上海醫藥集團股份有限公司
Shanghai Pharmaceuticals Holding Co., Ltd.*
(A joint stock company incorporated in the
People's Republic of China with limited liability)
(Stock Code: 02607)

2019
上海医药企业社会责任报告

SHANGHAI PHARMA
CORPORATE SOCIAL RESPONSIBILITY REPORT

SPH 上海医药 SHANGHAI PHARMA

Definitions

In this report, unless the context otherwise requires, the following terms shall have the following meanings:

"Shanghai Pharmaceutical Group", "Shanghai Pharmaceuticals Holding", "Shanghai Pharmaceuticals", "the Company" or "We"	Shanghai Pharmaceuticals Holding Co., Ltd.
Shanghai Pharma	Shanghai Pharma Co., Ltd.
SPH Keyuan	SPH Keyuan Xinhai Pharmaceutical Co., Ltd.
SPH Sine	Shanghai SPH Sine Pharmaceutical Laboratories Co., Ltd.
SPH No. 1 Biochemical and Pharmaceutical	Shanghai SPH No. 1 Biochemical and Pharmaceutical Co., Ltd.
SPH Traditional Chinese Medicine	Shanghai Traditional Chinese Medicine Co., Ltd.
SPH Changzhou Pharmaceutical	SPH Changzhou Pharmaceutical Co., Ltd.
SPH New Asiatic	SPH New Asia Pharmaceutical Co., Ltd.
SPH Zhongxi	Shanghai Zhongxi Sunve Pharmaceutical Co., Ltd.
SPH Sales	Shanghai Pharma Sales Co., Ltd.
SPH Techpool	Techpool Bio-pharma Co., Ltd.
Chiatai Qingchunbao Pharmaceutical	Chiatai Qingchunbao Pharmaceutical Co., Ltd.
SPH Growful	SPH Qingdao Growful Pharmaceutical Co., Ltd.
SPH Research Institute	Central Research Institute of Shanghai Pharmaceuticals Holding Co., Ltd.
Vitaco	Vitaco Health (NZ) Limited
SPH Herbapex	Liaoning SPH Herbapex Pharmaceutical (Group) Co., Ltd.
Huqingyutang Pharmaceutical	Hangzhou Huqingyutang Pharmaceutical Co., Ltd.
SPH Zhonghua	Shanghai Zhonghua Pharmaceutical Co., Ltd.
SPH Xiamen Traditional Chinese Medicine	Xiamen TCM Factory Co., Ltd.
SPH Dong Ying	SPH Dong Ying (Jiangsu) Pharmaceutical Co., Ltd.
SPH Medical Instruments	Shanghai Medical Instruments Co., Ltd.
SPH Material Supply and Marketing	SPH Materials Supply and Sales Co., Ltd.
China International	China International Pharmaceutical (Holding) Corporation Limited
SPH Sunway Biotech	Shanghai Sunway Biotech Co., Ltd.

A shares	domestic shares of the Company, which are listed on the Shanghai Stock Exchange and traded in RMB
H shares	overseas shares of the Company, which are listed on the Hong Kong Stock Exchange and traded in Hong Kong dollars
Renminbi	Renminbi, the legal tender of the PRC


Dedicated to Uplifting
People’s Healthy Living
Quality

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About this Report

Scope

The duration of this report is from January 1, 2019 to December 31,2019. Unless otherwise stated, the data and cases mentioned in this Report are derived from Shanghai Pharmaceuticals Holding Co., Ltd. and its subsidiaries.
With respect to the influence of COVID-19 in 2020, Shanghai Pharmaceuticals is now disclosing the epidemic-fighting related work.

Content selection

This report makes reference to the principles of GRI's substance, sustainable background, stakeholders' engagement and integrity, and fully takes into account the Company's development strategy and business development initiatives.

Standards for preparation

This report makes reference to the Sustainability Reporting Guidelines of the Global Reporting Initiative (GRI), "Notice on Strengthening the Social Responsibility Commitment of Listed Companies and Promulgating the "Guidelines on Environmental Information Disclosure of Companies Listed on Shanghai Stock Exchange" "promulgated by the Shanghai Stock Exchange, the "Guidelines on Preparation of Corporate Social Responsibility Reporting" and the "Environmental, Social and Governance Reporting Guide", as set out in Appendix 27 of the Rules Governing the Listing of Securities of The Stock Exchange of Hong Kong Limited, and its Main Amendments. In 2019, the Company fully complied with the principles and terms set out in the aforesaid regulations and guidelines.

Indicator selection

This report primarily takes into consideration the relevance, substance and availability of all specific indicators related to performance disclosure of key issues. We will continue to adjust and optimize the disclosure indicators in future reports.

Form of promulgation

This report is published online. The online version can be downloaded from the Shanghai Stock Exchange website (www.sse.com.cn) and the Company website (www.sphchina.com). For further information on the Company's business, please refer to the 2019 annual report of Shanghai Pharmaceuticals.

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Message from the Chairman

Holding Strategic Momentum, Commitment to Public Health

Strategy is not only the milestone for a company's long-term development, but also the guidance for the Company to constantly pursue excellence and develop from good to better in its business including R&D, production, sales and services, etc. As the pacesetter of China's pharmaceutical corporates, Shanghai Pharmaceuticals, in the face of the profound changes in the industry, adheres to its strategic momentum of "A blue print shall be drawn to the end", staying true to its mission, responding rapidly and actively coping with the epidemic. From R&D innovation, quality control, efficient services and responsibility undertaking, Shanghai Pharmaceuticals is dedicated to greatly satisfying the health need of the general public and striven constantly to ensure the safety, effectiveness and accessibility of the medicine.

In 2019, Shanghai Pharmaceuticals' annual revenue reached RMB186.566 billion, with an increase of 17.27% year on year, and the net profit reached RMB4.081 billion, with an increase of 5.15% year on year.

Deepening R&D Innovation Strategy, Satisfying Clinical Needs at All Levels

The product is the core for a pharmaceutical corporate to show its sustainable competitiveness. All the time, Shanghai Pharmaceuticals has made a solemn commitment to consumers that we will continuously get more innovative products. The continuous R&D investment paves the way for product innovation. In 2019, Shanghai Pharmaceuticals' investment in R&D reached RMB1.35 billion, with the proportion of the industrial sales revenue accounting for 5.74%. The growth of spending enables Shanghai Pharmaceuticals to constantly improve its product lines, propelling Shanghai Pharmaceuticals to the top of R&D comprehensive strength. In 2019, Shanghai Pharmaceuticals' several innovative drugs and generic drugs have achieved positive phased results.

Besides its independent R&D and in order to launch more innovative products and meet the patients' unmet clinical needs, Shanghai Pharmaceuticals has also actively expanded and enhanced external cooperation in R&D.

With respect to platform construction, Shanghai Pharmaceuticals has cooperated with East China University of Science and Technology to establish Center for Green Pharmaceutical Preparation and Innovation and Commercialization, with Tenth People's Hospital of Tongji University to establish Center for Cancel Cell Therapy, with Tianjin University of Traditional Chinese Medicine and Shanghai University of Traditional Chinese Medicine to establish Joint Research Institute of Traditional Chinese Medicine, etc.

With respect to external cooperation, SPH-San Diego R&D Center was inaugurated, which has improved Shanghai Pharmaceuticals' overall innovation capability in biomedicine; Shanghai Pharmaceuticals' cooperation with BIOCAD, the largest biomedicine company in Russia, to build a joint venture, so as to give our respective advantages to accelerate the product upgrading and realize high-tech transfer.

In 2019, Shanghai Pharmaceuticals, with its valued R&D innovative strategy and its excellent performance in R&D, managed to be focused and acknowledged by all the sectors of society, and won many "innovation" awards of pharmaceutical industry.

Excellent Manufacturing to Protect and Escort Patients to Take Medicine

The effective and quality-controllable medicine serves to be both the foundation for a pharmaceutical corporate to fulfill its social responsibility, and the core philosophy adhered to by Shanghai Pharmaceuticals in its production management. In 2019, with respect to quality strengthening, Shanghai Pharmaceuticals not only actively conducted evaluation on consistency of quality and efficacy of generic drugs, but also has constantly perfected its quality system to protect and escort the patients to take a drug.

The evaluation of consistency of quality and efficacy of generic drugs is a kind of important strategy initiative implemented by China to improve the drug quality. In 2019, Shanghai Pharmaceuticals completed application for consistency evaluation of 20 varieties and 23 strengths of solid preparations and ranked top in China and first in China in the quantity of consistency evaluation initiations and applications.

In 2019, Shanghai Pharmaceuticals implemented quality responsibility management to strengthen quality audit, optimize the resource distribution of production and manufacturing, intensify Lean Six Sigma (LSS) management and improve supply chain to consolidate Shanghai Pharmaceuticals' management in its quality system. With respect to lean management, Shanghai Pharmaceuticals further released excellent manufacturing evaluation system, widely covering the sections of manufacturing, sales and business, etc., and keeping to improve the management quality and efficiency and propel the high-quality development of the corporate.

Integration of More Resources, Increasing of the Speed at Which Patients Get Drugs

Shanghai Pharmaceuticals, as a national leading pharmaceutical business service corporate, has been committed itself to integrating more upstream product resources, innovating service mode and expanding business channels, so that the domestic patients can get high-quality drugs as soon as possible.

In 2019, Shanghai Pharmaceuticals negotiated with Bristol-Myers Squibb to reach a new round of agreement on purchasing OPDIVO; and signed the strategic cooperation agreement with Roche, Astrazeneca, LillyChina, Oxford Immunotec, Carl Zeiss; Shanghai Pharmaceuticals completed the first order of major products of GSK and Novo Nordisk, etc. in China, which provided more and faster service solutions for Chinese patients. Shanghai Pharmaceuticals co-founded "Donation Alliance for Chinese Patients", participating in the joint plan to ensure the special drugs for anti-cancel, so as to make the drugs accessible and affordable for the patients to use, and then improve the quality of life.

Shanghai Pharmaceuticals also actively cooperated with national policies, taking several measures to meet the drug needs of special populations. In addition, Shanghai Pharmaceuticals worked with other 23 pharmaceutical enterprises and led to establish the Supply Support Consortium of National Small Varieties of Drugs (Drugs in Shortage), ensuring the production and supply of 42 varieties in the catalogs with 141 drugs in shortage. Drug need for rare diseases is also a major concern of Shanghai Pharmaceuticals, and now Shanghai Pharmaceuticals has 15 varieties of drugs, which covers 18 rare diseases. It is incumbent upon Shanghai Pharmaceuticals to care for the population with rare diseases.

Alleviating Poverty and Undertaking Charitable Activities to Do best to Fight against the Epidemic

Shanghai Pharmaceuticals has kept its responsibility and mission in mind, deeply paying attention to the society, actively participating in various social charitable activities and always connecting its core resources with the social need, so as to give back to the society with practical actions.

With respect to targeted poverty alleviation, Shanghai Pharmaceuticals actively responded to the call of poverty alleviation of the Party Central Committee. All of its subsidiaries proceeded to the targeted poverty alleviation activities including "Helping Hundreds of Villages by Hundreds of Enterprises" and "Helping Thousands of Villages by Thousands of Enterprises", and assist the economic development of the supported regions through the poverty alleviation of traditional Chinese medicine industry, clinics construction and renovation, poverty alleviation of benevolence supermarket, helping poor students, poverty alleviation of Party building, consumption poverty alleviation, cultural poverty alleviation, road aid construction and health free clinics, etc. "Shanghai Pharmaceuticals' Love Protection Plan" has been continuously progressed, which makes a contribution to improving the clinic level of rural doctors of the grass-rooted lines.

With respect to public undertakings, Shanghai Pharmaceuticals has continuously supported the training of young medical talents, promoted traditional Chinese medicine culture, prompted the rational use of drugs, donated money and drugs to the special populations, helped the poor students for education, and actively participated in the community public activities and volunteer services....
During the work of fighting against COVID-19 in 2020, Shanghai Pharmaceuticals adheres to the work of two aspects of prevention and control, and guarantee and supply, actively cooperates to the R&D of anti-epidemic drugs, strives to ensure the production and supply and the commercial delivery of drugs, and takes the initiative to undertake the social responsibilities as a large state-owned pharmaceutical enterprise. As strategic material reserve unit and Shanghai anti-epidemic medical supply supporting base designated by Shanghai Municipal People's Government, Shanghai Pharmaceuticals' distribution enterprises respond for 24 hours to ensure the material supply to make outstanding contributions to fight against the epidemic; the manufacturing enterprises resume work and production in advance, guaranteeing the production of anti-epidemic drugs; and the drug R&D department responds quickly to actively cooperate with the scientific research institutions for clinical research. Every enterprise actively donated anti-epidemic drugs and materials, so as to contribute to overcome the epidemic as soon as possible.

Caring for the Employees' Professional Health, Strengthening the Responsibilities for Environmental Governance

The professional health and development, and safe production and the responsibilities for environmental governance are the important embodiment of EHS corporate social responsibilities of an enterprise.

Shanghai Pharmaceuticals keeps improving position-, skills-, performance- and market-oriented salary mechanism, expanding the channels for the professional development of the employees, and perfecting the talent training system, so that the employees can jointly enjoy the development achievements of the enterprise.

The Company strictly complies with the legal and regulatory requirements, carrying out the responsibility in safe production and the entity responsibility in enterprise environmental protection, continuing to enhance the publication, evaluation, audit and rectification, so as to fully cover the professional risk management, further improve the level of safe and environmental protection. In the meanwhile, the Company will continue to increase the investment in environmental protection, and has completed the targets in reducing energy consumption, saving energy, strengthening governance and reducing pollutant discharges.

The pharmaceutical industry matters vitally to national well-being and the people's livelihood, and the strategy of "Healthy China" has provided a blueprint of the future development for the whole pharmaceutical industry. Shanghai Pharmaceuticals will, under the guidance of national strategy, continue to persist and pursue excellent, so as to work for the wellbeing of the patients, clients and the employees, and strive to create a China's leading pharmaceutical enterprise with international competitiveness.

Chairman of Shanghai Pharmaceaticals Holding Co.,Ltd.:

Overview of the Company

Main businesses covering pharmaceutical R&D and manufacturing, distribution and retail

The main businesses of Shanghai Pharmaceuticals cover pharmaceutical R&D and manufacturing, distribution and retail. The Company keeps focusing on the core links of the industrial chain and conducts simultaneous development of endogenous development and extension. It is one of the few listed pharmaceutical players holding a leading position in the industry and commerce in China.

The Company will continuously provide the mass patients with safe and efficient treatment drugs including chemical drugs, biological products, modern TCM and healthcare products, etc., focusing on 7 therapeutic area covering anti-neoplastics, heart and cerebral vessels, psychoneural, anti-infection, autoimmunity, digestion metabolism and respiratory system. The Company aims at the clinical need, actively developing high-end generic drugs and innovative drugs, and developing drugs for rare diseases at the same time, so as to continue to construct a product line in consistence with the clinical need and possessing technological advantages. With respect to innovative drugs, the Company increased the innovative investment and optimized the product layout through independent R&D and external cooperation, focusing on the development of the new-generation products in immune cells treatment, gene therapy and micro-ecology, etc. With respect to generic drugs, the Company is dedicated to developing new drugs from common generic drugs to difficult generic drugs, competitive generic drugs and improved drugs. With respect to traditional Chinese medicine, the Company focuses on continuous secondary development of major varieties, deeply explores clinical value of products and actively develops a batch of modern major traditional Chinese medicine products. In 2019, our large major varieties achieved a great growth, with the number of 35 products exceeding 100 million, among which 1 product exceeded 1.5 billion, and of 8 products were between 500 million and 1.5 billion. A large number of products developed rapidly leading to a growth of more than 50% in products including Perhexiline, Captopril Tablets, Yuxuebi Capsules and Granules, Salbutamol Inhaler, Trypsin for Injection, etc. Major breakthroughs have been made in our R&D work, with acquiescence on the research on LLDT-8 against adaptation diseases of rheumatoid arthritis, the launch of clinical research on Stage II of AIDS adaptation diseases; the completion of clinical enrollment of SPH3127 Stage II; and the submission of pre-IND application of the products such as SPH3261. With respect to generic drugs, 4 varieties have passed the consistency evaluation in 2019, 2 generic drugs products were added and approved for production, and 3 products were added and declared for production. The Company keeps promoting the external R&D cooperation, and introduced products have achieved remarkable results. The Company set up SPH-BIOCAD, a joint venture with BIOCAD, a Russian leading bio-pharmaceutical enterprise, and some of the first batch of products of 6 bio-pharmaceutical drugs have been introduced to the domestic clinic registration work. In addition, the Company has also succeeded in introducing some major drugs for treating acute cerebral stroke from Lumosa Therapeutics Co., Ltd.

Our distribution network covers 31 provinces, municipalities and autonomous regions in China, among which 24 provinces, municipalities and autonomous regions are directly controlled by the holding subsidiary. Distribution service covers more than 27,000 medical institutions. The Company also cooperates with numerous transnational pharmaceutical players across the globe and is committed to building efficient, agile and intelligent supply chain management system. The Company excels other domestic peers in SPD, third-party logistics service, DTP, one-stop services for imported drugs, informationized management of drug stores, clinical support service and other innovative business models. The Company leads the domestic drug retail industry in retail size, covering 16 provinces, municipalities directly under the Central Government and autonomous regions in China and the number of chain brand retail pharmacies exceeding 2,000. Its subsidiary SPHC proactively explores the new model of “Internet + Pharmaceutical” and endeavors to building a new retail eco-system for prescription pharmaceutical centering on the transfer of electronic prescriptions, providing patients with professional, safe, efficient and convenient services for purchase of prescribed drugs and comprehensive long-term health management.

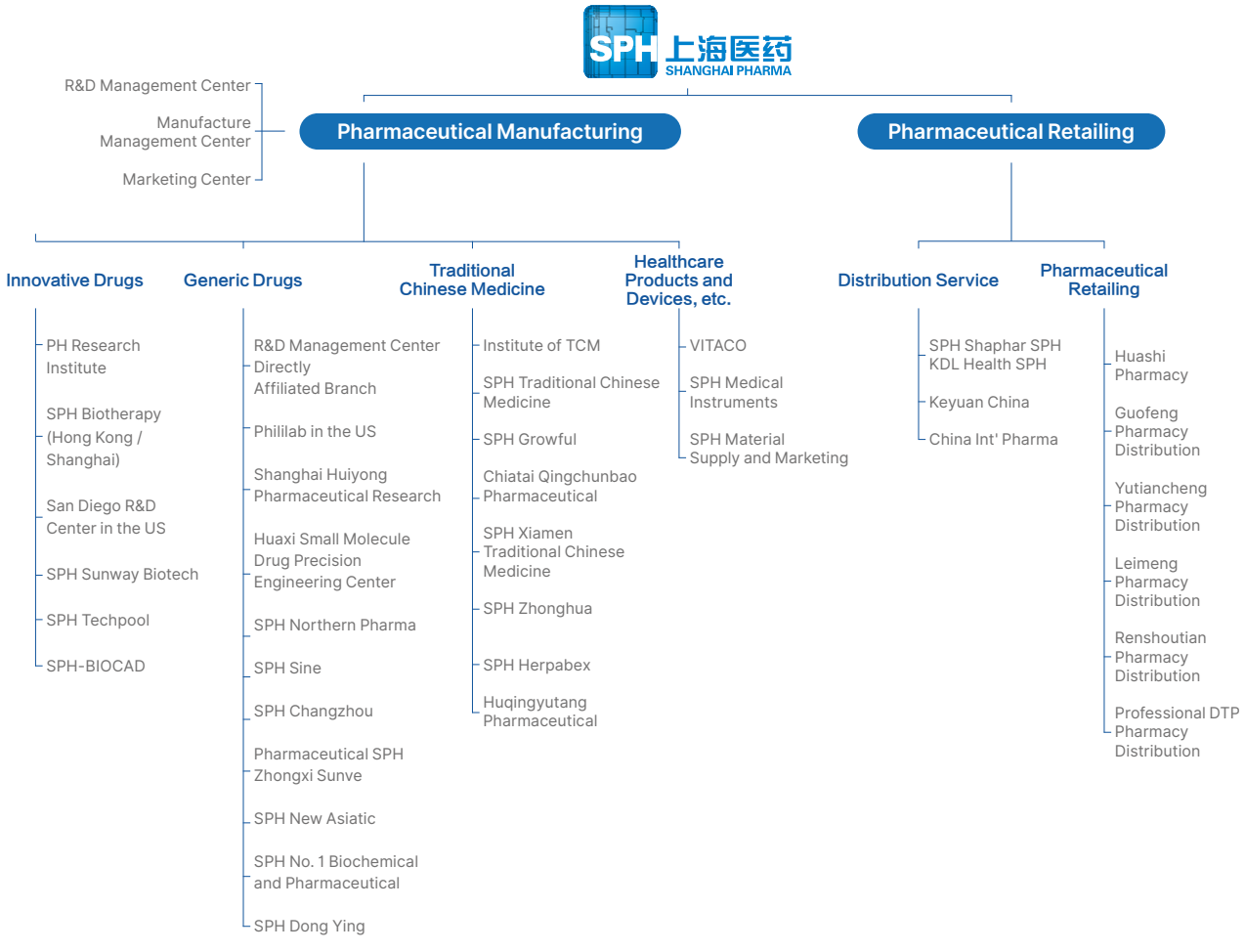
In 2019, Chinese health care industry continued to deepen the structural reform and the drug security has been improved and policy bonus for support the development of innovative drugs has also been released at the same time with a series of policies and measures carried out including intensive implementation of policies and regulations, expanding of pilots for quantity purchase, catalogue adjustment of health care drugs, catalogue disclosure of national key monitoring drugs, ratio adjustment of medical insurance reimbursement, the launch of national pilots for payment by diseases, the amendment, issue and implementation of Pharmaceutical Management Law and Vaccine Management Law, and the construction of the long-term mechanism for guaranteeing the supply of urgent and life-saving drugs at stable prices. The number of domestic innovative chemical drugs and biological drugs hit a record high, and the innovation power of domestic pharmaceutical is on the rise. On the whole, under the superposed effect of several pharmaceutical industry reform policies including “Accelerating the Cost-control and Adjusting the Structure, Encouraging the Innovation and Prompting Transformation”, Chinese pharmaceutical industry is still in a period of great changes, and the structural deepening and adjustment, technological innovation and

acceleration, and the speeding up of industry reshuffle have proposed higher demand of the operation of pharmaceutical enterprises. China is evolving from a large pharmaceutical country to a strong one. In the coming five years, it is expected that the domestic pharmaceutical market will continue to be one of the most attractive markets in the world. The industry will become more internationally-competitive, demanding upgrades and further centralizing through high-quality development. Companies face opportunities and challenges alike in the development.

Looking back on 2019, surrounding the strategic planning of the new three-year planning and the trend of the changes in the industry, Shanghai Pharmaceuticals insisted on the general working policy of "Complying with the changes in the industry, accelerating transformation and development and ensuring leading industrial position". Under the leadership of the Board and the management team, Shanghai Pharmaceuticals increased investment in R&D and innovation, sped up the promotion of innovation-driven development, intensive development, international development and combination with production and yielded significant results in a phased manner in R&D of new drugs, product introduction, external R&D cooperation, business network extension, extension of supply chain within and outside hospitals, and international business expansion. The operating results achieved robust growth despite the situation. The Company's profitability, innovative impetus, operating efficiency and our status in the industry continued to rise. Our incentive system reform has experienced a great breakthrough, and the first plan of stock and equity incentives has been officially approved in the shareholders' general meeting in December 2019.

Against the backdrop of reform and development of the pharmaceutical industry in China, the Company will actively seize the opportunities arising from national strategies, adapt to the industrial changes and accelerate transformation and development by further promote the four major developments with science and innovation as the core, so as to ensure its leading position in China's pharmaceutical industry, sparing no effort to build an internationally competitive and influential Chinese pharmaceutical industry group.

Direct corporate structure of Shanghai Pharmaceuticals Holding Co., Ltd.



Our overall strength continues to lead in domestic pharmaceutical industry

In 2019, Shanghai Pharmaceuticals recorded an operating income of RMB186.566 billion, representing an increase of 17.27% on a YOY basis. Net profit attributable to the shareholders of the listed company was RMB4.081 billion, representing an increase of 5.15% on a YOY basis. As at December 31, 2019, the owners' equity of the Company was RMB41.659 billion and its total assets were RMB137.026 billion.

NO.3 Forbes

Ranking 3rd among Chinese pharmaceutical enterprises on 2019 Forbes Global 2000 by Forbes

——*Forbes*

NO.61 财富 FORTUNE

Ranking 61st in Top 500 Enterprises on 2019 Fortune China

——*by Fortune(Chinese Edition)*

Ranking **3rd** in top 10 Enterprise Groups in Chinese Pharmaceutical Industry in 2019

Ranking **2nd** in top 100 Industrial Enterprises in Comprehensive Strength in Chinese Chemical Pharmaceutical Industry in 2019

Ranking **3rd** of Excellent Enterprise Brands in Integrated Advance of Informalization and Industrialization in Chinese Chemical Manufacturing Industry

Ranking **6th** in Outstanding Brands in Chinese Chemical Pharmaceutical Industry (Export of Active Pharmaceutical Ingredients) in 2019

——China Chemical & Pharmaceutical Industry Association, China Association of Pharmaceutical Commerce, China Non-prescription Medicines Association and China Pharmaceutical Enterprises Development Promote Association, etc.

