫生要求 Sanitary Requirement	食品用谷朊粉按 GB 2715 及国家有关规定执行, 饲料用谷朊粉按 GB 13078 及国家有关规定执行 Gluten for food shall comply with GB 2715 and relevant national regulations, and gluten for feed shall comply with GB 13078 and relevant national regulations	