Ranking **11th** in top 100 Shanghai

Enterprises in 2019 Ranking **4th** in top 100 Enterprises in Shanghai Manufacturing Industry in 2019

——Shanghai Enterprise Confederation, Shanghai Entrepreneur Association and Shanghai Federation of Economic Organizations

Ranking **122th** in top 500 Chinese Enterprises in 2019

Ranking **43th** in top 500 Enterprises in Chinese Manufacturing Industry in 2019

Ranking **100th** of China Enterprises with Sustainable Development in 2019

——China Enterprise Confederation / China Enterprise Directors Association

Ranking **6th** in top 100 Chinese Enterprises (Pharmaceutical Industry)in 2018

Ranking **5th** of top 25 Best Industrial Enterprises of China Pharmaceutical R&D Product Lines in 2019

——China National Pharmaceutical Industry Information Center

Ranking **3rd** in top 100 in Chinese Pharmacy Industry in 2018

——Medicine Economic Newspaper

Ranking **10th** in the Most Investment Value Enterprises of China Pharmaceutical Listed Enterprises in 2018

Leadership Award of Corporate Social Responsibility

——China Pharmaceutical Enterprises Management Association

Leadership Enterprise of China Pharmaceutical Enterprises Social Responsibility in 2019

First Rung of top 100 China Pharmaceutical Innovative Enterprises

Backbone Enterprise of Pharmaceutical Enterprises on the 70th Anniversary of the Founding of New China of "Splendid 70 Years and the Struggle in the New Era"

——China Healthcare Seminar of Entrepreneurs, Scientists and Investors

SPH "Flying Swan Goose Team Construction" and its 6 sub-brands were chosen as

Party-building Brands of Shanghai State-owned Enterprises

——Shanghai Stated-owned Asset Supervision and Administration Commission of the Communist Party of China

Ranking **top 100** of China Brand Development Index (CBDI)

——The People's Daily

Outstanding Award of Human Resources Management in 2019

Award of Employer Loved by College Students of China in 2019

——51job

Mission

- Persist and strive to improve people's healthy living quality

Vision

- Pursue to become a respectable leading brand pharmaceutical with industry reputation manufacturer and health service provider

Core Value

- Innovation, Integrity, Cooperation, Inclusiveness, responsibility

CHAPTER 1

Strategy and Analysis

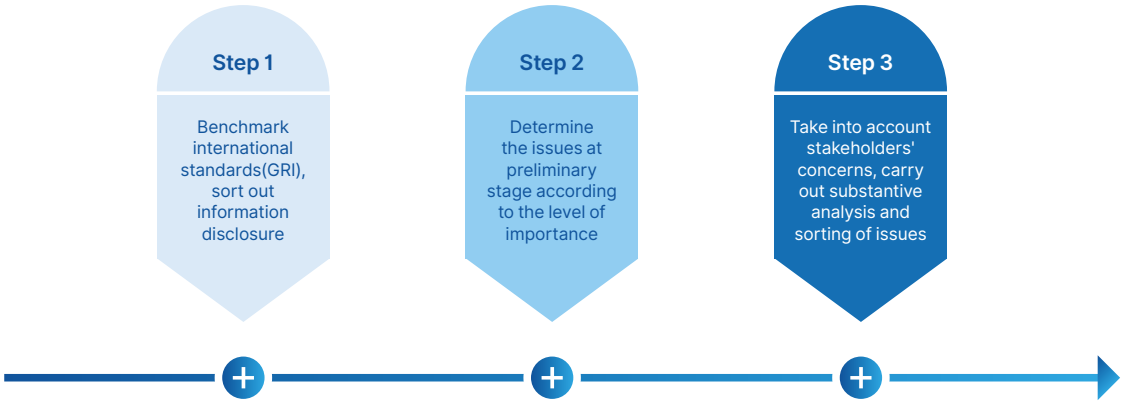
1.1 Responsibility Management System

	Management responsibilities	Management structure
Strategy	Formulation and improvement of corporate social responsibility strategy	Strategic Development Department of the Group Strategic Development Department of the Group
Management and practice	To be in line with the business of the Company, our corporate social responsibility practice includes but is not limited to: R&D innovation, lean manufacturing, promotion of access to medicines and services, meeting the medication needs of special groups, providing solutions to resolve social problems, accountable operations, etc. (please refer to relevant sections)	Horizontal: functional responsibility system Vertical: line management system
Communication	Capital market / responsibility brand communication in doctor-patient market, communication with other stakeholders(please refer to relevant sections below)	Board of Directors' Office / Office of the Group Stakeholder Communication Department

1.2 Stakeholders and Communication Channels

Stakeholders	Stakeholders' concerns	Our communication channels
Shareholders	Performance Governance Compliance	Open information disclosure Shareholders' general meeting, investor performance conference, roadshow / reverse roadshow, etc. Investor relations hotline, E interaction, etc.
Customer	Safety/quality Service Price	After-sales service, research on level of satisfaction Academic seminar Rational drug use and popularization Brand communication
Employees	Power enhancement Personal development Protection of rights and interests	Performance management communication Periodic training Workers' congress WeChat, Weibo, BBS, intranet, internal publication
Partners	Supply chain management Cooperation to achieve win-win situation	Industry communication Business exchange platform Business exchange platform Cooperative assessment
Community and environment	Solutions to resolve social problems Environmental protection	Friendly activities Responsible operation

1.3 Materiality analysis of key responsibility issues



Our concerns

Drug safety, product / service accessibility, market behavior, staff development, corporate value, corporate governance, business ethics, friendly activities, environmental protection...

Stakeholders' concerns

Drug safety, product / service accessibility, friendly activities, corporate value, business ethics, corporate governance, environmental protection, market behavior, staff development ...

Key responsibility issues

Accountable operation

Shareholders: efficiency, governance, management and control
Employees: diversified equality occupational health growth and protection of rights
Environment: environmental protection, energy saving

Public health

Take medicine of high quality, make medicine affordable, take medicine with ease(R&D innovation, product quality, production cost, network construction, supply chain service, import of new drugs, drug needs of special population, etc.)

Solutions to resolve social problems

Targeted poverty alleviation, friendly activities, community service.....

Our goal

- Take medicine of high quality and make the medicine affordable

Our management ideology

- R&D innovation – Reliable efficacy of new drugs
- Excellent Manufacturing – Quality and safety assurance, reasonably affordable

Our measures

- Continuously increase investment in R&D and enhance the innovation of product lines
- Strengthen R&D cooperation and construct innovative platforms
- Improve product quality and continuously propel consistency evaluation
- Continuously optimize manufacturing management system

Our achievements

- Several innovative products have been launched or undergoing clinical trials.
- Overseas R&D center has been established, joint ventures have been set up, and several innovative projects have been introduced, so as to further explore to deepen the model of “Five in One” including governments, industry, hospitals, schools and research institutions.
- The product request quantity of generic drugs with consistency evaluation ranks among the best, and top 1 in Shanghai.
- Full Coverage of Lean Sig Sigma Management, Launch of Excellent Manufacturing Evaluation System

CHAPTER 2

Let people take medicine of high quality and make the medicine affordable

2.1 Continuously increase investment in R&D and enhance the innovation of product lines

1 R&D comprehensive strength ranks first

Progress of Bio-antibody Drugs under Research/Innovative Drug Lines			
Treatment field	Apply for clinical trail	Clinical phase I	Clinical phaseII
Anti-tumor drugs	SPH3261	CD30 -DM1 Antibody SPH3348 SPH1188-11 Humanized CD 20 antibody HER2 compound antibody T-DM1	
Digestion Metabolism	SPH4480		
Immunosuppressor			LLDT-8 - Rheumatoid Arthritis LLDT-8 - AIDS
Drugs for treatment of cardiovascular and cerebrovascular diseases		Salvianolic acid A for injection	SPH3127

★ All the subjects of Stage II of “SPH3127”, the type I innovative drug, have been enrolled.

★ Class 1 innovative chemical drug “16-hydroxytripto-lide tablet” has entered its Stage II clinical trial.

★ The Stage I clinical trial of “The Recombination of Humanized Anti-HER2 Monoclonal Antibody Composition for Injection”, the type I biological product, has been launched.

★ The clinical application of SPH3261, the Class 1 innovative drug, has been submitted.

★ The generic drugs including Azasetron injection and Beclometasone Dipropionate Aerosol have been approved for production.

★ 3 generic drugs including Lenalidomide Capsules, Rivaroxaban Tablets, Mometasone Fumarate Aerosol have applied for production.

★ International Registration: Doxycycline Tablets and Capsules have been approved for ANDA, a US generic drug; the active pharmaceutical ingredients including Captopril and Rivaroxaban applied for US DMF; the active pharmaceutical ingredient of Ezetimibe applied for Greek registration; the active pharmaceutical ingredient of Ticagrelor applied for Netherlandish registration; the active pharmaceutical ingredient of Ciclopirox applied for EU registration; the active pharmaceutical ingredient of Valaciclovir Hydrochloride and its hydrates, and Ciclopirox and Valsartan applied for Korean registration; the active pharmaceutical ingredient of Valaciclovir Hydrochloride (Anhydride II) applied for Japanese registration.

★ At the 36th session of annual meeting of National Pharmaceutical Industry Information in 2019 sponsored by the China National Pharmaceutical Industry Information Center, the Company was shortlisted by the Ministry of Industry and Information Technology in the list of the top 100 enterprises in the Chinese pharmaceutical industry in 2018, [ranking sixth]; retained the titled of "Top 25 Industrial Enterprise with Drug R&D Product Line in China in 2019".

★ During the 2019 (the 12th) China Pharmaceutical Strategic Meeting hosted by China State Institute of Pharmaceutical Industry, Shanghai Pharmaceuticals and Techpool Bio-pharma Co., Ltd, Shanghai Pharmaceuticals’ subsidiary, were awarded “2019 Top 20 China Innovative Pharmaceutical Enterprises”

★ Shanghai Pharmaceuticals was awarded with the diploma of “The First Rung of China Pharmaceutical Innovative Enterprises Top 100” during China Healthcare Seminar of Entrepreneurs, Scientists and Investors in 2019

★ On October 21, during the 16th Shanghai Intellectual Property Forum co-hosted by National Intellectual Property Administration, PRC, World Intellectual Property Organization and Shanghai Municipal People’s Government, SPH Xing Ling Sci. & Tech. Pharmaceutical Co., Ltd won Shanghai Intellectual Property Innovation Award (Protected) of the 1st Shanghai Intellectual Property Innovation Award

★ The "Innovation and Application of Property Theory of Chinese Traditional Medicine Based on Original Thinking of Traditional Chinese Medicine", in which the Company's subsidiary SPH Qingdao Guofeng Pharmaceutical Co., Ltd. participated, won the second prize of 2019 State Science and Technology Improvement Award

2 Enhance cooperation of R&D and actively implement international strategy

Opening of SPH-San Diego R&D Center

On March 11, the opening ceremony of SPH-San Diego R&D Center was held in San Diego, the United States.

SPH-San Diego R&D Center, also known as SPH Biotherapy (US) Co., Ltd and founded in July 2018, is a wholly-owned subsidiary to Shanghai Pharmaceuticals Holding Co., Ltd. The construction of the center will help Shanghai Pharmaceuticals integrate world leading biopharmaceutical technology, improve Shanghai Pharmaceuticals 's comprehensive strength in biopharmaceutical filed, and promote its strategy of international development. SPH-San Diego R&D Center is now negotiating on the new-generation oncolytic poxvirus and antibody projects with cooperativity with the existing antineoplastic products, and the potential cooperation project will further help Shanghai Pharmaceuticals'development and strategic layout in biopharmaceutical field.

Joint Venture of Shanghai Pharmaceuticals and Russian Largest Biopharmaceutical Company

From June 5 to 7, 2019, President Xi Jinping was invited to have a state visit in Russian Federation, and attend the 23th St. Petersburg International Economic Forum. During the visit, witnessed by President Xi and President Putin, Shanghai Pharmaceuticals and Russian BIOCAD exchanged our respective Memorandum of Understanding (MOU) for establishing the joint venture. From September 16 to 18, Li Keqiang, Premier of the State Council was invited for state visit to Russian Federation. During the visit, witnessed by Premier Li and Premier of Russian Federation, Shanghai Pharmaceuticals signed up the agreement with Russian BIOCAD to set up a joint venture. On December 20, the joint venture, SPH-BIOCAD was officially opened.

The registered capital of the joint venture was USD400 million, and USD200.4 million of cash capital was contributed by Shanghai Pharmaceuticals, which accounted for 50.1% of the equity of the joint venture; BIOCAD contributed cash capital of USD29,940, and the permanent and inclusive R&D, production, sales and other commercial rights in Greater China Area (including Mainland China, Hong Kong, Macao and Taiwan Regions) as the investment, which accounted for 49.9% of the equity of the joint venture.

Upon the establishment of the joint venture, both of the shareholders will later respectively inject macro-molecular bio-innovative drugs, bio-similar drugs and cash into the joint venture. Under the precision medical trend centering on bio-antibody, gene therapy and immune cells treatment driven by big data, Shanghai Pharmaceuticals will grasp the opportunity, give full play to our advantages, improve weak links, accelerate the product upgrading, and realize the production technology transfer of high-tech technology, so as to transfer all Russian local production technology to China for localized production.

Working Together with Lumosa Therapeutics Co., Ltd., Shanghai Pharmaceuticals gained the rights of new drugs for cerebral stroke in Mainland China

On November 6, 2019, Shanghai Pharmaceuticals entered into a Cooperation Agreement with Taiwan company Lumosa Therapeutics Co., Ltd., under which, the Company invests RMB260 million to obtain the exclusive rights of the LT3001 project for development, production and sales in Mainland China.

With respect to the market scale of anti-thrombotic drugs in China, LT3001 is undoubtedly a First-in-Class new drugs with extensive market prospects. Shanghai Pharmaceuticals' introduction of LT3001 will further enrich the innovative R&D pipelines; on the other hand, cardio-cerebrovascular is also one of the fields focused on by Shanghai Pharmaceuticals, its mature production and sales resources in this field are expected to provide new growth momentum for the performance.

3 The work of generic quality consistency evaluation has scored new achievements

In 2019, Shanghai Pharmaceuticals maintained the stable progress of its consistency evaluation, and completed the application of 23 standard solid preparations of 23 varieties, and 6 standard injections of 4 varieties. The application quantity ranked at the forefront in China. The application quantity ranked 1st among Shanghai enterprises in Shanghai.

Solid preparations were making stable progress. In 2019, Shanghai Pharmaceuticals' 4 varieties of Metformin Hydrochloride Tablets, Cefalexin Capsules, Ibuprofen Sustained-Release Capsules and Enalapril Maleate Tablets were approved by consistency evaluation, and the accumulative variety quantity reached 8. Wherein, Metformin Hydrochloride Tablets are the major products of Shanghai Pharmaceuticals; and the other 2 products of Cefalexin Capsules and Ibuprofen Sustained-Release Capsules are the second declared products among the products of the same specification.

Accelerated progress of injections. In 2019, Shanghai Pharmaceuticals completed the application of 4 injection products, and launched or initiated researches on nearly 20 injection products. In particular, the research progress on the products including Cefepime Hydrochloride Injection, Neostigmine Methylsulfate Injection, Lidocaine Hydrochloride Injection was at the forefront in the industry, which was the first declaration in China.

To further improve the product competitiveness of the enterprises, better realize diversified competition, cope with the policies of "4+7", and national group purchasing, Shanghai Pharmaceuticals, on the basis of the actual product resources, took the initiative to adjust the overall strategy of consistency evaluation, paying more attention to exclusive products or products with plenty of market opportunities. The products including Duloxetine Hydrochloride Enteric-coated Tablets, Cimetidine Tablets, Telmisartan Tablets, Estazolam Tablets, Allopurinol Tablets, Perindopril Tablets, Neostigmine Methylsulfate Injection and Cefotiam Hydrochloride for Injection have been declared exclusively or the first to be declared.

4 Promote the innovation platforms construction and keep to improve innovation capacity

Shanghai Pharmaceuticals-East China University of Science and Technology Center for Green Pharmaceutical Preparation and Innovation and Transformation held its signing and opening ceremony

On March 21, Shanghai Pharmaceuticals-East China University of Science and Technology Center for Green Pharmaceutical Preparation and Innovation and Transformation held its signing and opening ceremony in East China University of Science and Technology.

Shanghai Pharmaceuticals-East China University of Science and Technology Center for Green Pharmaceutical Preparation and Innovation and Commercialization, taking the Sparkle Production Base of SPH Zhongxi Sunve Pharmaceutical Co., Ltd as the incubator of enterprises, universities and research institutes for both sides and on the

basis of pharmaceutical R&D projects, will gradually expand the cooperation to the collaboration on key technology platform for pharmaceutical R&D, and focus on the construction of 3 specific sub-platforms of Shanghai Pharmaceuticals-East China University of Science and Technology Center for Green Pharmaceutical Preparation and Innovation and Commercialization, Center for Joint Research on Continuous Flow Synthesis, and Center for Joint Research on Pharmaceutical Crystal Innovation.

Cancer Cell Therapy Center Co-founded by Shanghai Pharmaceuticals and the Tenth People's Hospital of Tongji University

On April 4, Shanghai Pharmaceuticals and the Tenth People's Hospital of Tongji University further implemented the preliminary co-construction agreement, and held the construction and signing ceremony of Cancer Cell Therapy Center of Building 9. Through the powerful win-win cooperation between both parties, it aimed to build an open Cancer Cell Therapy Center and create a new standard platform for cancer cell therapy.

Tongji University Cancer Cell Therapy Center co-founded by the both parties is located in Building 9 of the Tenth People's Hospital of Tongji University, and the construction covered the reception center, the examination center, CAR-T Cell Preparation Lab/ Workshop, Cell Preparation Test and Evaluation Center, etc. Both parties would strive to construct the Cancer Cell Therapy Center into a cooperative demonstration unit between the state-owned enterprises and public hospitals. We hope that in the future cooperation, we could continue to explore and conform to the mode of "Government, Industry, Hospitals, Institutions and Research Institutes" of China, and form a new therapy pattern that is reproducible and propagable.

Signing of Strategic Cooperation Agreement by Shanghai Pharmaceuticals and Shanghai Public Health Clinical Center

On April 18, Shanghai Innovation Bay, the first Ecological Polymerization Incubation Zone in Shanghai integrating entrepreneurship support, technological innovation, talent development and financial services, held its opening ceremony. In the meanwhile, Shanghai Pharmaceuticals and Shanghai Public Health Clinical Center signed the strategic cooperation framework agreement, and both sides intended to conduct deep cooperation in the fields of anti-infection and tumor, explore to establish innovative R&D platform, select and transform the innovative projects under research, so as to provide more effective therapy solutions for the patients and bring benefit to the society.

The Official Opening of SPH Registered Clinical Department (Beijing Branch)

On May 22, SPH Registered Clinical Department (Beijing Branch) was completely finished and officially opened. As the functional department of our R&D Management Center, the department, leveraging the regional advantages, is committed to improving Shanghai Pharmaceuticals' ability in registration, medicine and clinical operation in the field of innovation medicine in China and in the world, and then enhance its business communication with national drugs regulators, and develop clinical development strategy for innovative drugs. Following China's reform trend of joining in (International Conference on Harmonization of Technical Requirements for Registration of Pharmaceuticals for Human Use), the department has accelerated the listing process of Shanghai Pharmaceuticals' products under research, and actively promoted the international development strategy.

Medical Devices Company Co-founded by Shanghai Pharmaceuticals and Shanghai Chest Hospital

On August 6, Shanghai Chest Medical Technological Co. held its signing ceremony in Shanghai Chest Hospital.

With the help of the strong clinical research capacity of the chest hospital, and Shanghai Pharmaceuticals' advantages and resources in technological innovation and market expanding, the project strengthens the construction of the new company's integration level of production, education and research, constantly improving the R&D level and production capacity of medical devices, propelling the biomedical construction, accelerating the transformation of clinical research results, and further raising its

leading status in the field of technological innovation in national health industry.

Exploration of TCM Innovative Development

On November 28, the opening ceremony of Tianjin University of Traditional Chinese Medicine -Shanghai Pharmaceutical Group TCM Innovation Joint Research Center was held successfully in the new campus of Tianjin University of Traditional Chinese Medicine in Jinghai District, Tianjin.

As the respective leaders in the fields of TCM innovative research and drug manufacturing, Tianjin University of Traditional Chinese Medicine and Shanghai Pharmaceuticals will combine the new development demand of both sides, and focus on the aspects of helping Tianjin University of Traditional Chinese Medicine to promote the transformation of TCM research achievements, prompting Shanghai Pharmaceuticals to build core competitiveness of TCM industry and products to conduct extensive and deep cooperation, thus further giving full play to each other's advantageous resources, and enhancing each other's influence in the field of TCM R&D and industry.

On December 28, "Summit Forum of Innovative Development of Classic Prescriptions and the Signing Ceremony of Strategic Cooperation Between Shanghai University of Traditional Chinese Medicine and Shanghai Pharmaceuticals" co-hosted by Shanghai University of Traditional Chinese Medicine and Shanghai Pharmaceuticals was held in Shanghai University of Traditional Chinese Medicine. At the same time, "Shanghai University of Traditional Chinese Medicine - SPH" TCM Innovation Joint Research Center co-sponsored by both sides was also opened. Shuguang Hospital Affiliated to Shanghai University of Traditional Chinese Medicine and Shanghai Traditional Chinese Medicine Co., Ltd. subordinated to Shanghai Pharmaceuticals also signed up for the *Cooperative Project of Development on New Medicine of Classic Prescriptions of Famous Doctors.*

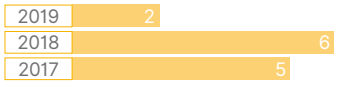
Targeting at Shanghai Pharmaceuticals' industry layout and development direction, both parties will work together in the fields covering the second development of TCM large varieties, new drugs development of TCM, preparation development of the hospital, discipline construction, talent training, and innovative construction of service platform, etc. At present, both parties have introduced the TCM new product development of classic prescriptions, hospital preparations, empirical formulas of famous senior TCM doctors, the second development of Shanghai Pharmaceuticals' existing proprietary Chinese medicine varieties, the improvement of product quality standards, products of comprehensive health and service expanding into the implementation phase of specific projects, and the "Shanghai University of Traditional Chinese Medicine - SPH" TCM Innovation Joint Research Center has also been officially launched operations.

Key Indicators

01

Clinical Declaration(number)

Clinical Approval/Acquiescence(number)



02

Production application(number)

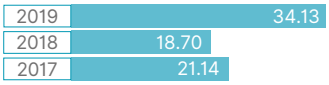
Production approval (number)

CGQCE application or approval (number)

R&D expenditure distribution

03

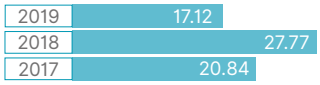
R&D of innovative drugs (%)



R&D of generic drugs (%)

Secondary development (%)

Generic qulity consistency evaluation(%)



Percentage of R&D expenditure in industrial sales (%)

04

2.2 Under all-round management, continuously improve the quality and safety of drugs

> All 47 drug manufacturers affiliated to the Company passed GMP certification and obtained a total of 112 GMP certificates. By reforming and passing the GMP certification, the Company has comprehensively enhanced its technological equipment, production management and quality management in pharmaceutical manufacturing to ensure continuous and steady production of drugs that meet the intended use and registration requirements.

All 47 drug manufacturers affiliated to the Company passed GMP certification and obtained a total of

112

GMP certificates.

1 Implement quality responsibility

Shanghai Pharmaceuticals strictly follows Pharmaceutical Administration Law, Measures for the Supervision and Administration of Drug Production and Provisions for Supervision of Drug Distribution in drugs production and distribution management, abides by the relevant regulations and requirements in strict accordance with “GxP”, and has always been consistent in providing safe and effective drugs for the general public.

The "Quality Manual" is the Company's programmatic documentation on quality management, is the basic rule for the Company to establish, implement and maintain a quality management system, and is also the Company's quality commitment to its customers and the society.

All members of the Company implement the quality policy of this manual V in a comprehensive and stringent manner. The manual further regulates the production of drugs, medical equipment and other products, as well as business activities to ensure and maintain the continuous suitability and effectiveness of the quality management system, and to confirm the customers and other relevant parties that the Company has its ability to provide products and services that meet the requirements of applicable laws and regulations as always, and that the Company takes actions to fulfill social responsibility.

In 2019, for the further implementation of corporate entity responsibility, Shanghai Pharmaceuticals, on the basis of original “Quality Management Responsibility Assessment”, set targeted key work requirements in quality management for each pharmaceutical manufacturing enterprise directly affiliated to Shanghai Pharmaceuticals. Each enterprise shall finish the relevant work on time, and we then conducted assessment according to the

actual performance of the enterprise, and integrated the assessment into Operator performance appraisal. In addition, the Company organized the Quality Management Committee to regularly hold work meetings. In the meeting, the Company would analyze the supervising situation, report the issues of enterprise's quality management, and propose risk warnings to further enhance the enterprise's consciousness in law and regulations, integrity and quality.

2 Strengthen quality audit

In 2019, for further strengthening the risk prevention and control of drug manufacturers, troubleshooting the quality risk and safety loophole and ensuring the enterprise to conduct production and operation in accordance with law and regulations, the Company focused on the emphasis areas of supervision to carry out annual special audit in the production manufacturers. It mainly contained various forms including certification preview, tracking examination, and evaluation on quality management, etc., thus urging the enterprises to strengthen quality consciousness, and improve the level of quality management. During the reporting period, the Company totally finished various audit work of 30 enterprises, and all the audited enterprises completed their rectification within one month, and also submitted a written report for rectification.

3 Optimize production layout and manufacturing resources

In 2019, the Company further optimized the production layout, promoted the intensive management of the production bases and optimized the resources distribution to highlight the production characteristics and focuses of the bases; worked out plans for chemical raw medicine and promoted the integrated and intensive development of raw materials and preparations; optimized and integrated the whole Chinese medicine industrial chain and kept quality at source under control from standard planting of traditional Chinese medicine in habitat areas to layout of Chinese herbal piece processing in main production areas of the country to guarantee the quality, safety and traceability in the Chinese medicine manufacturing process; continued to improve the production level of production bases by promoting five constructions, namely "lean, automatic, informationized, intelligent and green" development; established an excellent manufacturing evaluation system to drive intelligent manufacturing and create the “SPH Lighthouse Plant”.

Specific Strategic Measures

4 Lean Six Sigma management

With the continuous deepening of Lean Six Sigma Management, the industrial and commercial sectors have kept to explore and practice a systematic and systematized innovative management mode to support the business development.

With respect to the system construction, the Company launched Shanghai Pharmaceuticals excellent manufacturing and its excellent manufacturing evaluation system, benchmarking the advanced enterprises, and seeking the difference and improvement; with respect to the project of Lean Six Sigma, we widely covered our sectors of manufacturing, sales and business and sought pragmatic to select topics, and among the sectors, the manufacturing sector focused on improving quality, reducing costs and increasing efficiency, such as improving the finished product ratio, shortening the production period, improving the efficiency of per capita and reducing the unit cost, etc.; the sales sector took SFE systematic construction as the core, such as improving the target accuracy of the market, optimizing marketing resources allocation, and perfecting the effectiveness of team incentives, etc.; the commercial sector aimed at the overall operation efficiency of the supply chain, such as inventory turnover, account period of accounts receivable, and the logistics efficiency, etc.

Lean Six Sigma

13	145	1876
Black Belt	Black Belt Theory	Green Belt Theory

In 2019, the number of initiative and approved projects of Lean Six Sigma reached 156 in total. In terms of the Lean talents training, the Company has passed the certification of the first batch of 13 employees with black belts, with 145 employees in total passing the test of Black Belt Theory, 1,876 employees passing the test of Green Belt Theory, which reserves sufficient talents for our enterprise.

5 Supply Chain Management

Through further expanding the scale of centralized purchasing, the Company made centralized purchasing of the materials, facilities and devices that can be with unified standards used by the enterprises.
By means of research needs and commercial negotiation, the Company selected the well-known brands with high recognition in the industry, working together with the subordinated drug manufacturer to be responsible for the quality audit of the suppliers, and controlling the purchasing process, so as to ensure the purchased products can conform to the quality standards, and the purchasing process can conform to the provisions of relevant law and regulations, and ensure the stable and constant production of safe and effective drugs.

Our goal

- Let people take medicine with ease

Our management ideology

- Build a greater import platform
- Improve the energy level of integrated service of the full supply chain
- Innovate business mode
- Smooth drugs channels
- Meet the medication needs of special group

Our measures

- Continue to expand the layout of nation's commercial network
- Enhance community drug service capabilities
- Designated production

Our achievements

- Strategic cooperation improves service capabilities
- Ensure the normal supply of drugs in short supply

CHAPTER 3

Let people take medicine with ease

The distribution network of Shanghai Pharmaceuticals directly covers 24 provinces, municipalities and autonomous regions in China.

3.1 Sign up in Import Expo, Build Better Import Platforms

▶ On November 5, the 2nd China International Import Expo had its brand opening in National Exhibition and Convention Center (Shanghai). As the practical action for Shanghai to implement the decisions of the central government and further expand the opening-up, the Collective Signing Ceremony for State-Owned-Assets Sub-group of the Shanghai Trade Group for 2nd China International Import Expo held a grand opening at afternoon of November 5. Bristol-Myers Squibb and Shanghai Pharma negotiated on a new round of OPDVIO purchasing

In order to make the domestic patients to use high-quality drugs as soon as possible, Shanghai Pharma has been constantly working on it. In 2018, as OPDIVO was approved to come into the market, Bristol-Myers Squibb and Shanghai Pharma worked together to quickly complete the procedures of inspection of imported drugs, channel access and market coverage to provide the latest treatment plan for the patients. In the meantime, Shanghai Pharma also conducted drugs donation program for charity to ease the burden for the low-income earners, which fully fulfill our social responsibility as a pharmaceutical enterprise.

Shanghai Pharma has kept providing Bristol-Myers Squibb with efficient and premium service of full supply chain, helping OPDIVO cover the market as quickly as possible on a national scale and guarantee the sustained and stable supply from the aspects of import customs clearance, drugs inspection to distribution logistics throughout the country, tendering support and channel access. Furthermore, Shanghai Pharma also had specially-assigned person to take charge of the business, which was highly acknowledged and trusted by Bristol-Myers Squibb, pushing the both sides to renew the signing of the agreement successfully this year.

▶ On November 6, Roche Diabetes Care Department and Shanghai Pharma signed the purchasing agreement on hypoglycemic products of Roche.

The signing of the agreement was the second renewal since Cardinal Health (Shanghai) Pharmaceutical Co., Ltd joined Shanghai Pharmaceuticals family, and the general agency and distribution system of Roche Diabetes Care Department would be assumed by Cardinal Health(Shanghai) Pharmaceutical Co., Ltd. Via the platform of Shanghai Pharmaceutical Holding Co., Ltd, the Roche products will be expanded from regional market to country, and we believe that the cooperation between us will be more solid in the future.

▶ On November 6, Roche and Shanghai Pharma signed an agreement on strategic cooperation,and this agreement was another extension since the two sides signed the agreement on the third-party logistics service in 2016. It also meantzv that the we have cooperated with each other for nearly 15 years.

Roche is dedicated to developing and providing the innovation of the early detection, prevention, diagnosis and supervision of the diseases, as well as the diagnosis system and solutions with high cost performance, timeliness and reliability, so as to help the medical workers to enhance the treatment effect on the patients, improve people's living quality, and reduce the social medical cost. The aspects of diagnosis, healthy products and big data application have offered wider cooperative space for Roche and Shanghai Pharma.

▶ On November 6, AstraZeneca and Shanghai Pharma signed the letter of request for import-related drugs, and the purchasing amount involved in billions of RMB.

AstraZeneca has stuck to put the patients first, constantly working together with its commercial partners to keep innovating in the fields of science, operation and business. In virtue of this signing and our sustained cooperation in the future, Shanghai Pharma and AstraZeneca will make joint efforts to introduce more effective drugs to benefit the patients, and bring more premium drugs to Chinese patients.

▶ On November 7, Lilly China, Shanghai Pharma and SPH Keyuan took "Benefiting the Patients" as the starting point to sign the strategic cooperation memorandum through friendly negotiation.

Both parties will build efficient cooperation mechanism, and Shanghai Pharma and SPH Keyuan will bring mature products to LillyChina, stabilize the supply market and promote the products to the community medical institutions through innovative service mode of supply chain, and accelerate the listing of innovative drugs, so that the Chinese patients can get access to the drugs and the development of the high-quality of drugs can be improved.

3.2 Sign up strategic cooperation, offer integrated service offull value chain from end to end

▶ On May 20, Shanghai Pharma signed with Carl Zeiss, a famous company from Germany, and Shanghai Pharma provided integrated service solutions for the intraocular lens products. Both sides worked together to provide better “sight” for the cataract patients.

Carl Zeiss has owned a history of over 170 years, and at present it is the globally unique supplier for providing a series of intraocular lens products, which can greatly meet the different clinical demand for cataract treatment.

As the authorized distributer for the intraocular lens products of Carl Zeiss, Shanghai Pharma integrated the advantageous resources and break the pattern of traditional distribution, so as to provide more accurate, more efficient and more controllable service solutions. Through channel construction, Shanghai Pharma improved the service capacity of Carl Zeiss’s whole lens supply chain system; and through the capacity of distributing global resources and national distribution network, Carl Zeiss promoted its products to wider markets, constantly increasing its market shares; and through the visual data system of full supply chain, it improved the service level of Carl Zeiss.

▶ On November 7, Oxford Immunotec signed the strategic cooperation agreement with Shanghai Pharmaceuticals and Shanghai Pharma was assigned to provide full supply chain integrated service solutions from British factory to national medical terminal, so as to strive to offer excellent products, technology and service to China’s market. The two sides worked together to boost the development of China’s medical industry.

T-SPOT.TB Diagnostic Reagents (commonly known as TB Specific T-cell Detection Kit EpiDot. TB (Elispot)) imported from Oxford Immunotec in Britain, were used to check and count the effector T cells stimulated and activated by tuberculosis specific antigen in the anticoagulant whole blood of the humans fresh peripheral veins, and applied to the auxiliary diagnosis of clinically suspected tuberculosis.

The high standard of the product performance can realize to report the diagnostic results for 24 hours. Oxford diagnostic reagents brought good news to more patients with conjugated mycobacterial infection. The particularity of the diagnostic reagents put forward higher requirements to transportation and storage. With its high-level of expertise in logistics, wide coverage of layout and extending capacity of global supply chain, Shanghai Pharmaceutical Holding Co., Ltd will safely and quickly bring the diagnostic reagents to more Chinese regions for use.

3.3 Innovate business mode and provide more service guarantee for patients

▶ On April 25, Tencent Micro Insurance and Taikang Online joined hands with Shanghai MediTrust Health Co., Ltd launched "Yaoshenbao·Security Plan for Anti-cancer Specific Medicines", which was strongly welcomed by the public upon its official launch and became the most popular product since the online launch of Tencent Micro Insurance. The press conference of "Yaoshenbao·Security Plan for Anti-cancer Specific Medicines" was held on May 8, and relevant projects were also to be started.

Tencent Micro Insurance, Taikang Online and MediTrust Health broke the inherent form of insurance products, and "Yaoshenbao", the innovative individual drugs insurance jointly released by them, solved the difficulty of "failing to afford, take and keep drugs" after cancer in healthy people. The basic version of "Yaoshenbao" takes RMB1 per month, which has covered all 20 expensive anti-cancer specific drugs out of the existing social security catalog, and provides the users with two-year drug insurance and service of anti-cancer specific drugs after cancer diagnosis; the period for drugs insurance of the upgraded version was 3 years, with the insurance premium of RMB6 per month, and it has covered all anti-cancer specific drugs under state approval for introduction, and will synchronize upgrade coverage with the catalog of specific drugs approved by China, and automatically cover the new anti-cancer specific drugs.

"Yaoshenbao", with its extreme product experience of "Social Security + RMB1", has effectively complement and extend the social security, and then served for millions of families in a more inclusive way. The media commented that the in-kind drugs compensation of "Yaoshenbao" pioneered the drug direct payment with commercial insurance. Shanghai Pharmaceuticals, as the shareholder of MediTrust Health, possesses powerful advantages in drugs supply chain management and the distribution and retailing of the new specific drugs, which lays a solid foundation for MediTrust Health to offer drugs landing service to the insured.

▶ On November 2, the first Chinese Physicians Assembly for Humanity and China Patient Assistance Alliance themed on “Great Medical Sincerity and Public Interest for the People” held its opening ceremony in Wuxi, Jiangsu Province. The Assembly officially started “China Patient Assistance Alliance”. The Alliance was launched by China Primary Health Care Foundation and Academician Zhong Nanshan, aiming at appealing to all sectors of society at home and abroad to actively participate in the activities of “China Patient Assistance Alliance”, thus making efforts to protect the rights of Chinese patients, contributing Chinese experience and power to the global health governance, and bring real benefits to the patients.

SPHC actively responded and jointly participated in founding “China Patient Assistance Alliance”, and its built “Yiyao” ecosystem “Internet +” platform for new retailing of prescriptions and medical commercial technology acted as the industry benchmark in the fields of the patients innovative service and assistance, which will be dedicated to perfecting the patients service, promoting the accessibility of the medical drugs, truly benefiting the patients and improving people’s living quality.

3.4 Lead the preparation of industry logistics standards

▶ With the further deepening of national medical reform, two-vote system, drugs and zero addition for consumables have been gradually introduced, and separate medical treatment and drugs is an irresistible trend. With the hospital terminal service capacity as the core competitiveness, the operation part of hospital medical product logistics stripped away from the overall business department, and the service for the hospitals to conduct internal logistics of medical products came into existence. Previously, China's medical industry didn't have the mature experience of introducing the service of the third party, and lacked of constraints and guidance of law, regulations and relevant policies, which brought many risks in the actual operation.

For regulating the service and procedures of the logistics service providers, Shanghai Pharma and SPH Logistics Co., Ltd worked with Healthcare Logistics Association of CELP and Shanghai Central Hospital to co-lead to draw up the first Group Standards of *Logistics Service Specifications for Medical Products in Hospitals.*

The Standards specified the basic requirements and service requirements for the logistics service providers to make logistics service in the hospitals, and regulated the service contents and procedures of the logistics service providers, which helped the logistics service providers to legally and efficiently carry out logistics service of the medical products in the hospitals. All the experts agreed to change the name of the Standards to *Logistics Service Specifications for Medical Products in Hospitals.*

Shanghai Pharma actively participated in the draft and preparation work of *Logistics Service Specifications for Medical Products in Hospitals*, and since its organization of preparation group in December 2017, Shanghai Pharma attended three-time seminars in April 2018, November 2018 and May 2019. The Experts Project Approval and Evaluation Board established in September 2018 conducted field investigations in hospitals in Shanghai, Beijing, Guangdong Province and Shangdong Province, etc., adapted and incorporated the ideas and advice from over 20 units, so as to finally form the manuscript for review. The process of preparation group's drafting, investigation and amendment is also the recognition and improvement process of the logistics service implementation of medical products in hospitals, which changed from the preliminary emphasis on intelligent equipment and facilities to the clarity of provided service requirements. And it focused on the basic requirement of service providers, logistics service specification, operation service specifications and the requirements of key computer system and the requisite equipment and facilities.

The review group reached a consensus to review the specifications, requiring the specification draft group to amend and perfect the relevant contents of the manuscript for review according to the suggestions proposed by the experts at the review meeting, and form a draft reported for approval as soon as possible.

Logistics Service Science (Parts) in the Hospital of Shanghai Pharma.

3.5 Meet the medication needs of special group

1 Persist to ensure the stable supply of small varieties of drugs (drugs in short supply)

The public health serves as not only the important connotation of the grand goal to build a moderately prosperous society in an all-round way, but also the critical foundation for ensuring the drugs supply to achieve public health. The National Small Varieties of Drugs (Drugs in Short Supply) Supply and Guarantee Union ("DU" for short) initiated by the Ministry of Industry and Information Technology of the People's Republic of China, supported by National Development and Reform Commission, National Health Commission of the People's Republic of China and National Medical Products Administration, established by Shanghai Pharmaceuticals, and implemented by the launch of SPH Shanghai Sine Pharmaceutical Laboratories Co., Ltd with 23 pharmaceutical enterprises guaranteed the production and supply of 42 varieties drugs in the Catalog of latest 141 drugs in short supply including Digoxin Tablets, Penicillamine Tablets and Chlorpromazine Tablets, etc. Many varieties that were once in short supply are no longer in shortage.

The"Drug Union"will provide the medical institutions with its all catalog products of small varieties of drugs (drugs in short supply) , and once drug shortage occurs, the medical institutions will report to "Drug Union" the first time. The interconnectivity of the terminal-used information and drugs supply information will greatly improve the effectiveness and stability of drugs supply and guarantee.

In the future, "Drug Union" will join hands to build more efficient and more stable supply chain, actively introducing the overseas raw materials drugs, manufacturing and technology to meet the national basic guarantee and the increasing medical need of the people. "No act, no matter how the power is small, is ever wasted" and "No act, no matter how the interest is small, is ever wasted." The member of "Drug Union" took the responsibility to "healing the wounded and rescuing the dying", and have been committed to ensuring the stable supply of small varieties of drugs (drugs in short supply), so as to protect the health benefits of the people.

2 Guarantee the supply of drugs for rare disease, innovate exclusive specialty drugs

On afternoon of April 8, the Key Investigation Team of "Optimizing Business Environment and Promoting the High-quality Development of Health Industry" of Chinese Peasants and Workers Democratic Party conducted an investigation in Shanghai Industrial Investment (Holding) Co., Ltd and Shanghai Pharmaceuticals Holding Co., Ltd, and Chen Zhu, Vice Chairman of the standing committee of the National People's Congress and President of Chinese Peasants and Workers Democratic Party left Shanghai Pharmaceuticals with the message of "Putting People First and Ensuring the Supply of Drugs for Rare Diseases". Shanghai Pharmaceuticals promised that the Company would live up to the entrust of the country and the people, bear the century responsibility of "Healthy China", take the mission of the production supply and quality guarantee of drugs for rare diseases, actively undertake the state-owned enterprise social responsibility and make great efforts to provide the special patients with premium and exclusive "drugs for saving life".

On May 13, "Speak for Love" - the Promotion Conference of SPH Drugs for Rare Diseases and Exclusive Specialty Medicine was successfully held in Shanghai. At the Conference, the agents from all over the country discussed together on the production supply of the drugs for rare diseases.

In 2019, besides the reform of specialty drugs, the further subsidence of the drugs market for rare diseases was also one of the key strategies of Shanghai Pharmaceuticals. This Promotion Conference focused on the sector of drugs for rare diseases, and proposed "Let People with A Rare Disease Speak out and Provide Help for Them", so as to care for the population with rare diseases, and make more contributions to our society.

So far, Shanghai Pharmaceuticals owns 15 varieties involving 18 rare diseases. For many years has Shanghai Pharmaceuticals persisted to provide love and benefits for the patients. At the Conference, SPH Sine and Shanghai SPH No. 1 Biochemical and Pharmaceutical introduced its products including Penicillamine Tablets, Chorionic Gonadotrophin for Injection and Corticotrophins, etc. With respect to specialty drugs, Shanghai Pharmaceuticals possesses a large number of products with obvious curative effect and clinical demand, including the products with National Science and Technology Progress Award, national confidential formulas, confidential technology and TCM protected products, etc. The Conference promoted the products of Ba-Bao-Dan (BBD) of Xiamen Traditional Chinese Medicine Co., Ltd, Danshen Injections of Chiatai Qingchunbao Pharmaceutical Co., Ltd, and Pyridostigmine Bromide Tablets recommended by Shanghai Zhongxi Sunve Pharmaceutical Co., Ltd and Shanghai Pharmaceutical Group Pharma Sales Co., Ltd, etc. The rare diseases are different common diseases, and what the patients and families need is not only the affordable and favorable curative drugs, but also the help from all parts of the society to completely guarantee their treatment opportunities.

3 Provide professional pharmacy services to meet the needs of special group

Direct To Patient (DTP)

There are totally 106 DTP (Direct to Patient) pharmacies in China, and among them, 12 pharmacies are subordinated to SPH Keyuan, and 94 pharmacies belong to Shanghai Pharma.

Drug reserves

In accordance with the measures for the administration of reserve commodities at the municipal level of Shanghai, 77 varieties are included in the municipal-level major commodity reserves, amounting to a total of more than RMB20.66 million, of which 69 varieties are emergency western medicine, and eight varieties are emergency Chinese medicine; mainly antibiotics, transfusion medicine, antiviral drugs, detoxication and emergency rescue drugs for radiation damage, which are stored by Shanghai Pharma, SPH Traditional Chinese Medicine and SPH Sine. In accordance with the requirements of the Shanghai Reserve Commodity Management Office, the enterprise medical reserve management network operates normally, its three storage enterprises implement 24-hour duty system to ensure the quality and transportation of the municipal reserve medicine commodity.

In addition, since 2007, the Company has begun to organize and implement drug storage on behalf of the military combat, and is now a drug mobilization and support center. The amount was more than RMB15 million, and Shanghai Pharma was the storage enterprise while other subsidiaries acted as emergency units.

Case 1

With on-sale new drugs for breast cancer, "Yiyao·Pharmacy" Completed its first order of Perjeta

Roche Perje (commonly known as Pertuzumab Injection), the new targeted drugs for breast cancer was formally on sales on March 19. As the first-selected DTP network for international new specific drugs entering into China, SPH Cloud Health was fully up to speed, and completed the first order of prescription sales in Perjeta in China by its "Yiyao·pharmacy upon its listing day, which opened the double-targeted era of diagnosis and treatment in HER2 Positive Breast Cancer.

Since its approval in last December, Perjeta with Trastuzumab Injection and chemotherapy has been applied to the adjuvant therapy of the patients with HER2 Positive Breast Cancer of high-risk reoccurrence.

Case 2

SPH Keyuan completed the first sales of GKS belimumab powder for concentrate for solution for infusion (Benlysta) in China.

On September 20, 2019, through efficient and professional operation of business process, and the cooperation between SPH Keyuan Xinhai Pharmaceutical Co., Ltd and SPH Keyuan Trade Co., Ltd, Beijing SPH Xinhai Keyuan Pharmacy completed the first sales of GlaxoSmithKline (GSK) major products of Belimumab in China. Benlysta is the world's first biological agent that is approved to be used in the treatment of Systemic Lupus Erythematosus. Developed by GSK, it applies to the adult patients with Systemic Lupus Erythematosus (SLE) which still has high disease activity and positive autoantibody on the basis of conventional treatment.

It is known that China currently has more than a million patients with Systemic Lupus Erythematosus (SLE), and such disease has brought great pain and a heavy burden to the patient himself and his family.

The listing approval of Belimumab in China is undoubtedly good news for China's "SLE patient friends" (a call among the patients with Systemic Lupus Erythematosus (SLE)). Belimumab, a kind of Humanized Monoclonal Antibody against B Cell Activating Factor (BAFF), now has been approved in Europe and US to apply to the adapted disease of Systemic Lupus Erythematosus (SLE). The data shows that Belimumab can improve the symptoms, reduce the non-occurrence of the disease and is conducive to the long-term prognosis of the patients.

On September 20, after the drug test of Benlysta, SPH Keyuan Xinhai Pharmaceutical Co., Ltd.'s relevant departments covering import, purchase, logistics, data, etc. at full throttle accelerated processing the drug. The temperature controller and temperature-controlled car for drugs delivery have prepared. After loading the drugs into the car at 17:47, the car drove tens of kilometers to safely deliver the drugs to Beijing SPH Xinhai Keyuan Pharmacy with one hour and 50 minutes.

The big Pharmacy carried out urgent acceptance and warehousing, made out bills within 5 minutes and sent the drugs to the patient at 19:44

Within less than 20 minutes, China's first patient to use Benlysta got the drug

Case 3

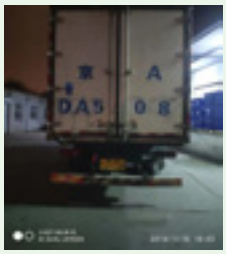
SPH Keyuan completed the first sales of Novo Nordisk Insulin Degludec and Insulin Aspart Injection (Ryzodeg) in China. Take

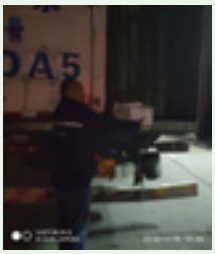
On November 26, 2019, with the cooperation of the relevant departments, SPH Keyuan completed the delivery work of first sales of Novo Nordisk Insulin Degludec and Insulin Aspart Injection (Ryzodeg), the major products of Novo Nordisk to Beijing hospital.

As the first soluble double insulin preparation, Ryzodeg (Insulin Degludec and Insulin Aspart Injection) consists of 70% Insulin Degludec and 30% Insulin Aspart. The two components of Insulin Degludec and Insulin Aspart are non-interfering, which enables Insulin Degludec to independently give full play to its superiority to reduce blood glucose without staggering peak steadily in a long term, and Insulin Aspart to reduce blood glucose quickly, and also control basal glucose and postprandial blood glucose, so as to complement each other's advantages. The approval and listing of Ryzodeg (Insulin Degludec and Insulin Aspart Injection) brought a new solution for Chinese Diabetes patients to reach standard in long-term and comprehensive blood glucose control.

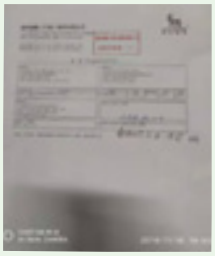
At 14:48 of November 16, 2019, Ryzodeg products were delivered from Tianjin Site of Novo Nordisk (China) Pharmaceutical Co., Ltd.

▼ 19: 43 Ryzodeg products were stored in the warehouse of Beijing SPH Xinhai Keyuan Pharmacy.

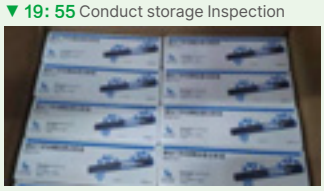




▼ 19: 50 Complete receiving goods



▼ 19: 55 Conduct storage Inspection



▼ 20: 11 Complete billing by Beijing Hospitals

▼ 20: 24
Pick up the goods and deliver them to Beijing Hospitals

▼ 21: 09 Complete goods receipt by the hospital

Case 4

Shanghai Pharma assisted in one-off import of clinically needed anti-tumor drugs that have already listed abroad

In early 2019, National Medical Products Administration approved the application of Shanghai Municipal Drugs Administration, agreeing to import Daratumumab, the overseas listed drugs, for advanced patients with myeloma. Shanghai Municipal Drugs Administration said it was the first time for "treating special issues specially" in Shanghai.

In December 2018, Shanghai Municipal Drugs Administration received the request from Renji Hospital Affiliated to Shanghai Jiaotong University School of Medicine ("Renji Hospital" for short) to apply for the one-off import of Daratumumab the overseas listed drugs, for advanced patients with tumor. Its Department of Blood Transfusion intended to temporarily import DaratuIIIuIIIab (trade name: DARZALEX, and former name: Daratumumab) for a patient with multiple myeloma and the treatment of late recurrent refractory myeloma. The patient failed to respond to salvage treatment of multiple targeted and chemotherapy regimens. On the basis of the conditions of the patient, there were no listed targeted drugs for chemotherapy in China or other treatment methods officially approved by medical administration department that can be used for the patient. According to the relevant treatment advice on relapse and refractory patients from guide of National Comprehensive Cancer Network (NCCN), Renji Hospital applied for one-ff import DaratuIIIuIIIab to treat the patient.

The government agencies and institutions involved in such special import of DaratuIIIuIIIab included Shanghai Municipal Drugs Administration, Shanghai Municipal Health Commission, National Medical Products Administration, Shanghai Customs (including Shanghai Entry-Exit Inspection and Quarantine Bureau), Shanghai Port Institute for Drug Control, and Renji Hospital. The domestic and foreign enterprises included Shanghai Pharma, Johnson & Johnson and its domestic company, Xian Janssen Pharmaceutical Ltd. Among them, Shanghai Pharma got the honor to the business to import the tumor drugs from special paths, participated in the relevant work including the design of its supply chain process, import declaration, the logistics distribution of the whole cold chain, etc., which practiced "Be Honored to Provide Services" with actions.

◆ During the middle ten days and the last ten days of October 2018, after Shanghai Pharma received the task from Shanghai Municipal Drugs Administration, the Company attached great importance to it. It organized the focused project team, selected key employees from the Company's international headquarters, quality management headquarters, logistics headquarters, and purchasing and sales department to follow up the import related matters. During that month, the Company and Xian Janssen Pharmaceutical Ltd set up a joint working group pf "One-ff Import Project" to officially start the import process of the project.

◆ On December 18, the drugs arrived in Shanghai. When the drugs were shipped abroad, the drugs were packed with cold chain with the timeliness of only 72-hour, and moreover no cold chain protection has been taken for external shipment, so Shanghai Pharma immediately contacted with a freight operator, asking to change the storage conditions by putting the drugs into the airport supervised warehouses of 2°C -8°C, so as to guarantee the quality security of the drugs.

◆ At 16:00 of December 21, Shanghai Municipal Drugs Administration received the approval from National Medical Products Administration. Shanghai Pharma was liable to ask the employees to work for extra hours to declare relevant documents online, and at the same time, communicated with the functional departments to prepare for the customs clearance procedures.

◆ On December 24, Shanghai Institute for Food and Drug Control assisted in completing the import drug clearance form before 9 a.m. In the meanwhile, the relevant employees actively communicated with the commodity inspection departments to get Approval for Special Articles in the morning, and then immediately went to Pudong Airport Customs for declaration. Finally, they completed the customs clearance and tax payment before coming off work of day, and the customs system also succeeded in releasing the drugs.

◆ In the early morning of December 25, the special cars of Shanghai Pharma drove to the airport, and safely delivered 24 boxes of DaratuIIIuIIIab to the Company's warehouse in Suide Road before noon. After the quality audit and reading the safe and effective temperature data, the drugs were well stored in the warehouse.

◆ On January 17, 2019, according to the purchasing order of Renji Hospital, Shanghai Pharma completed the outgoing check procedure in Logistics Center of Shanghai Pharma, and then delivered the drugs to the Renji Hospital safely. The quantity of this time was 3 boxes, and subsequent orders would be finished according to the clinical demand of Renji Hospital.

Case 5

The intellectual terminal solution of Shanghai Pharmaceuticals Cloud Health prescription drugs made its debut

From August 29 to 31, the unprecedented WAIC 2019 (2019 World Artificial Intelligence Conference) themed on “Intelligent-linked World, Infinite possibilities” was held in Shanghai Expo Center. SPHC of Shanghai Pharma joined hands with SIIC-LongChuang made an on-site release of new retail smart terminal solution for prescriptions of Yiyao “Internet+”, the new member of “Yiyao” ecosystem series of products, aiming at linking the parties with AI and leading the cutting-edge future of smart pharmaceutical.

The future has come, and AI, like production materials, has gradually integrated various industries. Smart pharmaceutical, as the important component of smart city strategy, will prompt the medical service to enter into a truly smart ear. SPHC actively responded to the policy reform and century demand, integrated the superior resources of all parties, and made full use of “Internet+” thought to build a prescription new retail ecosystem in which “Yiyao” was the series brand. And it fully and ecologically promoted the development of smart pharmaceutical from 4 aspects of the approach, payment, realization and value-added services of prescriptions.

The Yiyao “Internet+” prescription new retail smart medical cabinet jointly launched through the cooperation between SPHC and SIIC-Long Chuang was based on the AI technology, and can rely on “Intelligence + Link”, “Intelligence + Verification”, “Intelligence + Security”, “Intelligence + Big Data”, intelligent-linked medical institutions, payment institutions and supervision institutions to guarantee the transmission of electronic prescription data and drugs distribution traceability in the whole process, intelligent authentication of the patients’ identity, drugs distribution verification in the whole process, huge amounts of networking, and big data analysis of patient medication, etc., so as to further innovate and optimize the ‘Internet+” prescription new retail Yiyao ecosystem of SPHC and lead the development of smart pharmaceutical.

Our Goal

- Providing Effective Solutions for Social Issues

Our Management Ideology

- Close Combination with Our Own Core Strengths

Our Measures

- Targeted Poverty Alleviation
- Undertaking of Public Service Activities
- Community Investment

Our Achievements

- Getting More Social Acknowledge and Improving public image
- Better Clearing the Ideas of Public Services, and Highlighting the Resources Allocation

CHAPTER 4

Provide Positive Solutions to Assist Resolving Social Problems

4.1 Targeted poverty alleviation and performance of a pharmaceutical company's responsibilities

1 Targeted poverty alleviation plan

Full participation of the society is required to help the dream of "Live in dignity and a healthy China" to become true. Shanghai Pharmaceuticals has always focused on close integration between its own core resources and social needs, in order to create a more comprehensive value. In accordance with the spirit of important speech on poverty alleviation work from General Secretary Xi Jinping, the Company, in conjunction with the advantages of its own resources, gradually and orderly carries out the work of targeted poverty alleviation.

Shanghai Municipal Party Committee and Shanghai Municipal Government attach high importance to the poverty alleviation in Yunnan Province. Party Secretary Li Qiang stressed that under the guidance of Xi Jinping's Thoughts of Socialism with Chinese Characteristics in the New Era, the Company will continue to adhere to the basic policy of targeted poverty alleviation. The Company will further improve ideological position, take up more political responsibility, resolutely implement the central government's policies, help unite the whole society's efforts, and spare no effort to help counterpart regions win the battle of poverty alleviation. In accordance with the unified work plan of Shanghai Municipal State-owned Assets Supervision and Administration Commission, SIIC and Shanghai Pharmaceuticals made specific plans and arrangements for paired poverty alleviation in accordance with the principle of "assigning entities with good operational status and party building to help suitable poverty-stricken areas". Under the arrangements, entities under Shanghai Pharmaceuticals are designated to help poverty-stricken villages in Midu County, Dali Bai Autonomous Prefecture, Yunnan Province. Shanghai Pharma is designated to help Xianfeng Village, Qieli Town. SPH Sine is designated to help Shijia Village, Micheng Town. Shanghai TCM is designated to help Kanglang Village, Niujie Township. These entities carry out the specific poverty alleviation work and perform corporate social responsibilities.

In 2015, the Company and the China Youth Development Foundation joined force to establish the "Shanghai Medical Care Guardian Plan", and the first phase of the special fund for the plan was RMB10 million, which was the first social welfare Foundation for the purpose of improving rural medical care. The fund will be used to build rural health clinics in remote mountain areas, subsidize rural patients suffering from rare diseases, and train rural doctors, and to integrate with relevant medical resources to carry out activities such as free medical consultation, and implement health education and serve the local public. While promoting medical equality in remote and impoverished areas and accessible health poverty alleviation, efforts are made to combine their own businesses to carry out industrial poverty alleviation and address the status quo of the poor from the source.

2 Overview of annual targeted poverty alleviation

Case 1

A Hundred Enterprises Help A Hundred Villages

From 2018 to 2020, the "A Hundred Enterprises Help A Hundred Villages" paired poverty alleviation

project will give financial assistance and donate necessary supplies to Midu County, Dali Prefecture. Moreover, information resources, technology, funds and materials will be provided to facilitate local industrial development, rural infrastructure construction, residential environment improvement and gap-filling projects such as “alleviation for households and villages in deep poverty”. Information support and technological trainings should be provided with respect to project management and industrial development. Moreover, efforts should be made to boost rural industrial development. By doing this, the Company aims to fully satisfy the central and municipal governments’ requirements concerning targeted poverty alleviation, and demonstrate the capability of Shanghai enterprises.

[Shanghai Pharma]

Since 2018, Shanghai Pharma implemented the requirements of Shanghai Municipal Party Committee and Municipal Government, and actively participated in the "A Hundred Enterprises Held A Hundred Villages " paired targeted poverty alleviation project. It has performed its social responsibility by helping Xianfeng Village in Qieli Town, Midu County, Dali Prefecture, Yunnan Province. According to relevant requirements of Midu County, Shanghai Pharma worked hard to perform its corporate social responsibility under the leadership of SIIC and Shanghai Pharmaceuticals. In the poverty alleviation work, Shanghai Pharma cooperated with the counterpart village, and implemented the poverty alleviation work from five aspects, namely “refined poverty alleviation concept”, “accurate poverty alleviation areas”, “targeted poverty alleviation contents”, “refined poverty alleviation targets” and “lean poverty alleviation methods”.

Based on the actual poverty alleviation needs in the village and its advantages, Shanghai Pharma implemented poverty alleviation in eight major aspects, namely joint party building, infrastructure construction, health room reconstruction and transformation, kindergarten transformation and upgrading, free medical consultation, assistance to poor students, support for charitable supermarkets, and centralized procurement of agricultural and sideline products. Party organizations, league organizations, trade unions as well as employees were all mobilized to help Xianfeng Village fight poverty.

In 2019, Shanghai Pharma completed the projects of kindergarten transformation and upgrading, offering assistance to poor students, support for charitable supermarkets, among others. By the end of the year, it will complete the projects of standardized village health room construction as well as centralized procurement of agricultural and sideline products. The transformed kindergartens will provide preschool education to nearly 200 children in the village, while the standardized village health room will meet medical needs of over 5,000 residents and benefit all villagers.

[SPH Sine]

On March 26, SPH Sine signed a paired poverty alleviation agreement with Shijia Village, Micheng Town, Midu County, Dali Prefecture, Yunnan Province. On the same day, the Party Committee of SPH Sine and the General Party Branch of Shijia signed an agreement on joint construction of party organization. On 25 April, the paired poverty alleviation project where SPH Sine helps Shijia Village in Micheng Town, Midu County, Dali Prefecture, Yunnan Province was launched, which includes the construction of "Shangyao Xinyi Road", the Red Flag Party Building Activity Center, the standard health room, as well as the projects of donating materials to charitable supermarkets and the assistance to poor students. At the same time, the Party Committee of SPH Sine and the General Party Branch of Shijia Village in Micheng Town, Midu County held a meeting with rich contents, innovative solutions, forward-looking thoughts and operability.

At the meeting, Party Committee of SPH Sine and three general party branches under SPH Sine signed paired poverty alleviation agreement with three party branches in Shijia Village to help three households in Shijia Village to get rid of poverty. Personalized poverty alleviation solution was formulated to set one policy for one household. A poverty alleviation consultation project themed on “Contributing Idea to Beautiful Shijia” was initiated on the meeting. The project is planned by the Party Committee of SPH Sine, and implemented by the General Party Branch of Shijia Village, aiming to mobilize 36 party members (about half of them are immigrant labourers) to act as pioneers and set examples for others in the poverty alleviation. In the meanwhile, SPH Sine helped Shijia Village improve and enforce the poverty alleviation mechanism in party building. SPH Sine instilled poverty alleviation rationale to party members in the village, enabling them to lead villagers to fight poverty. By doing this, poverty alleviation in Shijia village became a sustainable cause. The General Party Branch of Shijia Village also held a ceremony to hire civilization supervisors in the meeting. Two village cadres were hired. The two parties agreed that every year they will hold selection activities such as "the most beautiful village officials", "the most beautiful villagers", "the most beautiful village doctors" and "excellent students". Party Committee of SPH Sine helped General Party Branch of Shijia Village to nurture key talents that are willing to work hard for public causes in the village.

[Shanghai TCM]

On 25 April, leaders from Shanghai Pharmaceuticals and Shanghai TCM attended the opening ceremony of a salvia miltiorrhiza planting base in Kanglang Village at Niujie Township, Midu County, Dali Prefecture, Yunnan Province. They visited local charitable supermarkets and health room, as well as poverty-stricken households. They also checked the implementation of Shanghai's cooperative poverty alleviation work in Yunnan Province, and listened to advices of local residents and cadres regarding poverty alleviation cooperation. By doing this, they further united the people from the two places to fight poverty.

Between November 20, 2018 and March 2, 2019, deputy party secretary of SPH Sine led delegations to have three visits to Kanglang Village at Niujie Township, in order to check the paired poverty alleviation work. In the trips, the delegations checked the breeding industry, rural facility construction, living environment, ethnic middle school, village health room construction, charitable supermarket, among others. Moreover, many seminars were held to introduce the conditions of Kanglang Village and difficulties in poverty alleviation. Technical training, product development, order recovery, industrial upgrading and other projects were carried out to promote the industrial development in Kanglang Village.

250 mu of salvia miltiorrhiza was planted, helping 209 villagers from 51 households to increase income. This project will help Kanglang Village win the battle against poverty.

On the same day, leaders of Shanghai TCM visited 3 poverty-stricken families, including Li Rong, a disabled veteran party member, Wang Lizhi, a college student of Yunnan Business University, and Luo Fengyi, who had 2 college students at home and became poor due to illness. They sent supplies and asked the poverty-stricken households about their source of income and other basic conditions. They said Shanghai TCM is building a party building mechanism where party members in need will be helped and poor college students will be supported. Moreover, college students from Kanglang Village that graduated from corresponding departments will be given job and internship opportunities, so that they will have confidence to get rid of poverty. Delegation of Shanghai TCM later visited health room and charitable supermarket in Kanglang Village, Niujie Township. They checked the diagnosis and treatment centre, infusion room, pharmacy and office area of the health room. They checked the shelves of the charitable supermarket and charitable bonus points records. The visits enabled the delegation to better understand local situations and help people in need.

Case 2

Ten Thousand Enterprises Help Ten Thousand Villages

In 2018, in response to the Central Party Committee's call for nationwide and joint poverty alleviation efforts, SPH Keyuan took part in the "Ten Thousand Enterprises Help Ten Thousand Villages" targeted poverty alleviation project in Beijing. Under the project, SPH Keyuan signed the Paired Poverty Alleviation Agreement with East Liujia Village at Laiyuan County, Hebei Province. According to the agreement, SPH Keyuan formulated a three-year plan to help develop local educational sector. In the year, SPH Keyuan finished the first phase of the plan, under which it offered allowance and scholarship to over 100 students in primary and high schools in Dongliujia Village.

In August 2019, SPH Keyuan started the second phase of the plan to continue to help local poverty-stricken students. On August 22, a delegation of SPH Keyuan drove to Dongliujia Village and presented RMB39,400 to 104 students.

Case 3

For health and poverty alleviation, in accordance with the "Shanghai Medical Care Guardian Plan", the Company mainly focused on the construction of hope clinics in remote mountain areas, training rural doctors, funding for rare diseases and other aspects of work. For example, for the construction of hope clinics, as of December 2019, the "Shanghai Medical Care Guardian Plan" special funds were used to build 29 hope clinics in Jianchuan County, Dali Prefecture in Yunnan Province, Heqing County, Qiubei County in Wenshan Prefecture, Jinping County in Honghe Prefecture, Zheng'an County, Zunyi City in Guizhou Province, and other state-level poverty counties, accumulatively covering more than 80,000 people in poor areas. Of these hope clinics, 13 had completed funding, and 7 were completed. The construction of hope clinics will not only become a standardized Town clinic capable of fulfilling preventive health care, medical services, and health administration functions, but will also become a communication platform for health culture and become a mutual support between urban and rural areas. In 2019, the Company started the phase one rural doctor training programme in Lijiang, Yunnan Province. Under the program, 5-day training courses were provided to 112 local rural doctors in Yunnan Province. Moreover, the Company provided financial assistance to 82 children suffering rare diseases.

For industrial poverty alleviation, the Company has established a base for the cultivation of Chinese herbal medicines and the acquisition of medicinal materials in conjunction with the traditional Chinese medicine sector, which has stimulated the development of the traditional Chinese medicine industry in poverty areas such as Yunnan and Hunan where the Company is located, helping more poor people in poor areas.

3 Effectiveness of targeted poverty alleviation

Index	Quantity and development status
Overall statues	
Funds(in RMB10,000)	565.92
Investment by category	
1. Poverty alleviation by industrial development	
1.1 Types of industrial poverty alleviation projects	√ Agriculture and forestry industry poverty alleviation ☐ Tourism poverty alleviation ☐ E-commerce poverty alleviation ☐ Asset income poverty alleviation ☐ Technology poverty alleviation √ Others
1.2 Number of industrial poverty alleviation project (NO.)	3
1.3 Investment amount of industrial poverty alleviation project (RMB10'000)	227
1.4 Number of people out of poverty for helping set up a case file (person)	335
2. Poverty alleviation by transfer of employment	
2.1 Investment amount of vocational skills training (RMB10'000)	0
2.2 Number of people with vocational skills training (person/times)	2 trainings, with about 200 people being trained
3. Health poverty alleviation	
3.1 Amount of money invested for medical and health resources in poverty areas (RMB10'000)	171.58 (mainly used for construction of hope clinics in poverty areas, training of rural doctors, funding for congenital heart diseases etc.)
3.2 Estimated coverage in poverty areas (person)	7389
4. Social poverty alleviation	
4.1 Investment amount of targeted poverty alleviation (RMB10'000)	167.34
Awards (content, level)	
"30th Anniversary of the Hope Project, Outstanding Contributor"(China Youth Development Foundation)	

4 Subsequent targeted poverty alleviation plans

According to the particular environment of each poverty area and the conditions of different poor people, implement accurate identification of poverty target, accurate assistance and accurate management through the application of scientific and effective procedures. Mainly focusing on the promotion plan relating to the "A Hundred Enterprises Help a Hundred Villages", "Ten Thousand Enterprises Help Ten Thousand Villages" and "Shanghai Medical Care Guardian Plan" of the Company, followed by taking into consideration the advantages of the Company's resources, continue to vigorously promote health and industry poverty alleviation in remote and impoverished areas.

4.2 Contributing to charity and extending warmth

Case 1

In 2012, Shanghai Municipal Health Commission, via Shanghai Health and Medical Development Foundation, launched the Subsidy Plan for Developing Outstanding Young Specialist Physicians in Shanghai. Under the plan, young outstanding specialist physicians from healthcare agencies at different levels in Shanghai will receive all-round training. The plan aims to expedite the reform of the healthcare system, perfect the mechanism of training and selecting young specialist physicians and build a strong team of specialist physicians.

On February 26, the new entrants enrollment, graduation and commendation ceremony of Shanghai "New Stars in Hospital" Young Healthcare Talent Development and Sponsorship Plan was held in Shanghai Oriental Art Center. On the ceremony, Shanghai Pharmaceuticals made special-purpose donation to the Shanghai Health and Medical Development Foundation to support the training of young healthcare talents. Helped by such donation, another batch of young healthcare workers will pursue further studies and conduct clinical researches, making further progress toward becoming "New Stars in Hospital". Over 1,000 people, including representatives of various healthcare institutions, physicians and citizens, participated in the activity.

Case 2

Shanghai Pharma has been the exclusive sponsor of the 17th “Silver Snake Award”

On August 19, the 17th "Silver Snake Award" presentation ceremony, co-hosted by Shanghai Health System Young Talent Award Foundation and Wen Wei Po, and sponsored exclusively by Shanghai Pharma, was held, with 20 outstanding young healthcare workers winning awards and 14 nominated. As the highest honor for young talents in Shanghai healthcare system, the Silver Snake Award has played an important role in identifying and cultivating excellent young healthcare talents in Shanghai since its establishment 30 years ago. Shanghai Pharma has been a major sponsor for the Silver Snake Award. By sponsoring the award, Shanghai Pharma made contribution to the healthcare sector and development of top healthcare talents in Shanghai.

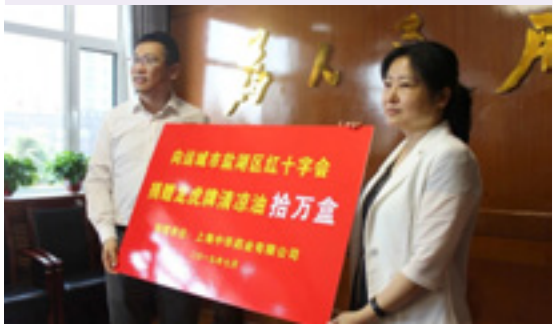
Case 3

Stroke has been number one killer in China. Moreover, patients suffering stroke have been increasing at a rate of 8.3% per year. In order to carry forward the Red Cross Society’s spirit of "humanity, love and dedication" and perform its social responsibility, SPH Techpool teamed up with Chinese Red Cross Foundation to hold “Kaiqi Plan” for three consecutive years since 2017 to help patients suffering acute thrombotic cerebral infarction. The Plan aims to help patients suffering new ischemic stroke receive sustainable and effective therapy, and reduce their burden.

SPH Techpool also initiated a charitable donation project for patients suffering acute thrombotic cerebral infarction, in order to help needy stroke patients. In 2019, 6,200 doses and RMB2.35 million were donated under the project. Chinese Red Cross Foundation, as a partner, was responsible for implementing the project.

Case 4

Yuncheng is one of the birthplaces of agricultural civilization in China. The city has a population of 706,000, including 400,000 farmers. The city has been an important agricultural base. In the busy season, farmers need to work very hard to harvest crops and plant seeds. For those hard-working farmers, anti- mosquito and cooling ointment became a necessity in the Summer farming work. On 3 July, a donation ceremony was held in Yuncheng District Government of Shanxi Province. In the ceremony, Shanghai Zhonghua Pharmaceutical donated 100,000 boxes of cooling ointment to the Red Cross Society of Yanhu District of Yuncheng. These cooling ointments were given to farmers who were busy in Summer farming, and represented Shanghai Zhonghua Pharmaceutical's contribution to the agricultural sector in Yanhu District.



Case 5

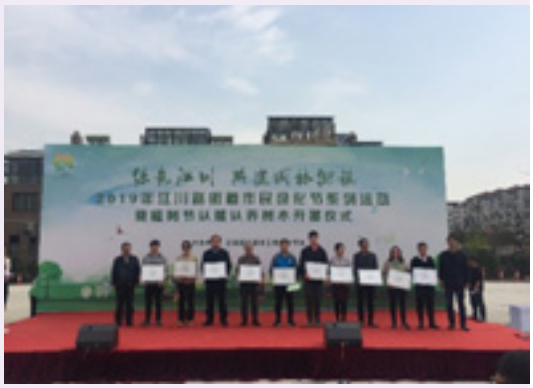
"Jointly Forging China Heart" Charitable Project was launched by the United Front Work Department of the Central Party Committee in 2008. Since its launch, the project offered volunteering healthcare services in ethnic minority areas in the borderland for 12 consecutive years. These services included free diagnosis, medical training, targeted poverty alleviation, as well as screening and assistance for patients with congenital heart disease, echinococcosis and other diseases. From 2011, SPH Keyuan supported the "Jointly Forging China Heart" Charitable Project for 9 consecutive years. In the 9 years, SPH Keyuan sent medicines and supplies to nearly 20 provinces, cities and autonomous regions, including Sichuan, Ningxia, Inner Mongolia, Tibet, Qinghai, Gansu, Yunnan, Shanxi, Guangxi and Guizhou. Over 4.5 million worth of medicines and supplies were donated. The project has helped poverty-stricken minority ethnic groups, and promoted national unity. It also helped improve the overall medical and health service level in ethnic minority areas in the borderland, and raised the health awareness of the local people.

On July 8, delegates of the Company participated in the 2019 "Jointly Forging China Heart" Charitable Project in Diqing as volunteers. In the project, RMB500,000 worth of medicines were donated to poverty-stricken villagers in Diqing Tibetan Autonomous Prefecture. They teamed up with medical teams to visit the remote farming and pastoral areas and villages that very few people have been to. They brought medicines, special equipment, outdoor equipment and other supplies to these places. They provided medicines and other services such as lectures to farmers and herdsmen that become poor or lose work ability due to illness.

Case 6

SPH No. 1 Biochemical and Pharmaceutical has long adhered to the core values of “innovation, integrity, cooperation, inclusiveness and accountability”. It spared no effort in promoting charity. It has become a joint member unit of Minhang District Party Building Area and Jiangchuan Street Party Building. The company participated in the enterprise-community co-building project of “Cinnamomum Camphora Home” in Jiangchuan Street from 2007. Since then, it has consistently performed the social responsibility concept of “serving the public and making contribution to the society”.

On the eve of the Spring Festival in 2019, representatives of party members of the company brought oil, rice and other necessities to 15 senior citizens that lived in solitude in Hongliu and Hongqi community. In March and October, the company actively participated in the community activity of “Learning from Lei Feng to help others”. Staff of the company repaired small home appliances for the residents of Hongliu Community, Hongqi Community and Hesheng State for 4 times. On 26 March, the company actively participated in the tree planting activity that was themed on "planting and adopting trees" in Jiangchuan Street.



Case 7

On the morning of 31 July, the donation and support activity named "Help from Lei Family Medicines" was held in Shanghai Children's Medical Centre affiliated to Shanghai Jiao Tong University School of Medicine. It was in a very hot Summer. Shanghai Leiyunshang Pharmaceuticals donated RMB1.81 worth of cooling drink Lei Chrysanthemum Juice to frontline medical workers at nearly 20 hospitals (half of them are grassroot community medical centres), community volunteers and patients' family members. Such donation demonstrated the company's care for others and represented part of the company's efforts to give back to the society.

As a classic product inherited by Shanghai Leiyunshang Pharmaceuticals more than 20 years ago, Lei Chrysanthemum Juice adopted the ancient distillation process to extract the active ingredient chrysanthemum volatile oil. Being a very fragrant drink with lots of essence, it is very suitable for drinking in the hot weather in Summer.

Case 8

On October 17, the National Poverty Alleviation Day, "Creating Good Life Hand in Hand" charitable activity was launched at Bazhong Huaxi Primary School. The activity aimed to help students from poor families. In the meanwhile, "Joining Hands to Light Up Life" activity under the Pain Study Branch of Chinese Society of Cardiothoracic and Vascular Anesthesiology was held at Bazhong Huaxi Primary School. SPH Sales joined hands with Shanghai Changzheng Hospital to co-host the grassroot charitable activities. In the activities, experts provided cardio-pulmonary resuscitation trainings to local students and teachers. In the trainings, they combined the rescue skills with daily life scenarios, and carried out cardio-pulmonary resuscitation simulations in groups. Students and teachers showed great interest in these trainings and actively participated. Experts also offered psychological lectures to senior students to address their problems about personal physical development.

Case 9

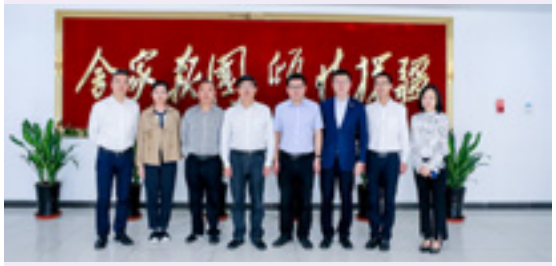
To respond to China's call for targeted poverty alleviation in healthcare sector, and perform its corporate social responsibility, the league committee of SPH Growful leveraged its forces in healthcare, financial services and social organizations to launch "Caring for Villages", the first project combining volunteer and poverty alleviation in Qingdao City.

In January, the league committee of SPH Growful and project member units started poverty alleviation activities in Laixisong Village. The league members brought small medicine kits and Chinese "Fu" poster to senior citizens who live alone and poverty-stricken families. They also communicated the knowledge about how to keep health in Autumn and Winter. By doing this, they extended warmth to people in need.

"Caring for Villages" adopts the principle of "Contribution Makes A Meaningful Youth and Helping the Rural Areas". Supported by Communist Youth League College of Qingdao, SPH Growful has joined hands with 5 other entities including the 5th People's Hospital in Qingdao City. They complemented each other and provided free diagnosis, helped patients, distributed free medicines, promoted healthcare knowledge, brought supplies to poverty-stricken families and helped children left behind in remote villages. Moreover, they held activities that boosted exchanges between rural and urban children, and promoted financial knowledges in villages. Art performances, educational activities on self-protection for young people, psychological caring and other volunteering activities were carried out. By doing this, SPH Growful provided all-round help to remote villages and people in need.

This project has created a precedent for Qingdao grassroots league organizations, enterprises and charitable organizations to jointly carry out targeted poverty alleviation. In more than one year, project participants visited 18 poverty-stricken towns in Qingdao, helped 180 households, held 21 lectures on financial knowledge, 16 lectures on medicine use and traditional Chinese medicine knowledge, and 26 lectures on young people's protection and prevention. They organized more than 70 activities, benefiting more than 20,000 people. The project won the first prize in the first volunteer service project competition in Qingdao healthcare and family planning system, and the bronze medal in the third Shandong provincial volunteer service competition.

Case 10



On May 22, Huqingyutang Pharmaceutical came to Aksu in Xinjiang, and presented " Qingyupiwen Pills" to cadres and professionals that are dispatched by Zhejiang Province to help Xinjiang.

Since 1997, under the unified deployment of the central government, Zhejiang Province was designated to help Hetian, Aksu and Alar City of the First Division of the Corps in Xinjiang successively. In more than 20 years, lots of cadres and professionals were sent by Zhejiang Province to help administrative work in Xinjiang. They came from the beautiful South China to the borderland in Northwest China. They worked hard, overcame various difficulties and dedicated themselves to helping Xinjiang.

The presented “Qingyupiwen Pills” was one of the founding products of Huqingyutang. About one hundred years ago, the medicine helped Qing government recover the land occupied by Russia in Xinjiang. It can remove the foul gas, stop vomiting and diarrhea, and reduce heat. It can also alleviate dizziness, chest distress and abdominal pain. Cadres that help Xinjiang can use the medicine to prevent and cure related diseases, and better adapt to the harsh weather and environment in borderland, thereby better devoting themselves to their work.

Case 11

Love can open a new world. In April, members of the General Party Branch of SPH Logistics Centre visited the "Autism Practice Base" of Shanghai Youth Activity Centre to participate in the charitable activities of caring for autistic children. Volunteers taught fire safety knowledge and provided vocational trainings. They also donated frequently-used medical supplies.

In the activity, volunteers provided vocational trainings on coffeehouse services. “Table 2, 3 cups of lattes, 5 cups of Cafe Americano, 2 cups of Italian coffee and 2 cups of lemonade” After receiving orders, these kids started to grind, extract, concentrate, stir and cook coffee. After that, they put the finished coffee in trays and presented them to volunteers. “Your coffee, please enjoy” Volunteers enjoyed the coffee cooked by these kids and the music played by them. The activity was full of love and warmth.

Firefighting and emergency rescue training was also carried out. Kids were intrigued by the firefighting devices and rescue mode. By communicating with volunteers, these kids improved their socialization ability. The vocational trainings can equip these kids with work skills that can help them have better lives in future.

Case 12

At about 13:30 on 11 January, when Ms. Qin was shopping at Chunshen Store of Fahrenheit Pharmacy, she had a sudden illness and vomited blood. Her consciousness was vague. The staff of Fahrenheit Pharmacy immediately acted to rescue Ms. Qin. Wang Lan, an employee of Fahrenheit Pharmacy, recalled that Ms. Qin was buying medicine before she showed a strange expression and fell down slowly against the cash receiving counter. Wang Lan swiftly held her and let her sit down with chef pharmacist Chen Fenfen in the store. Suddenly, Ms. Qin spit out blood, and her consciousness was a little fuzzy. Store staff quickly activated the emergency response plan. Staff called 120 emergency hotline and described the symptoms and address of the store. Staff also contacted the store manager. Cui Zhennv, the store manager, was taking a leave that day, but she rushed to the store immediately after receiving the call and reported to the regional manager.

While waiting for 120 ambulance, Wang Lan and Chen Fenfen used their professional knowledge to exercise emergency rescue. They took off the hat and scarf of the patient, opened the clothes zipper to ensure unobstructed breathing of the patient, and massaged the corresponding acupoints to stimulate the patient and try to help her recover as soon as possible. The staff also warmed Ms. Qin's cold hands with her own hands. Gradually, Ms. Qin's body temperature rose and her consciousness recovered. The store contacted Ms. Qin's family through the CRM system. The director of related neighborhood committee and the security guard also came to the store to learn about the situation. After the 120 ambulance arrived, Wang Lan and Chen Fenfen told the emergency doctor of the patient's condition, and the ambulance sent the patient to Minhang District Central Hospital. According to the hospital's diagnosis, Ms. Qin had an acute gastrointestinal bleeding.

On the next day, Wei Jun, Secretary of the Party Branch of South District of Fahrenheit Pharmacy, Cui Zhennv, Wang Lan and other staff came to Minhang District Central Hospital to visit Ms. Qin, in order to show the care and warmth of the whole company and staff of Chunshen Store. Ms. Qin's family expressed gratitude to all staff of Fahrenheit Pharmacy and Chunshen Store. The staff of Chunshen Store of Fahrenheit Pharmacy said that it is the responsibility of healthcare workers to help patients, and the corporate culture of "serving with pride" is also integrated into daily work.

Case 13

To implement of " Lohas Action" concept put forward by the party branch of SPH Sine Tianyi, in early 2019, members of the handmake association of SPH Sine Tianyi visited “Sky Blue Studio” and “Seven and White Soap Creation Workshop”. Moreover, these members carried out a charitable sale to help the underprivileged group.

“Sky Blue Studio” has been positioned to serve mentally handicapped people aged between 20 and 40 years old. The party branch of SPH Sine Tianyi teamed up with “Sky Blue Studio” to witness the soap hand-makes of “Sky Blue” angels, who are mentally handicapped people. “Sky Blue” angels have produced and sold handmade soaps, in order to integrate themselves into the society and build a positive life attitude.

In the event, in order to prepare more items for charitable sale, members of the hand-make association gathered in the DIY workshop of " Seven and White Soap Creation " and closely cooperated to use pure natural raw materials to produce handmade soaps with different shapes and colors through the process of melting soap base, adding color, refrigeration and demolding. The charity sale was held in SPH Sine Tianyi, which attracted lots of employees. RMB2,340 was raised in the charity sale. All the proceeds were donated to Shanghai Guangci Children’s Home to help more disabled people.

4.3 Investing in community and serving the public

The Company attaches great importance to community relations. Affiliated enterprises actively participate in community affairs in various aspects, and constantly strengthen the positive interaction with the community. While contributing to the community, the Company creates conditions for its sustainable development.

1 Chief sponsor of the 9th Shanghai Music in the Summer Air to enhance the quality of music life of Shanghai citizens

The Shanghai "Music in the Summer Air" (MISA) Festival has been held for 10 years, and become a cultural card of Shanghai. It is also a cultural and artistic project that deserves full maintenance and strong promotion. The healthcare sector is vital to the national economy and livelihood. Those who work in the sector are honoured and have huge responsibilities. Shanghai Pharmaceuticals have consistently performed its corporate social responsibility by leveraging its advantages. It strived to help the city prosper both economically and culturally. Shanghai Pharmaceuticals is committed to helping Shanghai create the image of international city, and boosting the public's health and life quality.

From 2 July to 15 July, 23 performances were staged in the 2019 Shanghai MISA Festival. 4 professional symphony orchestras, 6 musical groups and more than 20 solo artists took turns to perform in the Shanghai Symphony Hall and City Lawn Music Plaza. In particular, 5 student bands delivered performances, demonstrating the young music power. In a specialized concert hall and on the open lawn, musicians performed in the MISA Festival, creating a young, energetic and positive environment for Shanghai.

2 Fully supporting “rational use of medicines”

Ensuring safe use of medicine and meeting the public’s medicine demand are the top social responsibility of a pharmaceutical company. Shanghai Pharmaceuticals has consistently supported the promotional and educational activities with the theme of “strengthening medicine administration and promoting rational use of medicine” in Shanghai communities. Through the combination of expert lectures and on-site consulting, Shanghai Pharmaceuticals conveyed to public the knowledge and norms of medication for common and chronic diseases, as well as problems and errors that should be avoided in daily medication. By doing this, Shanghai Pharmaceuticals enhanced the public’s knowledge about medication and helped them use good medicines in a safe and convenient manner.

On the morning of May 24, the fourth Shanghai Summit Forum on Rational Medicine Use, which was fully supported by Shanghai Pharmaceuticals, was successfully held. The theme of the forum was "high quality development of pharmaceutical service". The keynote reports of the forum include: "Interpretation of Policies on Comprehensive Clinical Medicine Evaluation", "Interpretation of Policies on High Quality Development of Pharmaceutical Services", "Analysis and Planning of Clinical Pharmaceutical Talents in Shanghai", "Practice and Experience Sharing of Rational Medicine Use in Relevant Hospitals", etc. The forum commended the groups and individuals who had outstanding achievements in the publicity and education of rational medicine use in the past year and came from the medical institutions, streets, towns and districts of the city.

Case 1

Yanhuang Yiyi Medical Park was developed by SPH Growful for promoting traditional Chinese medicine culture, publicizing related innovative products and cultural boutiques, telling the story of traditional Chinese medicine, and spreading the voice of traditional Chinese medicine. It has used the notion of "Medicine and I Ching have the same source" in traditional culture as the key element. Using the history of traditional Chinese medicine as the main line, it has been based on the Chinese medicine culture and used artistic forms such as sculpture, calligraphy, painting, stone carving and seal cutting, in order to build a special traditional Chinese medicine culture park integrating cultural communication, health preservation knowledge, art appreciation and fitness exercise. Since its official opening in October 2016, Yanhuang Yiyi Medical Park has received more than 400 visits by nearly 20,000 people from different sectors. It organized 62 science popularization lectures that attracted 2,162 people and won wide recognition. The park has been granted the approval to serve as Shandong Provincial Demonstration Project for Traditional Chinese Medicine Health Tourism, Qingdao Minors' Social Class, Qingdao Science Popularization Education Base, Qingdao Patriotism Education Base, the first batch of Primary and High School Students' Research and Learning Travel Bases in Qingdao, Three-Star Science Popularization Education Base in West Coast New Area and Excellent Traditional Culture Promotion Demonstration Base in West Coast New Area. In 2018 and 2019, the park was presented the title of “My Favorite Science Popularization Venue” in West Coast New Area for two consecutive years. SPH Growful also strengthened school-enterprise cooperation, and successively built practice bases for traditional Chinese medicine cultural education together with Qingdao Puji Road Primary School, Shandong Drug and Food Vocational College, Qingdao Technical College, Qingdao West Coast New Area Experimental Junior High School, Shenyang Pharmaceutical University, Qingdao No.9 High School, among others. Many high school students showed great interest in traditional Chinese medicine after visiting Yanhuang Yiyi Medical Park, and said that they may choose traditional Chinese medicine as their future career direction.

In 2012, Guofeng Health Campaign was launched to popularize health knowledge and spread health preservation concept to Qingdao citizens, customers across the country, as well as primary and high school students in a plain language. The campaign has helped the public know Chinese herbal medicine, understand drug production process, and learn about the right ways of using medicines. Yanhuang Yiyi Medical Park also visited the schools for children with autism, Pingdu Qingyang Primary School and other primary and high schools in Qingdao, and provided volunteering services in these schools. In the past 7 years, the park hosted over 1,000 lectures for science popularization, which attracted over 100,000 people.

Case 2

In order to carry forward the spirit of Lei Feng as well as the volunteer service spirit of dedication, friendship, mutual assistance and progress, the youth volunteer service team affiliated to the League Committee of Shanghai Pharmaceuticals recently carried out the volunteering activities with the theme of learning from Lei Feng in many streets and districts.

The league members participating in the activities of learning from Lei Feng were mainly divided into the following teams: community service team, medication consulting service team, science popularization service team, elderly service team, among others. Volunteers leveraged their pharmaceutical expertise to publicize the knowledge about rational medicine use, and guide the citizens to use medicines correctly, which helps prevent diseases. Volunteers also helped the public identify authentic and fake medicines, and improved the public's anti-fake medicine awareness. They provided health consultation services, such as common knowledge regarding safe and reasonable use of medicines, instructions for purchase of health products, identification of unqualified drugs and diet conditioning for hypertension and diabetes. They also promoted knowledge about waste classification, waste drug recycling, blood pressure and blood glucose monitoring, as well as provided volunteering services with medical characteristics such as human body constitution identification in the communities. Their services were well-received by citizens.

Case 3

On 4 September, SPH Shenxiang offered the first lesson for Autumn health preservation in East China Sanatorium in Binhu District, Wuxi City, in order to provide professional daily life guidance for the old cadres. SPH Shenxiang also carried out a series of healthcare activities that were welcomed by the old cadres in the sanatorium.

In order to advocate healthy lifestyle, Wang Shixiang, a traditional Chinese medicine healthcare expert, gave a lecture with the theme of "In Summer and Autumn, scientific healthcare has rules to follow", and Bi Linli, a winner of “Shanghai Craftsman” title, taught the common methods of telling true traditional Chinese medicine from the fake.

"The best health preservation way is to live in Spring, grow in Summer, harvest in Autumn and store in Winter, and follow the law of human body and seasons." "In Summer, we should keep a happy and stable mood, while in Autumn, we should focus on lung care, and eat less spicy food and more sour food." In the lecture, Wang Shixiang taught the health care knowledge in detail. In order to help the old cadres protect their health in a more convenient and scientific way, Wang Shixiang introduced several small prescriptions that can be used to replenish Qi, Blood, Yin and Yang. The old cadres carefully took notes to record the prescriptions.

The health products available on the market have uneven quality. It’s difficult to identify fake and inferior products. Only products with long duration and reliable quality can be conducive to health. To help old cadres identify inferior and fake products, Bi Linli introduced many ways of assessing quality of traditional Chinese medicine, such as checking the origins, smelling, touching, observing and tasting. She mainly introduced ways to assess common traditional Chinese medicinal materials such as cordyceps, saffron, gastrodia, scaphium scaphigerum, among others. By comparing real ones with fake ones on the lecture, she helped the old cadres learn the method of identifying the medicinal materials in a more intuitive manner.

Case 4

In 2019, Fenglin Street Party Working Committee and Office hosted the "Lei Feng in Fenglin" charitable project. Under the project, charitable activities were held at the beginning of each month to provide services based on seasonal demand and residents' emergency needs, thereby providing convenience to nearby residents. Shanghai Pharma is an enterprise unit located in Fenglin Street. The league members of Shanghai Pharma actively participated in these activities, showing care and interpreting “Lei Feng spirit” with their expertise.

In the first charitable activity, the young volunteers of Shanghai Pharma measured blood pressure for the residents seeking consultation, reminded them of the diet habits that require attention, and popularized health knowledge. Volunteers also taught residents to identify and cook Ejiao, and provided trial eating services. Residents said that the boiled Ejiao tasted well and they now have a deeper understanding of Ejiao. "Lei Feng in Fenglin" charitable activities will be carried out for a long time. Volunteers from Shanghai Pharma will extend their services by building a community “nursing home” for the elderly in neighborhood, in order to meet the diversified needs of residents, assist Fenglin Street in serving residents, and build a harmonious life circle.

Case 5

The Babaodan Traditional Chinese Medicine Cultural Centre of SPH Xiamen Traditional Chinese Medicine officially opened this June. The centre actively carried out social practice and research activities for primary and high school students. 17 activities were organized until now. The centre has cooperated with Xiamen Qiwu Society Research, Education and Technology Co., Ltd. for the first time to receive about 400 grade one and grade two students from No.9 Junior High School in 8 activities. In a two-day studying and research activity, students showed great interest in traditional Chinese medicine culture. Guided by the commentator, these students studied the traditional Chinese medicine culture that has over 2,000 years of history. Moreover, they took part in the task card activity concerning green herbal plants in South Fujian in Babaodan Herbal Garden. By exploring, they studied a lot.

In December, Babaodan Traditional Chinese Medicine Cultural Centre received a group of high school students for visiting and studying purpose. As the base of traditional Chinese medicine culture publicity and education in Fujian Province, Babaodan Traditional Chinese Medicine Cultural Centre has provided various forms of traditional Chinese medicine cultural experience and education activities to students, citizens and tourists since its opening.

In addition, SPH Xiamen Traditional Chinese Medicine, together with the "Lecture Hall of Famous Doctors" column of Xiamen TV Station, launched the theme lecture activity of "Ding Lu Qing Health Campaign" in Babaodan Traditional Chinese Medicine Cultural Centre. Pan Jinshui, deputy chief physician of gastroenterology department of Zhongshan Hospital Affiliated to Xiamen University, was invited by the company to give a health lecture with the theme of "Protecting Stomach and Liver for Health" to residents of Shapowei Community in Xiagang Street. After the lecture, citizens visited the exhibition hall and learned about the history of traditional Chinese medicine culture.

Our goal

- Create overall value

Our management ideology

Take different stakeholders' appeals seriously

- Responsible to shareholders
- Responsible to employees
- Responsible to the environment

Our measures

- Strengthen transparent management, promote business development and realize synergy of management and control
- Focus on employees' career development and occupational health and raise their remuneration, benefit level and comprehensive capacities
- Integrity, self-discipline and compliant operations
- Insist on green production and low-carbon operation

Our achievements

- Operating results grew at 17.27%, EPS increased by 4.68% and dividend distributed to all the shareholders was not lower than 30% of the net profit distributable last year
- We provided our employees with professional, high-efficiency and individualized training courses and growth paths in light of their work posts and career development needs
- We worked on legal construction projects, performed standardized operation of pollution treatment facilities, and legally disposed of hazardous waste
- Energy-saving and water-saving effects were significant

CHAPTER 5

Create Overall Value based on Responsible Operation

5.1 Governance and control

> The healthcare system underwent a significant reform in 2019. The centralized medicine procurement policy was quickly put in place. Medicine quality was boosted while costs were cut. Domestically-made medicines continued to replace imported ones. During the reporting period, the Company adhered to its four key development strategies and proceeded with major projects, which translated into further optimized product structure and more diversified pipeline of innovative products. The service segment accelerated the building of a national presence. Moreover, the international business made solid progress. We have achieved the annual operational targets and completed key tasks.

1 Governance mechanism

The Company strictly complies with the Company Law, the Securities Law, and other regulatory requirements. A relatively modern governance mechanism has been established by the Company, and corporate governance was further enhanced.

In 2019, to further enhance its governance mechanism, the Company, on the basis of the party and league building work and management functions that were introduced last year, made revisions to the Articles of Association and the Rules of Procedures for the General Meeting in accordance with the Guidelines for Articles of Association of Listed Companies (2019 Revision). Accordingly, the Company also amended the Rules of Procedures for Executive Committee Meetings of the Board and Work System for Independent Directors to align the corporate governance and articles of association with the latest laws and regulations.

2 Risk and internal control system

To cope with the ever-changing risks and satisfy the compliance requirements for listed companies' governance, the Company put in place a work process of identifying, assessing, responding to and reporting risks. The process can identify the internal and external risks, assess the possibility and impact of risks, confirm the risk response strategy and implement the risk response measures. Moreover, risks and risk management outcomes were reported to the Board of Directors, the Audit Committee and management periodically and systematically.
As to internal control, the Company established a corporate legal person governance structure, and organizational structure that fits the Company's business scale and operational needs after fully considering the modern corporate system requirements, business risks as well as the Company's development status. The Company's internal control management system has been further enhanced and optimized in terms of control environment, risk assessment, control activities, information and communication, as well as supervision mechanism.

3 Compliant operation

Shanghai Pharmaceuticals has long attached importance to compliance in marketing. Compliant operation is the minimum requirement that a company needs to satisfy in its management, and ensures a company's capability to complete globally and perform social responsibilities. In 2019, Shanghai Pharmaceuticals further advanced the building of marketing compliance management system, and ensured compliant operation.

4 Information disclosure

As for information disclosure, the Company kept meeting investors' demand and satisfying applicable compliance requirements. In accordance with China Securities Regulatory Commission's Standards for the Contents and Formats of Information Disclosure by Companies Offering Securities to the Public No. 2-Contents and Formats of Annual Reports (2017 Revision), Shanghai Stock Exchange's Industrial Information Disclosure Guidelines for Listed Companies No.7 – Pharmaceutical Production and Notice on Further Improving Listed Companies' Disclosure on Poverty Alleviation Work, and the Hong Kong Stock Exchange's Environmental, Social and Governance Reporting Guide, the Company actively performed its information disclosure duties in innovative ways and strengthened the timeliness and transparency in information disclosure.

5 Communication with investors and protection of rights

The Company regularly held conference calls involving global investors and conducted roadshows for global institutional investors. Meanwhile, the Company positively responded to and answered the investors' questions through the "E-interactive Platform" of the Shanghai Stock Exchange, investor hotline and e-mails. In 2019, the Company maintained good interaction with domestic and overseas investors, positively participated in and received investor survey, and organized roadshows and reverse roadshows in Hong Kong, Beijing, Shenzhen, United Kingdom in April and November, ensuring investors could be promptly informed of the Company's operating results and strategy plans. In 2018, the Company has made invitations to its investors for more than 400 times in total. As of December 31, 2019, the "E-interactive Platform" of the Shanghai Stock Exchange had received 112 questions from investors, and the Company paid great attention and responded to them all in a timely manner.

Between January 1, 2019 and 31 December 2019, the Company issued 4 periodic reports (2018 annual report, as well as 2019 first quarter report, interim report and third quarter report), 100 provisional announcements for A-share market, and 132 announcements and circulars for H-share market.

Case 1

Information disclosure

The Company attaches great importance to investors' right to know and discloses corporate information in a true, accurate, complete and timely manner. Since 2016, the Company has been given Grade A, the highest grade, in the annual information disclosure evaluation by the Shanghai Stock Exchange for two consecutive years, ensuring investors could be adequately and promptly informed of important corporate information and protecting investors' rights and interests.

Case 2

Crisis management

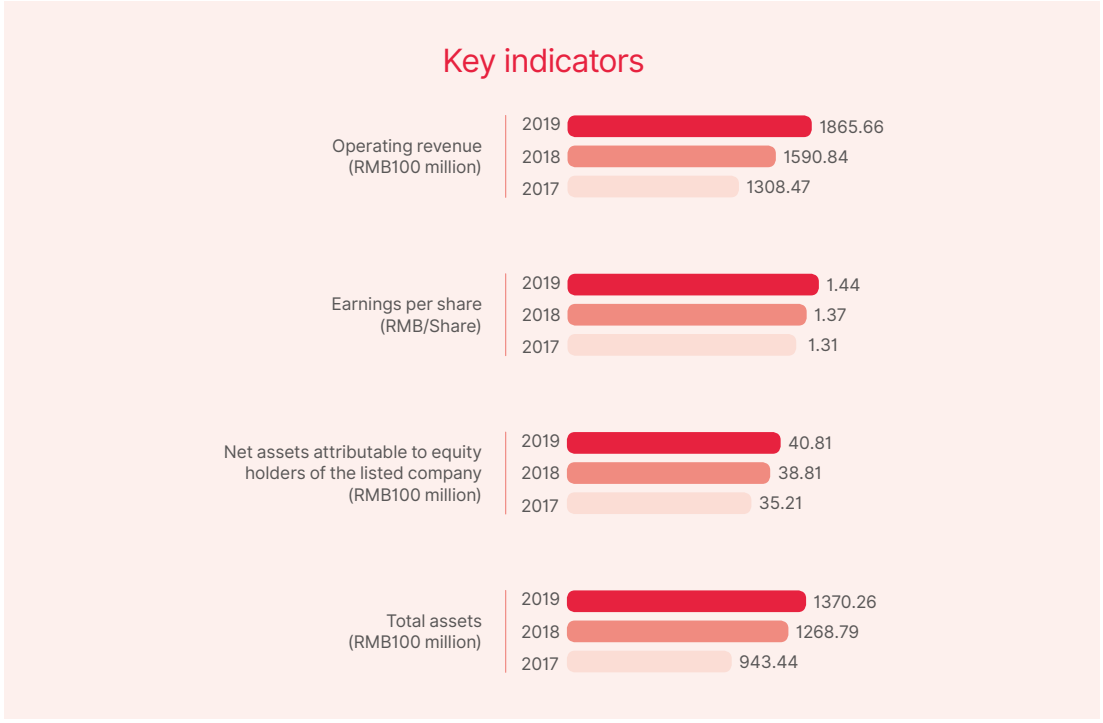
In 2019, the bribery case and accounting irregularity has caused investors' concern over the excessively high selling costs in medical companies, which increased the uncertainties facing the entire pharmaceutical industry. In face of such emergent incidents, the Company set up a crisis public relation management taskforce at the earliest opportunity and worked out a response plan. Through press release, announcements, as well as online and offline interactions, the Company actively communicated with investors and protected its image, ensuring that investors have objective and reasonable judgment on the Company's valuation.

6 Anti-corruption

In respect of audit, the Company formulated the Procurement and Bidding Management Measures of Shanghai Pharmaceuticals as well as Management Measures of Supplier Integrity and Compliance of Shanghai Pharmaceuticals according to the Bidding Law of the People's Republic of China, the Regulation on the Implementation of the Bidding Law of the People's Republic of China and other relevant state laws and regulations. The two systems mainly specified the bidding and procurement requirements for engineering projects, equipment, facilities, office supplies, office equipment, IT software and hardware, professional maintenance, consulting services, etc., and honesty and compliance requirements that the Company's staff should observe during transactions with suppliers.

In respect of the discipline inspection commission, while complying with the Anti-Corruption and Bribery Law of the People's Republic of China and other laws and regulations related to [anti-corruption, anti-bribery, anti-extortion, anti-fraud, anti-money laundering] applicable to the Company, the Company continued to study, publicize and implement the Criteria of Honesty and Self-discipline for the Communist Party of China and Regulation of the Communist Party of China on Disciplinary Actions, and earnestly implemented the Responsibilities List of "Four Responsibilities" of Shanghai Pharmaceuticals Group for the Promotion of Comprehensive and Strict Governance of the Party and Strengthening of the Party's work Style and Clean Environment. Key work was carried out in promoting building of risk prevention and control system for major fields:

1. Promote implementation of Guidance Opinions on Strengthening Management of Sensitive Posts. 1 Enhance incorruption education for employees at sensitive posts, conduct examination on the implementation of management of sensitive posts, and prevent corruptions from the source.
2. mplement the Measures for Management of Honesty and Compliance of Suppliers, cooperate with relevant business departments in urging various units to regulate the management of suppliers so as to improve the enterprise's risk prevention ability.
3. Implement the Notice on Strengthening Management of Agency of Relevant Enterprise Products of the Group by Employees Who Have Left Shanghai Pharmaceutical Group, and further enhance the management of agency of relevant enterprise products of the Group by employees who have left the Group.
4. Implement the Measures for Prevention of Conflicts of Interest of Leaders directly under the Group during Operational and Management Activities (Trial) to regulate leaders' conducts, prevent conflicts of interest during operational and management activities, promote leaders to perform their duties and powers correctly and safeguard enterprise's reform and development.



5.2 Employee development

1 Career development

The Company gradually established employee career development channels, including the position systems for managers, marketing personnel, R & D personnel, technical- quality personnel and skilled personnel, and kept improving the position standards.

The Company adhered to the market-based employment mechanism, organized talent review, and promoted the merit- based selection of talents on a competitive basis; strengthened the introduction of market-oriented talents, established a unified recruitment management platform, set up an internal employee recommendation system, integrated internal & external recruitment channels and resources, optimized recruitment process and established internal & external talent pools; attached great importance to the introduction and training of international talents, so as to promote the development of its international business; annually organized theme recruitment in the campus, established strategic alliances with relevant universities and jointly established national education practice bases and master graduate internship bases to improve students' practical ability through internships, graduation guidance, exchange of experts, directed and entrusted trainings, so as to shorten their run-in period after entering the company.

2 Remuneration & benefit

The Company adhered to the remuneration payment concept centered on position, ability, performance and market and kept improving the normal growth mechanism and the underpinning mechanism for employee salaries, with reference to the Company's development, so as to improve the income level of employees of the enterprise.

The Company developed differentiated remuneration systems for managers, marketing personnel, R & D personnel, technical-quality personnel and production personnel based on the characteristics of their posts, and effectively mobilized the staff's initiatives and creativity to continuously improve its performance, contributing to the realization of its strategic objectives.

With reference to the enterprise's development, the Company actively improved the benefit system for employees, and some enterprises established the benefit items such as commercial medical insurance, supplementary provident fund and enterprise annuity.

The Company offers market-oriented incentive instruments for the first time by formulated a share option incentive scheme to enhance the core competitiveness of enterprises and fully unlock the Company’s potential and consolidate its position. This move also seeks to keep the management team stable and motivate core and key employees, allowing the Company to grow rapidly and healthily.

3 Training and development

The Company paid high attention to employees' growth and development and provided employees with systematic learning and development paths and training courses. The Company established Shanghai Medical University, which served the "Five Platforms" functions, namely the talent training and management training platform, training platform for medical professional knowledge, platform for promoting strategic consensus and reform, platform for studying corporate policies and strategies, and platform for refining & innovation of management models.

The Company further enhanced its talent development system and organized multiple rounds of training programs. It has formed a studying and development system that focuses on main projects, rotation training projects, specialized projects and topical projects, and uses systematic forums and university lectures as supplements. In 2019, 2,572 people took part in 4 main projects, 10 specialized projects, 3 topical projects, 1 rotation training projects and 23 forums and lectures. The main projects have further refined the “Four Geese” plan. The specialized projects served the seven key functional lines of the Company. The topical and rotation projects targeted middle to high managers of the Company. These training projects aim to enhance employees’ competency and help extract management experiences. The multi-level training system has encouraged employees to study and satisfied their diversified needs. The training system also strengthened employees’ sense of identity with

the Company's corporate culture and strategy, and boosted their sense of belonging and pride.
The Company solidly promoted the "young geese growth partnership program" and provided each new graduate with a guide acted by excellent league cadre, so as to accompany the "young employee" in growth during the one-year growth partnership period and help them change from a good student to a good employee.

Upon approval of Shanghai Municipal Human Resources and Social Security Bureau, the Company set up "Continuing Education Base of Medical Professional and Technical Personnel in Shanghai", for knowledge updating and continuing education of medical professional and technical personnel.

The Company has been one of the key companies that integrate production and teaching and are nurtured by the national government. It has actively advanced the building of high-skill talents and formed a relatively sophisticated skill and talent development system. After systematic training and master instructing apprentice, a number of leading skilled personnel with exquisite craftsmanship and working in the front-line emerged in the Company. In particular, seven persons were selected as "Shanghai Craftsmen".

The Company has always attached importance to nurturing of high- skill talents. It has organized two skill competitions, namely "pharmaceutic preparation" and "medicine analysis" under the 2019 China Skill Competition – Shanghai Provisional Skill Competition of "Four Main Brands" – "Special Session for Shanghai Manufacturing". 93 contestants from 20 subsidiaries of the Company and universities took part in the competitions. Before the competitions, these contestants received targeted skill trainings. The skill competition further promoted Shanghai Pharmaceuticals' initiative of building lean manufacturing system and high-end smart manufacturing platform. It also helped nurture a high-skill team that is good at learning and ready to innovate.

Case

Shanghai Pharmaceuticals and East China University of Science and Technology launched the "Education Poverty Alleviation, Motivation & Morality" program

To respond to the spirit of President Xi Jinping's speeches - "it is better to teach one the skill of fishing than to offer him fish. As poverty alleviation requires the support of education, it is necessary to help the children in poverty areas receive good education", and to further implement the special plan of the State Council on expanding the implementation of targeted enrollment in rural poverty areas, Shanghai Pharmaceuticals has actively participated in the "Education Poverty Alleviation, Motivation & Morality" program of East China University of Science and Technology since October 2015. The two parties signed the agreement concerning "Shanghai Pharmaceuticals Motivation & Morality Class", and set up the plan for "Scholarships of Shanghai Pharmaceuticals Young Geese Motivation & Morality Class". The scholarship ratio was increased in 2019 to 20 students excelling both in morals and studies and 40 extraordinarily poor students with special difficulties to help them build confidence and constantly strive to become stronger.

In the past four years, under the care of Shanghai Pharmaceuticals and school leaders, the number of special students has grown from 42 in 2014 to 164 in 2019, and the total number of students has reached 560, covering all majors in the university. Through their own efforts, the students in 2014 and 2015 completed their undergraduate studies. Among them, 28 students were recommended for admission to master's degree, and 41% of them intended to continue their studies. Over the past four years, 40 students obtained the "Scholarships of Shanghai Pharmaceuticals Young Geese Motivation & Morality Class", accounting for 22% of the total number of students in "Motivation & Morality Class; 80 extraordinarily poor students got subsidized.

In the past four years, Shanghai Pharmaceuticals has established the "Shanghai Pharmaceutical Motivation & Morality Club" to carry out various sports activities which are beneficial to both physical and mental health and career consulting activities. Shanghai Pharmaceuticals organized some alumni of East China University of Science and Technology to participate in the "Dragon Boat Invitational Tournament of Shanghai Pharmaceuticals Motivation & Morality Class" for three consecutive years, to play against the students of Motivation & Morality Class. To help these students fit into enterprises as soon as possible and learn more about the society, Shanghai Pharmaceuticals has organized nearly 100 students of Motivation & Morality Class to participate in its summer social practice activities for three consecutive years.

In just four year, the poverty alleviation programme of Shanghai Pharmaceuticals and East China University of Science and Technology organized various student-aid and social practice activities, which ignited the students' dreams of "Unwilling to Mediocrity" in their studies and helped them build self- confidence in study and ceaseless self-improvement, opening up a new chapter in the cooperation between schools and enterprises in promoting "education poverty alleviation, cooperation in education".

164
Special students

560
students of four grades

80
extraordinarily poor students subsidized

4 Health and Safety

Occupational health

The Company always insisted on the work objective of 5 100% in occupational health management (100% report rate and detection rate of occupational hazardous factor, 100% notification rate of post occupational hazard, 100% physical examination rate and 100% training rate), and realized full coverage of occupational hazard management and achieved the work objective of no occurrence of occupational diseases.

The Company further promoted the occupational health infrastructure construction, inspected and urged the production enterprises involving occupational disease hazard factors to control and eliminate the hazard factors at the source, and improve and replace obsolete production equipment.

To improve the safety of production facilities, the Company controlled and eliminated the hazard factors at the source, and all enterprises increased their safety input, and improved and replaced obsolete production equipment. The investment holding company continued to worked out rectification and transformation plan in advance for the elimination of obsolete equipment that was expressly stipulated by the state, so as to make timely preparations and track the progress.

Case 1

Shanghai Zhongxi Pharmaceutical invested RMB728,000 to transform the ventilation system in M2 workshop and improve the working environment. Moreover, its subsidiary Zhongxi Pharmaceutical invested RMB155,000 to transform the ventilation system and production equipment in the particle room one of M4 workshop, thereby effectively controlling and reducing dusts.

Case 2

Tianjin Jinjin Pharmaceutical under SPH Sine Pharmaceutical Factory invested RMB350,000 to build a VOC processing facility in the workshop in order to improve working environment.

Production safety

In accordance with Production Safety Law and relevant laws and regulations, the Group continued to enhance the work safety responsibility system to control the risk of work safety accidents. The Company has implemented the principle of “party organization and administration should bear the same responsibility, and a person on the single position should bear double responsibilities. Concerted efforts should be made to control jointly. Those who have performed their duties will not be held liable, while those who have not will be held accountable”. The Company aims to fully implement the principle both vertically and horizontally. The Company ensures that safety work and operational work are planned, deployed, implemented, examined and assessed concurrently.

The Company has established a set of Work Safety Management Norms and Systems, continued to develop a safety production management system to improve the level of safety standardization. To achieve the work objective of "no serious production

safety accidents, no significant fire and explosion accidents, no largely responsible major traffic accidents, no major occupational hazard accidents and less serious injury accident and general accidents", the Company organized education programs regarding production safety to increase employees' safety knowledge and conducted safety risk evaluation and inspection to responsively spot and eliminate safety risks.

On January 2, 2019, the President of Shanghai Pharmaceuticals signed a Letter of Responsibilities for Work Safety in 2019 with the general managers of 26 subordinate enterprises, specifying the work safety work objective for each year.

The Company further proceeded with seven key tasks, including the arrangement of “double prevention by safety risk classification and hazard treatment”, the special treatment project of “limited space”, special rectification “idle workshops in leased spaces”, specialized safety project for “celebrating anniversary of PRC and protecting the CIIE”, “anti-habitual violation”, and “Non-flame retardant colored steel plate”.

Through the year, we maintained tight control on key works and improved the safety across the board.

The Company continued to push forward the review of work safety standardization. The production companies subordinate to Shanghai Pharmaceuticals completed the review of 10 second-tier companies and maintained standardized and full-scale work safety management.

The Company encouraged enterprises to participate in the contests for demonstration enterprises of safety culture construction in Shanghai and throughout the country. One enterprise (Shanghai SPH Sine Pharmaceutical Laboratories Co., Ltd.) in Shanghai were awarded national "Demonstration Enterprise of Safety Culture Construction in Shanghai", and two enterprises (Shanghai Sine Jinzhu Pharmaceutical Co., Ltd. and Shanghai Leiyunshang Pharmaceutical Co., Ltd.) in Shanghai were awarded Shanghai "Demonstration Enterprise of Safety Culture Construction in Shanghai".

In 2019, a total of 85 enterprises organized various exercises (28 complex exercises and 57 special exercises), involving about 20,000. Such exercises improved employees' emergency response capability and safety awareness.

Key indicators

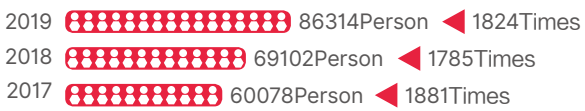
Work safety accidents or work-related accidents in the year (number of accidents)

Note: A fatality accident, the rest were minor and slight injury accidents.

Occupational health-related investment (RMB 0'000)

This indicator mainly refers to investment in improving and optimizing the working environment and increasing personal protective equipment and emergent protective measures.

Safety education and training



Incidence rate of occupational diseases

5 Employment and Labour Standard

According to the requirements of the Labor Contract Law of the People's Republic of China and local labor laws, regulations and policies, Shanghai Pharmaceuticals recruited employees according to job requirements on the basis of impartiality and fairness and did not discriminate employees because of their gender, age, disease and race; the Company paid social insurance and other statutory benefits for all regular employees in a timely and fixed manner; the Company granted statutory holidays and paid leave to employees according to regulations to protect their leave entitlements; Shanghai Pharmaceuticals had always insisted on legitimate employment and was not involved in use of child labor or forced labor.

In protecting the legitimate rights and interests of employees, the Company established channels for staff members to express their demands, improved the democratic management efforts of the Company, and tried to maintain harmonious labor relations. In 2019, labor unions at all levels listened to and collected the views and suggestions of staff members through the workers' congress (employee representative inspection, employee representative proposal), collective negotiation, labor emulation, continuous improvement proposals and seminars. The Company further promoted the collective labour agreement system that features collective bargaining. The state-owned and state-controlled enterprises under the Group realized 100% coverage in collective agreement, collective agreement for wages and collective agreement for female workers. Trade unions at each level actively worked and performed their duties. They timely conveyed the opinions of employees to party and administrative leaders, and oversaw related enterprises' corrective actions.

The Company continued to carry out information collection and insurance purchase of membership cards of Shanghai Labour Union. As of 2019, the Company recorded a total of over 17,200 registered members, accounting for 92.5% of the total members of enterprises in Shanghai, and all of whom were insured under the special insurance plan. The labor union of Shanghai Pharmaceutical Group paid over RMB600,000 of premium. Claims of 42 gravely-ill members under the plan were settled; as at the end of the year, claims of 33 gravely ill members were satisfied with a compensation of RMB20,000 each. And a total of RMB680,000 as compensation was issued to two members suffering accidental or disease death.

(The compensation to other members were under review.)

In 2019, the group trade union of Shanghai Pharmaceuticals further implemented the poverty alleviation spirits of the central committee of CPC and Shanghai Municipal General Labour Union. The Group's poverty alleviation efforts highlight the principle of "helping the poor to solve their medical problems". We launched the "Love and Help" programme. Under the programme, members of the membership service card guarantee plan of Shanghai Municipal General Labour Union will be compensated on a one-to-one ratio. For the personal medical costs paid by members (including classified self-paid medical costs), the Group will compensate 70% of the costs that do not exceed RMB10,000, and 80% of the costs that range between RMB10,000 and RMB30,000. In 2019, the Company has compensated 32 members, with the compensation exceeding RMB834,000. Such compensation significantly reduced financial burdens of patients with critical illness and improved their life quality.

In 2019, Shanghai Municipal General Labour Union continued with the municipal government's key relief project – "Love Stations for Outdoor Employees". On top of the 35 existing "Love Stations for Outdoor Employees", Fahrenheit Pharmacy added another 5 love stations. In addition to the "6+X" facilities, the Group's trade union allocated RMB100,000 to Fahrenheit Pharmacy to buy summer and winter supplies for the total of 40 stations, thereby ensuring that outdoor employees can deliver services in good environment and under sound protection. Statistics show that each station has provided services for

more than 25,800 outdoor workers so far. The 40 stations have been highly rated in the unannounced inspections and topical inspections that were conducted by the Shanghai Municipal General Labour Union-commissioned third parties and district general trade unions. The Group continued to promote the building of "love cabin", and implement the "warmth project" that particularly helps female employees. In 2019, 6 new "love cabins" were built, sending the total number to 36.

2019 is the 70th anniversary of People's Republic of China. By holding various healthy employee cultural and sports activities, the Group has boosted employees' patriotism and enhanced their spiritual and cultural quality. We organized nearly 2,000 employees to take part in Shanghai Online Cultural Competition for Employees. We also organized employees to participate in the employee sports meeting of SIIC. 341 employees took part in 5 items, including dragon boat racing, e-sports, swimming competition, Shanghai local poker game, and fishing. They won 4 golden medals, 5 silver medals and 5 bronze medals.

The Group organized a singing competition with the theme of "chasing dreams by singing". 20 delegations from 23 enterprises in and outside Shanghai took part in the competition. Nearly 1,200 employees participated in the competition. In addition to the around 1,000 on-site audience, nearly 70,000 people watched the competition via online live streaming. In the competition, on-site professional judges, employee judges and on-site and off-site audience selected by ballot three first prize winners, six second prize winners, 11 third prize winners, and 5 online popularity winners.

The Group held the "Glorious History" exhibition that displayed 116 physical collections, over 200 pictures and 20 stamp tickets. The exhibition reflected the development history of both Shanghai Pharmaceuticals and Shanghai. The exhibition lasted four days, and attracted many visitors to visit and study, including leaders in SIIC, existing and former leaders of Shanghai Pharmaceutical (Group), party and administrative leader teams of major industrial enterprises and more than 500 employees from various enterprises.

Case

Three employees were among the fourth batch of "Shanghai Craftsman" title winners that were unveiled in 2019.

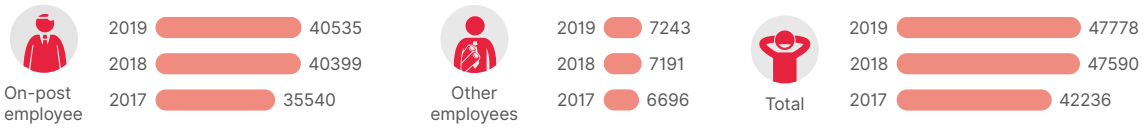
In the afternoon of December 10, Shanghai Municipal General Labour Union held the 2019 Naming Ceremony for Shanghai Craftsman. Mr. Ding Jinguo from SPH No. 1 Biochemical & Pharmaceutical, Mr. Zhu Junjiang from Shanghai Pharmaceutical Medicine Material and Hutchison Pharmaceuticals, and Mr. Wang Ping from Shanghai Dehua State Medicine Products (controlled by Shanghai Huayu Pharmaceutical) were elected from 573 candidates, and ranked on the list of the fourth batch of 102 "Shanghai Craftsman" title winners. Until now, seven employees of Shanghai Pharmaceuticals have earned the "Shanghai Craftsman" title.

Ding Jinguo has assumed 4 tasks in the key bio-pharmaceutical technology research plan under Shanghai Science and Technology Committee. He has conducted systematic research on technologies and quality of Tanshinone IIA Sodium Sulfonate Injection, and acquired 15 patents for invention. He also won 8 city-level accolades, including the second-level prize for technological progress in Shanghai, the first-level prize for key product quality progress in Shanghai and the golden prize for selection of excellent inventions in Shanghai Municipality. Moreover, he participated in major special sub-tasks for key new drug manufacturing and development under 12th five-year development plan. He was also a participant in large research projects such as the high-tech industrialization project in Shanghai.

Key indicators

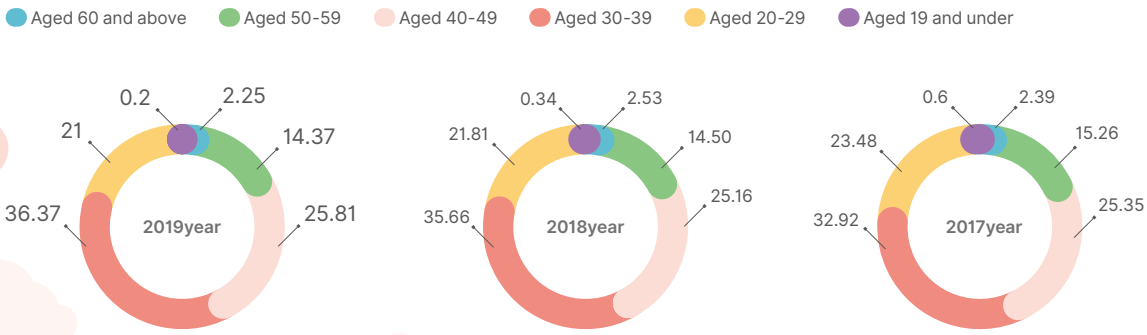
Employee indicator

1. Total number of employees (person)

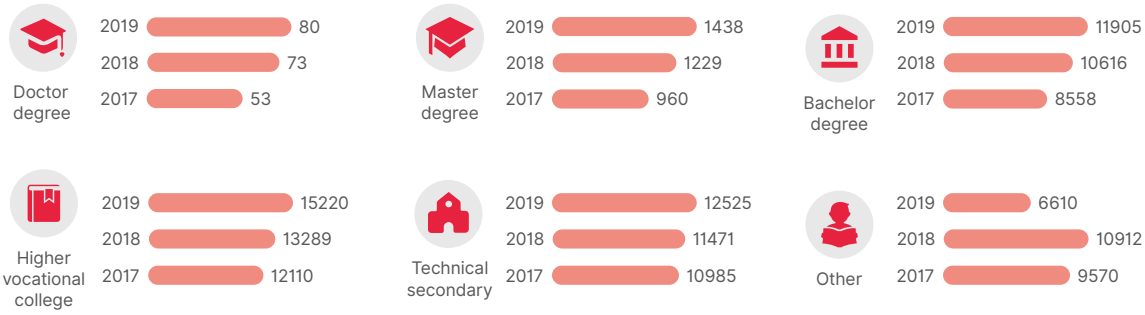


2. Sex composition (person)

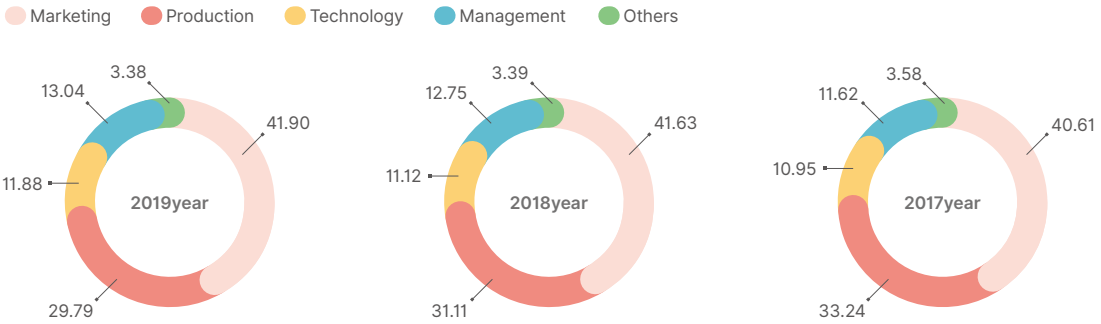
3. Age composition (%)



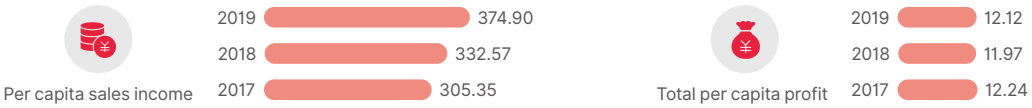
4. Education composition (person)



5. Employee structure (%)



6. Efficiency indicator (RMB0'000)



5.3 Environmental protection and energy conservation

1 Environmental protection

In 2019, in accordance with the Key Works for Safe Production, Environmental Protection and Security Protection for 2019 in Shanghai Pharmaceutical (Group) and Shanghai Pharmaceuticals, the Group conducted environmental management work. The Group has signed agreements with its subsidiaries to clearly define their environmental responsibilities. Moreover, trainings and exchanges were held in the form of onsite and quarterly meetings. Environmental work audits were conducted on 23 units by the mid of the year. By the end of the year, environmental work of another 20 signatory units was assessed. Work information exchanges were made with 53 companies on a monthly basis. Construction projects and production activities were regulated to ensure they are legitimate and compliant. Audits were conducted to ensure clean production. Promotional and educational activities were held on the Environment Day. Special projects were carried out to treat dangerous wastes. Moreover, “one form” management was implemented. Pollution prevention and treatment facilities were standardized.

On January 2, 20 directly-controlled units of Shanghai Pharmaceuticals signed the Statement of Responsibility on Environmental Protection Work for 2019 on the meeting of the Safe Production and Environmental Protection Committee of Shanghai Pharmaceuticals. Managers of the 20 units signed the statement, promising that they will fulfill the annual environmental protection targets set by the Group as well as other unit-specific environmental requirements. During the year, Shanghai Pharmaceuticals finished the audit and assessment on all signatory units. Those with outstanding performance were recognized and rewarded.

In accordance with the 2nd clause of Article 42 under the Environmental Protection Law, enterprises and agencies that emit pollutants are obliged to build an environmental protection accountability system that clearly defines persons-in-charge and other related staff. To further strengthen the sense of accountability, Shanghai Pharmaceuticals formulated the Environmental Protection Work Accountability System of Shanghai Pharmaceuticals, which systematizes and normalizes the annual targets, unit-specific environmental requirements and assessments.

In 2019, after making reference to applicable laws and standards, Shanghai Pharmaceuticals formulated the Basic Environmental Requirements for Units, which involves 18 aspects of environmental work and contains 111 provisions. The "Basic Environmental Requirements" has encompassed every aspect of units' environmental work. On April 1, a notice was released to require all units to compare their own performances with the "Basic Environmental Requirements", and identify the gaps. Units were required to formulate corrective action plan, and all these gaps were required to be filled before October.

On May 7, Shanghai Pharmaceuticals issued the Notice on Promotional Activities on 2019 Environment Day, requiring enterprises to carry out promotional activities on June 5 Environment Day with the theme of "Acting to Protect the Blue Sky and Beautiful China". All units carried out promotional activities on the Environment Day and submitted summaries of such activities.

On August 27, Shanghai Pharmaceuticals issued the Notice on Further Strengthening Management of Hazardous Wastes, requiring all units to put in place related systems and clear requirements. Units were required to train and develop related employees to enable them master related skills. Investment should be guaranteed and wastes should be treated in a legal manner. Self-checks should be implemented to strengthen management and ensure timely correction. All units should submit the Record for 2019 Special Inspection of Hazardous Wastes to the Group. All units have completed the special inspection of hazardous wastes and related self-check record. They also formulated and implemented the corrective action plans.

Subsidiaries of Shanghai Pharmaceuticals produce both hazardous and general wastes, which mainly include domestic wastes, package wastes, harmless wastes from repairs and TCM residues. Each subsidiary has commissioned local environmental and hygiene authorities to process domestic wastes and harmless wastes from repairs as per rules of local governments. Package wastes and TCM residues were recycled by professional recyclers. Each subsidiary established management system for daily operation and measurement of wastes volume. Moreover, lean manufacturing activities were implemented in subsidiaries of Shanghai Pharmaceuticals every year to reduce wastes.

On September 16, Shanghai Pharmaceuticals issued the Notice on Carrying out “One Form” Environmental Management to enforce the “One Form” environmental management mode across the Group. 30 environmental management work logs were created and improved. All data entered into the logs were required to be kept timely and be up-to-date. Logs should be created in terms of management work forms to satisfy applicable management requirements and substantiate the work outcomes. All units have completed the preparation of the “One Form” environmental management forms.

On November 11, Shanghai Pharmaceuticals issued the Notice on Printing and Distributing the Management Requirements for Standardization of Pollution Prevention and Treatment Facilities (Trial). The Management Requirements for Standardization of Pollution Prevention and Treatment Facilities represents a major step in guiding units to standardize the design, construction and management of pollution prevention and treatment facilities. Such requirements have prompted units to build and operate pollution prevention and treatment facilities in a legal and compliant manner, thereby timely removing hidden dangers in management and avoiding offense or irregularities. All units have completed the self-checks and submitted self-check results according to management requirements. Problems identified in the self-check should be rectified within the same year if possible. If the problems cannot be rectified, they should become a key task for the next year.

Shanghai Pharmaceuticals actively promoted subsidiaries' work of obtaining certification of ISO14001 Environmental Management System. In 2019, 17 drug makers obtained certification of ISO14001 Environmental Management System, which is 3 more than that in 2018.

No.	Name of company
1.	Shanghai SPH Sine Pharmaceutical Laboratories Co., Ltd.
2.	Shanghai Sine Tianping Pharmaceutical Co., Ltd.
3.	Shanghai Harvest Pharmaceutical Co., Ltd.
4.	Shanghai Sine Jinzhu Pharmaceutical Co., Ltd.
5.	Shanghai SPH New Asiatic Pharmaceutical Co., Ltd., New Asiatic Pharmaceutical Factory
6.	Shanghai SPH New Asiatic Pharmaceutical Co., Ltd., Asia Pioneer Pharmaceutical Factory
7.	Shanghai New Asiatic Pharmaceutical Minhang Co., Ltd.
8.	Shanghai SPH No. 1 Biochemical and Pharmaceutical Co., Ltd.
9.	Shanghai Zhongxi Sunve Pharmaceutical Co., Ltd.
10.	Shanghai SPH Zhongxi Pharmaceutical Co., Ltd.
11.	Chiatai Qingchunbao Pharmaceutical Co., Ltd.
12.	Hangzhou Huqingyutang Pharmaceutical Co., Ltd.
13.	SPH Changzhou Kony Pharmaceutical Co., Ltd.
14.	Changzhou Pharmaceutical Factory Co., Ltd.
15.	Changzhou Wuxin Pharmaceutical Co., Ltd.
16.	Nantong Changyou Pharmaceutical Technology Co., Ltd.
17.	Techpool Bio-pharma Co., Ltd.

In September, Shanghai Zhongxi Sunve Pharmaceutical Co., Ltd. passed the green factory inspection of the Ministry of Industry and Information Technology. By construction of green factory, green transformation and innovative environmental protection measures, the Group aims to build a quality, efficient, low-consumption, safe, eco-friendly and standard on-site management system. The Group has kept solidifying management foundation and improving the core manufacturing capability, thereby sticking to the path of green and sustainable development, and becoming an industrial role model. By doing this, the Group has promoted the industry-wide green initiative, and encouraged industrial peers to go green.

中华人民共和国工业和信息化部

Ministry of Industry and Information Technology of People's Republic of China

工业和信息化部 | 新闻动态 | 信息公开 | 政务服务 | 公众参与 | 工信数据 | 专题专栏

首页 > 信息公开 > 政策文件 > 文件发布 > 综合 > 正文

分享:

发文机关：办公厅

标　　题：工业和信息化部办公厅关于公布第四批绿色制造名单的通知

发文字号：工信厅节函〔2019〕196号

成文日期：2019-09-02　　发布日期：2019-09-12

文章来源：节能与综合利用司　　分　　类：节能与综合利用

工业和信息化部办公厅关于公布第四批绿色制造名单的通知

工信厅节函〔2019〕196号

各省、自治区、直辖市及计划单列市、新疆生产建设兵团工业和信息化主管部门，有关单位：

为贯彻落实《工业绿色发展规划（2016-2020年）》和《绿色制造工程实施指南（2016-2020年）》，促进制造业高质量发展，持续打造绿色制造先进典型，引领相关领域工业绿色转型，加快推动绿色制造体系建设，按照《工业和信息化部办公厅关于开展绿色制造体系建设的通知》（工信厅节函〔2016〕586号）和《工业和信息化部办公厅关于推荐第四批绿色制造名单的通知》（工信厅节函〔2019〕45号）要求，我部组织开展了第四批绿色制造名单推荐工作。经省级单位自荐和评价、第三方机构评价、省级工业和信息化主管部门评估确认及专家论证、公示等环节，确定了第四批绿色制造名单。其中，绿色工厂90家、绿色设计产品171种、绿色园区10家、绿色供应链管理示范企业10家（详见附件1-4），现予以公布。有关事项通知如下：

一、各地工业和信息化主管部门要加强绿色制造名单与相关产业政策的衔接，充分发挥示范带动作用，引领本地区制造业绿色转型。对

119	上海	上海三菱电梯有限公司	上海电器科学研究所（集团）有限公司
120	上海	上海天马再生能源有限公司	上海电器科学研究所（集团）有限公司
121	上海	上海中航光电子有限公司	上海市能效中心
122	上海	上海中西三维药业有限公司	上海市能效中心
123	上海	沃尔沃建筑设备（中国）有限公司	上海电器科学研究所（集团）有限公司
124	上海	亚东石化（上海）有限公司	上海电器科学研究所（集团）有限公司

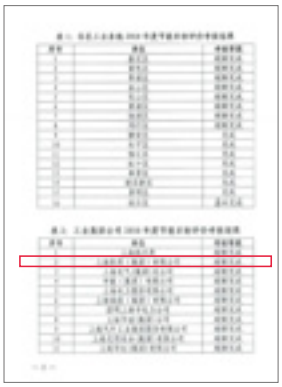
2 Energy management

Shanghai Pharmaceuticals completed annual energy saving goals and tasks, monthly energy statistics and planned water use in accordance with the requirements of Shanghai Municipal Commission of Economy and Informatization, Shanghai Municipal Statistics Bureau and Shanghai Water Authority, passing their annual assessment on its energy saving, statistics, planned water use and so on.

In June, Shanghai Municipal Commission of Economy and Informatization assessed the 2018 energy management work of Shanghai Pharmaceuticals. Shanghai Pharmaceuticals has carried out summarization and self-assessment in 4 aspects and 30 assessed contents. The Company provided over 100 pieces of work materials for self-review, and scored 98 points in self-review. In September, Shanghai Municipal Commission of Economy and Informatization issued the Notice on Results of Assessment of Energy Conservation Performance in Manufacturing and Communication Industries in 2018. Based on the results, Shanghai Pharmaceuticals have outperformed its preset targets and ranked No.2 among the 25 state-controlled holding groups in Shanghai.

The energy saving index set by the Shanghai Municipal Commission of Economy and Informatization to Shanghai Pharmaceuticals was the comprehensive energy consumption of not more than 127,000 tonnes of standard coal in 2019, representing a year-on-year decrease of 2% in energy consumption per RMB10,000 in production. In 2019, Shanghai Pharmaceutical Group recorded an annual comprehensive energy consumption of 117,900 tonnes of standard coal, representing a year-on-year decrease of 8% in energy consumption per RMB10,000 in industrial production, achieving a result beyond the annual energy saving goal set by the Shanghai Municipal Commission of Economy and Informatization.


上海市经济和信息化委员会文件




荣誉证书
HONORARY CREDENTIAL
上海医药集团股份有限公司：
荣获 2019“申能杯”绿色知识竞赛
优秀组织者奖
上海市节能协会
2019 年 7 月

3 Energy Conservation and Emission Reduction Projects

In 2019, manufacturers subordinate to Shanghai Pharmaceuticals Group continued to increase investment in energy saving and environmental protection. They reduced energy consumption to save energy; and strengthened governance to reduce pollution.

1. Shanghai SPH No. 1 Biochemical and Pharmaceutical Co., Ltd.

In July 2019, the company invested RMB400,000 to build an exhaust gas processing facility, in order to reduce the exhaust gas emission from QC laboratory, hazardous waste storage and domestic wastes. The facility has delivered satisfactory effect.

In September 2019, the company invested RMB780,000 to install low-nitrogen burners on three four-tonne gas-fired boilers, which reduced nitric oxide emission by about 90%.

2. Shanghai Zhongxi Sunve Pharmaceutical Co., Ltd.

In July 2019, the company invested about RMB4.5 million to build a process where the high concentration exhaust gas produced in the production process of M2 workshop was introduced into the incinerator for incineration after water and alkali washing. Such process significantly reduced the emission of VOCs. It's expected that the process can reduce VOCs emission by 6 tonnes per year.

3. Shanghai SPH Zhongxi Pharmaceutical Co., Ltd.

In January 2019, the company invested RMB1.96 million to purchase two VOCs treatment devices to replace the VOCs treatment facilities in the original solid preparation workshops. The new devices have adopted the secondary water spray + UV photolysis + catalytic oxidation treatment process, which significantly boosted the treatment effect.

In March 2019, the company invested RMB950,000 to install 2 sets of online VOCs monitoring devices in the solid preparation workshops to monitor VOCs emissions on a real-time basis.

4. Shanghai Jinhe Bio-Pharmaceutical Co., Ltd.

In September 2019, the company invested RMB1 million to transform the vacuum pump exhaust system, in order to lower the density in exhaust gas emission.

5. Shanghai New Asiatic Pharmaceutical Minhang Co., Ltd.

The company invested RMB2.6 million to retire the original 2 3-tonne boilers and replace them with centralized steam supply systems, thereby reducing the exhaust gas emission of boilers. The pipeline laying work will be completed in June 2020, and by then the centralized steam supply systems will start to be used.

6. Shanghai SPH Sine Pharmaceutical Laboratories Co., Ltd., General Factory

In August 2019, the company invested RMB1.5 million to transform the multiple-use rooms. By adding necessary automatic control equipment (sensors and flow meters), the Company improved the automation level of multiple-use rooms, and realized unmanned operation. By adding necessary adjustment equipment (frequency converter), the Company strengthened part of the characteristic functions of equipment, and finally realized efficient operation of such equipment. Necessary automatic control system was added to realize linkage control of all equipment. On the premise of meeting the end load, the optimal operation mode can be selected intelligently to achieve the highest efficiency of the whole system. Necessary energy management system was added to realize comprehensive monitoring, analysis and real-time control of energy use in multi-use rooms. Moreover, when necessary, energy use was analyzed and compared in accordance with production status. The Company passed the acceptance tests. Daily power consumption decreased by 797.7 kWh or 1.5% year-on-year. It is estimated that 290,000 kWh will be saved in the whole year, and the annual cost saving of the whole plant will be about RMB210,000.

7. Shanghai Sine Yanan Pharmaceutical Co., Ltd.

In August 2019, the company invested RMB330,000 in the exhaust gas transformation project in QC laboratory. The exhaust gas will be collected and processed in a centralized manner before being discharged. Third-party tests showed that all data met national exhaust gas emission standards.

8. Shanghai Sine Tianping Pharmaceutical Co., Ltd.

In August 2019, EMC (energy management contracting) transformation project of water chiller was implemented. Party A in EMC provided two 650rt Haier maglev centrifugal chillers to replace Party B's original two 400rt King screw chillers. It's estimated that the replacement will save 1,285,200 kWh power per year, equivalent to 185 tonnes of standard coal or RMB1,156,700.

4 Information of key pollutant-discharging units in 2019

Based on the documents issued by Shanghai Municipal Bureau of Ecology and Environment, Changzhou Municipal Bureau of Ecology and Environment, Benxi Bureau of Ecology and Environment, and Guangzhou Municipal Bureau of Ecology and Environment, the following units of Shanghai Pharmaceuticals were identified as the key pollutant emission units in 2019:

Type of key pollutant-discharging units	Name of key pollutant discharging units
Key water environment pollutant-discharging units	Shanghai SPH No.1 Biochemical and Pharmaceutical Co., Ltd. (Jianchuan Road)
	Shanghai Ziyuan Pharmaceutical Co., Ltd.
	Shanghai Sine Jinzhu Pharmaceutical Co., Ltd.
	Changzhou Pharmaceutical Factory Co., Ltd.
	Techpool Bio-pharma Co., Ltd.
Key atmospheric environment pollutant-discharging units	Shanghai SPH No.1 Biochemical and Pharmaceutical Co., Ltd. (Jianchuan Road)
	Shanghai SPH No.1 Biochemical and Pharmaceutical Co., Ltd. (Bijiang Road)
	Shanghai Ziyuan Pharmaceutical Co., Ltd.
	Shanghai SPH Zhongxi Pharmaceutical Co., Ltd.
	Changzhou Pharmaceutical Factory Co., Ltd.
	Shanghai Pharmaceutical Group (Benxi) Northern Pharma Co., Ltd.
	Liaoning SPH Herbapex Pharmaceutical (Group) Co., Ltd.
	Techpool Bio-pharma Co., Ltd.
Key soil monitoring units	Shanghai Zhongxi Sunve Pharmaceutical Co., Ltd.
	Techpool Bio-pharma Co., Ltd.
Key authorities that oversee discharge of hazardous wastes(The types are determined in accordance with the Notice on Printing and Distributing the 2019 List of Key Pollutant Emission Units Issued by Shanghai Municipal Bureau of Ecology and Environment)	Shanghai SPH No.1 Biochemical and Pharmaceutical Co., Ltd. (Jianchuan Road)
	Shanghai SPH No.1 Biochemical and Pharmaceutical Co., Ltd. (Bijiang Road)
	Shanghai Ziyuan Pharmaceutical Co., Ltd.
	Shanghai SPH New Asiatic Pharmaceutical Co., Ltd. (specifically, New Asiatic Pharmaceutical Factory)
	Shanghai Zhongxi Sunve Pharmaceutical Co., Ltd.
Other key pollutant-discharging units	Shanghai SPH No.1 Biochemical and Pharmaceutical Co., Ltd. (Jianchuan Road)
	Shanghai New Asiatic Pharmaceutical Minhang Co., Ltd.

1. Pollutant emission information

Shanghai Pharmaceuticals required all key pollutant-discharging units to do a good job in information disclosure, environmental monitoring, ledger management, etc., in accordance with environmental regulations so as to ensure normal operation of pollution control facilities and stable and up-to-standard pollutant discharge, and complete in time various tasks assigned by the local ecology and environment departments.

Specifically, according to the Classification Management List for Pollutant Discharge Permits from Fixed Pollution Sources issued by the former Ministry of Environmental Protection, preparation manufacturers shall apply for pollutant discharge permits by 2020. Therefore, the total amount of permitted pollutant discharge for preparation manufacturers mainly depends on the environmental impact assessment documents of their construction projects. The renewed pollutant discharge permit issued in the future will reasonably specify the total amount of permitted pollutant discharge for enterprises, which will strictly implement relevant requirements.

In order to unify the disclosure standards, key water pollutant emission units should disclose COD and ammonia nitrogen indicators; key air pollutant emission units should disclose sulfur dioxide, nitrogen oxide, volatile organic compounds (VOCs), particulate matter indicators, and one more pollutant indicator with the largest emission volume; key soil and other pollutant emission units should disclose COD and ammonia nitrogen indicators; pollution discharge standards were set in accordance with the construction project environmental assessment results or emission permits. According to the general statistical principles, the data were rounded to the second digit after the decimal point or, if the two digits after the decimal point are zero, the third digit after the decimal point.

SN	Name of key pollutant discharging units	Name of key pollutants	Discharge mode	Discharge condition	Discharge concentration Waste water (mg/L), exhaust gas (mg/m^3)	Total discharge amount (tonne)	Excessive discharge	Implemented standards for discharge of pollutants	Approved total amount of discharge (tonne)
1	Shanghai SPH No.1 Biochemical and Pharmaceutical Co., Ltd. (Jianchuan Road)	COD	Interval	Main waste water outlet	25.61	2.14 (including discharge of raw materials and preparations)	No	Discharge Standards of Pollution of Biopharmacy Industry (DB31/373-2010)	0.75 (including total discharge of raw materials only, and no pollutant discharge permit is issued for preparations)
		Ammonia nitrogen			3.95	0.33 (including discharge of raw materials and preparations)	No		0.06 (including total discharge of raw materials only, and no pollutant discharge permit is issued for preparations)
		Total nitrogen			9.21	0.77 (including discharge of raw materials and preparations)	No		0.09 (including total discharge of raw materials only, and no pollutant discharge permit is issued for preparations)
		SO2	Continuous	Exhaust gas outlet	0	0	No	Emission Standard of Air Pollutants for Boilers (DB31/387-2018)	0.6
		PM			2.05	0.42	No		0.57
		NOx			79.5	6.93	No		11.48
		Non-methane hydrocarbon	Interval	Exhaust gas outlet	11.55	0.24	No	Discharge Standards of Pollution of Biopharmacy Industry (DB31/373-2010)	1.25
		Ammonia nitrogen	Interval	Exhaust gas outlet	0.23	0.01	No	Emission Standards for Odor Pollutants (DB31/1025-2016)	/

SN	Name of key pollutant discharging units	Name of key pollutants	Discharge mode	Discharge condition	Discharge concentration Waste water (mg/L), exhaust gas (mg/m^3)	Total discharge amount (tonne)	Excessive discharge	Implemented standards for discharge of pollutants	Approved total amount of discharge (tonne)
1	Shanghai SPH No.1 Biochemical and Pharmaceutical Co., Ltd. (Bijiang Road)	COD	Interval	Main waste water outlet	91.35	1.24	No	Discharge Standards of Pollution of Biopharmacy Industry (DB31/373-2010)	20.26
		Ammonia nitrogen			0.52	0.007	No		1.82
		Total nitrogen			2.21	0.03	No		2.84
		Total phosphorus			0.15	0.002	No		/
		SO_2	Continuous	Exhaust gas outlet	0	0	No	Emission Standard of Air Pollutants for Boilers (DB31/387-2014)	0.05
		PM			2	0.008	No		0.09
		NOx			118	0.5	No		1.59
		Non-methane hydrocarbon	Interval	Exhaust gas outlet	45.92	2.72	No	Discharge Standards of Pollution of Biopharmacy Industry (DB31/373-2010)	10.3
		Ammonia nitrogen	Interval	Exhaust gas outlet	0.42	0.04	No	Emission Standards for Odor Pollutants (DB31/1025-2016)	/
2	Shanghai Ziyuan Pharmaceutical Co., Ltd.	COD	Interval	Main waste water outlet	372.6	2.09	No	Comprehensive Discharge Standards on Sewage (DB31/199-2018)	/
		Ammonia nitrogen			12.45	0.07	No		/
		SO2	Continuous	Exhaust gas outlet	0	0	No	Emission Standard of Air Pollutants for Boilers (DB31/387-2018)	0.036
		NOx			37	0.05	No		0.068
		(smoke) PM			5.2	0.005	No		0.009
		Non-methane hydrocarbon	Interval	Exhaust gas outlet	42.3	0.67	No	Comprehensive Emission Standard of Air Pollutants (DB31/933-2015)	0.72
		Toluene			9.32	0.05	No		/
3	Shanghai SPH Zhongxi Pharmaceutical Co., Ltd.	COD	Continuous	Main waste water outlet	42.83	3.98	No	Comprehensive Discharge Standards on Sewage (DB31/199-2018)	8.04
		Ammonia nitrogen			0.6	0.06	No		0.41
		SO2	Continuous	Exhaust gas outlet	3	0.09	No	Emission Standard of Air Pollutants for Boilers (DB31/387-2018)	0.63
		NOx			34.63	1.1	No		2.96
		PM			2.48	0.65	No	Emission Standard of Air Pollutants for Boilers (DB31/387-2018); Comprehensive Emission Standard of Air Pollutants (DB31/933-2015)	0.88
		Non-methane hydrocarbon	Interval	Exhaust gas outlet	2.32	0.19	No	Comprehensive Emission Standard of Air Pollutants (DB31/933-2015)	1.23
4	Shanghai Sine Jinzhu Pharmaceutical Co., Ltd.	COD	Continuous	Main waste water outlet	34	6.72	No	Water Quality Standard on Discharge of Sewage into Cities and Towns Sewer (GB/T31962-2015)	/
		Ammonia nitrogen			0.283	0.05	No		/

SN	Name of key pollutant discharging units	Name of key pollutants	Discharge mode	Discharge condition	Discharge concentration Waste water (mg/L), exhaust gas (mg/m^3)	Total discharge amount (tonne)	Excessive discharge	Implemented standards for discharge of pollutants	Approved total amount of discharge (tonne)
5	Shanghai Zhongxi Sunve Pharmaceutical Co., Ltd.	COD	Continuous	Main waste water outlet	25.6	1.55	No	Comprehensive Discharge Standard on Sewage (DB31/199-2018) and Water Quality Standard on Discharge of Sewage into Cities and Towns Sewer (GB/T31962-2015)	9.44
		Ammonia nitrogen			7.97	0.48	No		0.97
6	SPH New Asia Pharmaceutical Co., Ltd. (New Asiatic Pharm-aceutical)	COD	Interval	Main waste water outlet	46	10.8	No	Comprehensive Discharge Standards on Sewage (DB31/199-2018)	50.95
		Ammonia nitrogen			0.23	0.32	No		4.59
7	Shanghai New Asiatic Pharmaceutical Minhang Co., Ltd.	COD	Continuous	Main waste water outlet	131.3	4.997	No	Comprehensive Discharge Standards on Sewage (DB31/199-2018)	1.26
		Ammonia nitrogen			1.96	0.07	No		0.16
8	Changzhou Pharmaceutical Factory Co., Ltd.	COD	Interval	Main waste water outlet	201	38.88	No	As per the takeover contract with the Changzhou Southeast Industrial Wastewater Treatment Plant Co., Ltd.	96.72
		Ammonia nitrogen			2.26	0.44	No		3.87
		Volatile organic compound	Interval	Exhaust gas outle	2.12	0.46	No	Emission Standard of Volatile Organic Compounds for Chemical Industry (DB32/3151-2016)	143.6
		PM	Interval	Exhaust gas outle	17.46	0.438	No	Emission Standard of Air Pollutants (GB16297-1996)	24.528
		Hydrogen chloride	Interval	Exhaust gas outle	14.49	1.367	No		2.134
9	Techpool Bio-pharma Co., Ltd.	COD	Interval	Main waste water outlet	19.77	0.85	No	Discharge Limits of Water Pollutants (DB44/26-2001) and Water Quality Standard on Discharge of Sewage into Cities and Towns Sewer (CJ343-2010)	33.45
		Ammonia nitrogen			0.66	0.013	No		3.01
		SO2	Continuous	Exhaust gas outlet of boilers	Pollution discharging coefficient: 0.22kg/10,000 m3 30.01	0.01	No	Emission Standard of Air Pollutants for Boilers (DB31/387-2018). (GB13271-2014)	0.049
		NOx			90.8	0.89	No		2.297
		PM			1.75	0.12	No		0.302
		Non-methane hydrocarbon	Interval	Alcohol precipitation exhaust	0.942	1.3	No	Emission Standard of Air Pollutants (GB44227-2001)	3.181

SN	Name of key pollutant discharging units	Name of key pollutants	Discharge mode	Discharge condition	Discharge concentration Waste water (mg/L), exhaust gas (mg/m^3)	Total discharge amount (tonne)	Excessive discharge	Implemented standards for discharge of pollutants	Approved total amount of discharge (tonne)
10	Liaoning SPH Herbapex Pharmaceutical (Group) Co., Ltd.	PM	Interval	Extraction workshop sieving, mixed exhaust gas outlet	75	1.01	No	Comprehensive Emission Standard of Air Pollutants (GB16297-1996)	/
				Extraction workshop spray, dry exhaust gas outlet	20				
				Weighing, burdening, drying, sieving exhaust gas emission outlet of formula granule	3	0.08	No		
				Formula granule production line mixing, granulation exhaust gas emission outlet	5				
		Non-methane hydrocarbon	Interval	Exhaust gas outlet	5.76	0.050	No	Comprehensive Emission Standard of Air Pollutants (GB16297-1996)	/
11	Shanghai Pharmaceutical Group (Benxi) Northern Pharma Co., Ltd.	Nitrogen Oxides (NOx)	Continuous	Exhaust gas outlet of boilers	108	2.67	No	Emission Standard of Air Pollutants for Boilers (GB13271-2014)	4.3
		SO2			6	0.27	No		0.92
		PM			5.13	0.24	No		No
		Volatile organic compound	Interval	Exhaust gas outlet	44.89	0.25	No	Comprehensive Emission Standard of Air Pollutants (GB16297-1996)	28.86
		Sulfuretted hydrogen	Continuous	Exhaust gas outlet	0.03	0.05	No	Emission Standards for Odor Pollutants (GB 14554-93)	No

2. Construction and operation of pollution prevention & treatment facilities and administrative permission

SN	Name of key pollutant discharging units	Construction and operation of pollution prevention & treatment facilities	Administrative permission for environmental protection	Environmental self-detection solution
1	Shanghai SPH No. 1 Biochemical and Pharmaceutical Co., Ltd. (Jianchuan Road)	Established a sewage treatment station with a daily capacity of 300 tonnes of sewage and several sets of exhaust gas treatment equipment, which were all running normally. The waste water and exhaust gas were discharged under certain standards after treatment. In 2019, installation of exhausted gas treatment facilities for the QC rooftop and the pin crushing room as well as MVR equipment was completed.	Completed renewal and obtained approval for the National Pollutant Discharge Permit on December 4, 2018. The company obtained the Drainage Permit from Shanghai Water Authority on September 14, 2016.	A set of automatic monitoring equipment was installed at the main sewage outlet to detect such data as COD, PH value and quantity of flow every hour. Online monitoring equipment and Ministry of Ecology and Environment networking. Exhaust gas online monitoring equipment was installed on the roof of No.7 building and non-methane hydrocarbon and other data were tested as required. A third-party environmental detection Company was authorized as planned to monitor the pollutant discharge indicators such as PH value, COD, ammonia nitrogen and total nitrogen every month. A third-party environmental detection Company was authorized to monitor exhaust gas emission every month. A third-party environmental detection Company was authorized to monitor soil and underground water every year. In 2019, the monitoring data were all up to standards.
	Shanghai SPH No. 1 Biochemical and Pharmaceutical Co., Ltd. (Bijiang Road)	Established a sewage treatment station with a daily capacity of 210 tonnes of sewage and several sets of exhaust gas treatment equipment, which were all running normally. The waste water and exhaust gas were discharged under certain standards after treatment.	Completed renewal and obtained approval for the Pollutant Discharge Permit on December 4, 2018. The company obtained the Drainage Permit from Shanghai Minhang District Water Authority on September 4, 2019.	A third-party environmental detection Company was authorized to monitor PH value, COD, ammonia nitrogen and total nitrogen every day. A third-party environmental detection Company was authorized to monitor pollutant discharge indicators such as PH value, COD, ammonia nitrogen, total nitrogen and total phosphorus every month. A third-party environmental detection Company was authorized to monitor exhaust gas emission every month. In 2019, the monitoring data were all up to standards.
2	Shanghai Ziyuan Pharmaceutical Co., Ltd.	Two VOCs exhaust gas treatment facilities were built. Equipment functioned normally and exhaust gas was discharged under certain standards after treatment. Industrial waste water was treated as hazardous waste by the entrusted qualified unit.	The company obtained a national-level Pollutant Discharge Permit on January 1, 2018, and the Drainage Permit from Shanghai Water Authority on August 10, 2015. Completed renewal of the National Pollutant Discharge Permit in March 2019.	The company prepared a corporate environmental self- detection solution according to standards and authorized a qualified third party to detect various pollution factors according to the requirements and frequency specified in the solution. In 2019, the monitoring data were all up to standards.
3	Shanghai SPH Zhongxi Pharmaceutical Co., Ltd.	Established a sewage treatment station with a daily capacity of 600 tonnes of sewage and several sets of exhaust gas treatment equipment. After treatment by the biochemical sewage treatment station, the sewage of the whole factory was discharged into Shanghai Jiading Xincheng Sewage Treatment Company Limited for further treatment. In 2019, the sewage treatment station and the exhaust gas treatment facilities were running normally. 2 sets of VOCs online monitoring equipment were networked to municipal and district monitoring platforms.	Drainage Permit issued by Shanghai Water Authority was obtained on October 19, 2015 and re-applied for on May 3, 2018, effective until October 20, 2020.	The company prepared a corporate environmental self- detection solution and the third- party environmental detection company monitored the pollutant discharge indicators such as exhaust gas, waste water and noise every quarter. In 2019, the monitoring data were all up to standards.

SN	Name of key pollutant discharging units	Construction and operation of pollution prevention & treatment facilities	Administrative permission for environmental protection	Environmental self-detection solution
4	Shanghai Sine Jinzhu Pharmaceutical Co., Ltd.	Installation of the exhausted gas treatment devices was completed for the technological department and QC lab on June 30, 2019, and the commissioning phase and the third round of test and acceptance began on July 1. A series of systems and operating files were planned to be established by September 30.	Drainage Permit issued by Shanghai Jinshan District Water Bureau was obtained on September 30, 2014 and re-applied for on July 11, 2018, effective until July 10, 2023.	Automatic monitoring equipment was installed at the main outlet of industrial wastewater. Meanwhile, it had the test run and data such as COD, PH value, flow tested every 4 hours. The online monitoring equipment has not been networked to the local environmental protection bureau. The environmental protection bureau required the networking to be completed before November 5 this year and filing to be completed before January 13, 2020. A third-party environmental detection Company was authorized to monitor the discharge of exhaust gas, industrial sewage, rainwater, domestic sewage every year. In 2019, the monitoring data were all up to standards.
5	Shanghai Zhongxi Sunve Pharmaceutical Co., Ltd.	Established two sewage treatment stations with a daily capacity of 150 tonnes of sewage and 300 tonnes of sewage, respectively. After treatment by the biochemical sewage treatment station, the sewage of the whole factory was discharged into Shanghai Fengjin Environmental Construction Management Co., Ltd. for further treatment. In 2019, the sewage treatment station was running normally. Besides, a number of exhaust gas treatment facilities were established and were running normally in 2019.	Obtained the National Pollutant Discharge Permit on January 1, 2018. The company completed renewal of the Drainage Permit according to the requirements of Shanghai Water Authority in January 2018. Completed renewal of the Pollutant Discharge Permit in April 2019.	The annual environment monitoring plan was prepared according to the requirements of self-monitoring of sewage discharge permit. To prepare an annual environmental monitoring plan, an environmental detection Company was authorized to monitor exhaust gas, wastewater, noise and other pollutant discharge indicators according to monitoring frequency and monitoring contents.
6	PH New Asia Pharmaceutical Co., Ltd. (New Asiatic Pharmaceutical Factory)	Has a sewage treatment station with the daily capacity of 1,500 tonnes and multiple sets of VOC treatment equipment. After secondary biochemical treatment, the sewage of the whole factory was discharged into Bailonggang Sewage Treatment Plant in Shanghai for further treatment. In 2019, the sewage treatment station and VOC treatment equipment were running normally and the sewage and exhaust gas were discharged under certain standards after treatment.	The company obtained the Drainage Permit from Shanghai Pudong Water Bureau on July 4, 2017.	A set of online monitoring equipment was installed at the main sewage outlet to detect such data as COD, PH value and quantity of flow. The online monitoring equipment was networked to the district environmental protection bureau. A third-party environmental detection Company was authorized as planned to monitor pollutant discharge indicators such as PH value, suspended solids, petroleum, COD, BOD5, ammonia nitrogen, total nitrogen, chroma and volatile phenol every quarter. A third-party environmental detection Company was authorized to monitor exhaust gas emission every year. In 2019, the monitoring data were all up to standards.
7	Shanghai New Asiatic Pharmaceutical Minhang Co., Ltd.	Has a sewage treatment station with the daily capacity of 200 tonnes and multiple sets of exhausted gas treatment equipment. After treatment by the sewage treatment station, the sewage of the whole factory was discharged into Bailonggang Sewage Treatment Plant in Shanghai for further treatment. In 2019, the sewage treatment station, wastewater online monitoring, and the exhaust gas treatment equipment were running normally. The technological transformation project of sewage treatment station was launched in November 2019 and is expected to be completed in April 2020.	On October 31, 2016, Drainage Permit issued by Shanghai Water Authority was obtained; in the middle of December 2019, the third-party agency consulting services were launched for the sewage discharge permit of 2020.	The online monitoring equipment was networked to the district environmental protection bureau. A third-party detection company was authorized to monitor the pollutant discharge indicators such as PH value, COD, ammonia nitrogen, BOD5 and suspended solids every quarter, and monitor the wastewater and exhaust gas emission. Discharge condition in 2019, the data of all four detections was up to standards.

SN	Name of key pollutant discharging units	Construction and operation of pollution prevention & treatment facilities	Administrative permission for environmental protection	Environmental self-detection solution
8	Changzhou Pharmaceutical Factory Co., Ltd.	After treatment, the sewage was discharged into Changzhou Southeast Industrial Wastewater Treatment Plant Co., Ltd. for further treatment after physical and chemical + biochemical process. Process exhaust gas was collected according to workshops factory-wide. Exhaust treatment facilities were established based on different characterization factors. The exhaust gas was discharged under certain standards after treatment. In 2019, sewage treatment station and facilities for exhaust gas treatment factory-wide functioned well.	In December 2017, Drainage Permit printed and issued by the Ministry of Environmental Protection was obtained.	An automatic detection device has been installed at the main sewage outlet to detect the data of COD, PH value, ammonia nitrogen, total phosphorus, etc. 4 times a day, and is connected to the Environmental Protection Agency platform. The company authorized a qualified third party to detect such pollutant discharge indicators as total salt content, total zinc and suspended solids according to requirements, and detect various exhaust gas outlets according to the requirements of the Pollutant Discharge Permit.
9	Techpool Bio-pharma Co., Ltd.	Has a sewage treatment station with the daily capacity of 252.6 m3 and 4 sets of exhausted gas treatment equipment. The sewage of the whole factory, after the treatment of biochemical sewage treatment station, was discharged to Guangzhou Liede Sewage Treatment Plant for further treatment. In the first half of 2019, sewage treatment stations and dust disposal equipment functioned well and the wastewater and exhaust gas were discharged under certain standards after treatment.	In December 2017, Drainage Permit printed and issued by the Ministry of Environmental Protection was obtained. In September 2017, the permit for draining urban sewage into drainage network printed and issued by Guangzhou Water Authority was obtained.	Automatic monitoring equipment was installed at the major outlet of sewage to test data such as COD, PH value, ammonia nitrogen hourly. The online monitoring equipment was networked to the local environmental protection bureau. According to the requirements of the sewage regulations, a third-party environmental detection company was authorized as planned to monitor the pollutant discharge indicators such as PH value, COD, ammonia nitrogen, animal and vegetable oil and suspended solids, and monitor exhaust gas emission every year. In the first half of 2019, the monitoring data were all up to standards.
10	Liaoning SPH Herbapex Pharmaceutical (Group) Co., Ltd.	Has a sewage treatment station with the daily capacity of 600 tonnes and multiple sets of dust treatment equipment. The sewage of the whole factory, after activated sludge and sewage treatment, was discharged to municipal sewage treatment plant for further treatment. In 2019, the sewage treatment station and dust treatment equipment were running normally and the sewage and exhaust gas were discharged under certain standards after treatment.	In 2020, industrial sewage discharge permit was obtained.	On a yearly basis, a third-party environmental detection Company is authorized to monitor wastewater, exhaust gas, noise and other indicators. This year, monitoring on alcohol exhaust gas and soot was added. In October, boilers were suspended for renovation. Currently, the renovation is not yet finished. It's expected to be put into use in March next year. No data has been monitored this year.
11	Shanghai Pharmaceutical Group (Benxi) Northern Pharma Co., Ltd.	A sewage treatment station with daily capacity of 200 tonnes of sewage, a set of VOC exhaust gas treatment facility for organic waste gas treatment in raw materials workshop and a set of sewage treatment station odor treatment facility were built. The in-organized exhaust gas of raw materials workshop was collected and treated with activated carbon absorption box. After treatment by the sewage treatment station, the sewage of the whole factory was discharged into Shiqiaozi Sewage Treatment Plant for further treatment. In 2019, the sewage treatment station and exhaust gas treatment equipment were running normally and the sewage and exhaust gas were discharged under certain standards after treatment. A new set of new VOC exhaust gas treatment equipment was purchased in November 2019 and put into use in March 2020.	In May 2018, Sewage Permit printed and issued by the Ministry of Environmental Protection was obtained; in May 2019, sewage permit was adjusted according to production status with approval obtained.	A set of automatic monitoring equipment was installed at the main sewage outlet to detect such data as COD, ammonia nitrogen and PH value every four hours. The online monitoring equipment was networked to the local environmental protection bureau. A third-party detection Company was authorized as planned to monitor total nitrogen and total phosphorus every month. Nitrogen oxide of exhaust gas and non-methane hydrocarbon. A third-party detection Company was authorized to monitor COD, ammonia nitrogen, chroma, BOD5, acute toxicity, TOC, dichloromethane, suspended solids, factory boundary noise and other pollutant discharge indicators. In 2019, the monitoring data were all up to standards.

3. Environmental impact assessment on construction projects

①**Shanghai SPH No. 1 Biochemical and Pharmaceutical Co., Ltd.**

In 2018, the enterprise implemented the Technological Transformation of Raw Materials Workshop at Jianchuan Road. The company obtained the approval opinions on environmental protection for the Technological Transformation of Raw Materials Workshop at Jianchuan Road in January 2018. The project is currently under construction and is expected to be completed in December 2020.

②**Shanghai Ziyuan Pharmaceutical Co., Ltd.**

Had no construction project or project under construction in 2019.

③**Shanghai SPH Zhongxi Pharmaceutical Co., Ltd.**

In November 2019, the enterprise obtained environmental protection approval documents on Environmental Impact Statement on Solid Preparation Special Workshop (including comprehensive elevated stereoscopic storehouse) and Supporting Quality Control Laboratory Construction Project. The project was implemented in two phases. The first phase focused on the construction of quality control laboratory and the second phase focused on the construction of solid preparation special workshop (including comprehensive elevated stereoscopic storehouse).

④**Shanghai Sine Jinzhu Pharmaceutical Co., Ltd.**

In May 2019, the enterprise obtained EIA approval document on the Reply to the Environmental Impact Statement of Formula Granule Project of Liaoning SPH Herbapex Pharmaceutical (Group) Co., Ltd.

⑤**Shanghai Zhongxi Sunve Pharmaceutical Co., Ltd.**

Had no construction project or project under construction in 2019.

⑥**Shanghai SPH New Asiatic Pharmaceutical Co., Ltd. (New Asiatic Pharmaceutical Factory)**

Had no construction project or project under construction in 2019.

⑦**Shanghai New Asiatic Pharmaceutical Minhang Co., Ltd.**

In 2019, the project under construction of the enterprise was sewage treatment tank with the daily capacity of 220 tonnes (subject to the pandemic, the estimated completion time of the end of March was changed to the end of April). The construction duration lasts until the mid-to-late May (including soil survey, previous sewage treatment tank landfill, etc.)

In August 2019, the previous sewage treatment tank odor treatment facilities were put into use. The self-detection and third-party detection results conform to the requirements of environmental protection regulations.

⑧**Changzhou Pharmaceutical Factory Co., Ltd.**

On March 4, 2019, it completed the EIA registration form for the Rebuilding and Expansion of Changzhou Pharmaceutical Factory Co., Ltd. (Phase I) (building part). On May 27, 2019, it completed contract signing

of the EIA of the Rebuilding and Expansion (Phase I) Project of Annual Production of 5 Billion of Solid Preparations. The products material balance, current situation monitoring plan formulation and monitoring, project review units, production pollution discharge accounting in the project EIA Report Form were completed and the environmental risk prediction chapters were under preparation. In December 2019, according to the articles of SHB [2019] No. 327 and CTH [2019] No. 58 of provincial department, filing of EIA Registration Form for dangerous wastes warehouse was improved.

⑨**Guangdong Techpool Bio-pharma Co., Ltd.**

In April 2018, it organized technical review experts, EIA units and acceptance monitoring (report) research agencies to form acceptance group for self-acceptance and reviewed the Test Report on Newly Added Iron Sucrose Preparations,
BPC Production and Expansion of Ulinastatin Preparations, BPC Production Project Environmental Protection Facilities Acceptance, implemented relevant EIA documents and reply requirements with satisfactory acceptance.

⑩**Liaoning SPH Herbapex Pharmaceutical (Group) Co., Ltd.**

In May 2019, it obtained EIA approval documents on the Reply to the Environmental Impact Statement of Formula Granule Project of Liaoning SPH Herbapex Pharmaceutical (Group) Co., Ltd.

⑪**Shanghai Pharmaceutical Group (Benxi) Northern Pharma Co., Ltd.**

In March 2019, it obtained the Letter on Environmental Protection Acceptance of Phased Completion of Solid Waste Pollution Prevention and Control Facilities of Shanghai Pharmaceutical Group (Benxi) Northern Pharma Co., Ltd. R&D Pilot Plant Test and Industrialization Base Project (Phase I); in August 2019, it obtained EIA approval documents on Environmental Impact Statement on ADC Drug Pilot Plant Test and Production Construction Project of Shanghai Pharmaceutical Group (Benxi) Northern Pharma Co., Ltd.

4. Contingency plan for emergent environmental incidents

①**Shanghai SPH No. 1 Biochemical and Pharmaceutical Co., Ltd.**

On February 27, 2019, the company completed the preparation of the Contingency Plan for Emergent Environmental Incidents and filing with the environmental protection agency; filing no.: 3102212019009.
On September 26, 2019, the company held comprehensive emergency drills for environmental pollution disposal, firefighting and personnel evacuation to enhance the employees' ability to cope with the emergent environmental incidents by constantly summarizing and improving the contingency plan via exercises.

②**Shanghai Ziyuan Pharmaceutical Co., Ltd.**

On April 17, 2018, the company completed the preparation of the Contingency Plan for Emergent Environmental Incidents and filing with the environmental protection agency; filing no.: 310221208016. On November 13, 2019, the company conducted exercises according to the plan, constantly summarized and improved the contingency plan via exercises to enhance the employees' ability to cope with the emergent environmental incidents.

③**Shanghai SPH Zhongxi Pharmaceutical Co., Ltd.**

On October 12, 2019, the company completed the amendment of the Contingency Plan for Emergent Environmental Incidents and filing with the environmental protection agency; filing no.: 02-310114-2019-063-L.

On July 31, 2019, the company conducted exercises according to the plan, constantly summarized and improved the contingency plan via exercises to enhance the employees' ability to cope with the emergent environmental incidents.

④**Shanghai Sine Jinzhu Pharmaceutical Co., Ltd.**

On May 28, 2019, the company completed the preparation of the Contingency Plan for Emergent Environmental Incidents and filing with the environmental protection agency; filing no.: 02-310116-2019-022-L. On September 26 of the third quarter, the company conducted exercises according to the plan, constantly summarized and improved the contingency plan via exercises to enhance the employees' ability to cope with the emergent environmental incidents.

⑤**Shanghai Zhongxi Sunve Pharmaceutical Co., Ltd.**

On October 11, 2017, the company completed the preparation of the Contingency Plan for Emergent Environmental Incidents and filing with the environmental protection agency; filing no.: 02-310102-2017-026-H.

On the afternoon of December 17, 2019, the company conducted exercises on the environmental management emergency plan according to the plan, constantly summarized and improved the contingency plan via exercises to enhance the employees' ability to cope with the emergent environmental incidents.

⑥**Shanghai SPH New Asiatic Pharmaceutical Co., Ltd. (New Asiatic Pharmaceutical Factory)**

On February 17, 2017, the company completed the preparation of the Contingency Plan for Emergent Environmental Incidents and filing with the environmental protection agency; filing no.: 02-310115-2017-11-L2017.

On June 5, 2019, the company conducted exercises according to the plan, constantly summarized and improved the contingency plan via exercises to enhance the employees' ability to cope with the emergent environmental incidents.

⑦**Shanghai New Asiatic Pharmaceutical Minhang Co., Ltd.**

On October 15, 2017, the company completed the preparation of the Contingency Plan for Emergent Environmental Incidents and filing with the environmental protection agency; filing no.: 3101122017035. In May 2019, it carried out emergency plan drills for hazardous chemical accidents. Through drills, it continued to summarize and improve emergency plan to allow employees to have a clearer understanding of the prevention and treatment of hazardous chemical accidents and the hazards of chemical accidents.

⑧**Changzhou Pharmaceutical Factory Co., Ltd.**

On February 28, 2018, it established and put the Emergency Plan for Emergent Environmental Incident on record. Record No.: 3204022018011M. On June 29, 2019, it conducted comprehensive emergency drill on dangerous chemical leakage; on September 17, 2019, it conducted emergency drill on the abnormal

wastewater effluent of environmental protection workshop; on October 21, 2019, it conducted emergency drill on wastewater leakage of environmental protection workshop and tested the effectiveness of emergency plan through drills to enhance the ability of employees to handle emergent environmental incident.

⑨Techpool Bio-pharma Co., Ltd.

On March 21, 2018, the company completed the preparation of the Contingency Plan for Emergent Environmental Incidents and filing with the Tianhe District Ecological Environment Bureau; filing no.: 440106-2018-005-L. The company conducted exercises according to the plan, constantly summarized and improved the contingency plan via exercises to enhance the employees' ability to cope with the emergent environmental incidents.

⑩Liaoning SPH Herbapex Pharmaceutical (Group) Co., Ltd.

On February 27, 2017, the company completed the preparation of the Contingency Plan for Emergent Environmental Incidents and filing with the environmental protection agency; filing no.: 201522-2017-001-L. Through drills, it continuously summarized and improved emergency plan to enhance the ability of employees to handle emergent environmental incidents. On July 2019, it carried out an emergency plan training and drill. In 2020, the Company audited the contents of emergency plan and is currently handling filing procedures.

⑪hanghai Pharmaceutical Group (Benxi) Northern Pharma Co., Ltd.

On February 26, 2019, the company completed the preparation of the Contingency Plan for Emergent Environmental Incidents and filing with the environmental protection agency; filing no.: 2019-003-Shui L, Qi M. On November 29, 2019, the company conducted exercises according to the plan, constantly summarized and improved the contingency plan via exercises to enhance the employees' ability to cope with the emergent environmental incidents.

5. Other environmental information that should be disclosed

①Shanghai SPH No.1 Biochemical and Pharmaceutical Co., Ltd.

It completed clean production audit on January 15, 2019 and conducted ISO14001 internal audit on June 14, 2019. In accordance with requirements of Minhang District Bureau of Ecology and Environment, a third party was authorized to test the Company's soil and underground water and compile the soil potential risks identification report. The Company cooperated to complete soil and underground water sampling of a third party authorized by Shanghai Municipal Bureau of Ecology and Environment. The company obtained the Drainage Permit from Shanghai Minhang Water Bureau on September 4, 2019. In November 2019, it established energy system ISO50001.

②Shanghai Ziyuan Pharmaceutical Co., Ltd.

In 2019, a third party "ICAS" was authorized to conduct soil and underground water test and potential risk identification of the Company.

③Shanghai SPH Zhongxi Pharmaceutical Co., Ltd.

The data about total amount of discharge disclosed by the enterprise was from the description in the Approval Opinions on the Environmental Impact Statement Concerning the Relocation and Extension (Technological Transformation) Project for Solid Preparations of Shanghai SPH Zhongxi Pharmaceutical Co., Ltd. and Plan for VOCs Emission Reduction of Shanghai SPH Zhongxi Pharmaceutical Co., Ltd. (One Factory One Plan). The total amount of discharge disclosed by the enterprise was calculated based on the discharge concentration at the discharge outlet of the enterprise. So, there are differences. According to the environmental protection requirements, the enterprise will complete the application for the Pollutant Discharge Permit before the end of 2020 and should verify the total amount of its pollutant discharge according to the technical specification requirements then.

On November 18, 2019, it obtained ISO14001 environmental management system certificate which is valid until December 17, 2022. In 2019, the company invested RMB3 million in improving and replacing 2 sets of VOCs treatment facilities and installing 2 sets of VOCs online monitoring equipment.

④Shanghai Sine Jinzhu Pharmaceutical Co., Ltd.

In 2019, it successfully applied for clean production work and submitted materials to China Green Building Promotion Association and planned to officially launch the project in February 2020. In December 2019. it completed ISO50001 energy management system internal audit work. In July 2019, it completed the work of dual system combination.

⑤Shanghai Zhongxi Sunve Pharmaceutical Co., Ltd.

In 2019, in accordance with the requirements of sewage permit, it conducted self-monitoring work and uploaded all data on the national pollution source monitoring information management and sharing platform. It carried out the self-detection for soil and underground water under the guidance of the environmental protection department.

In accordance with establishment requirements and assessment indicators of national green factories, it conducted green factory building and carried out a series of energy saving, water saving and consumption reduction renovation project and completed all creation indicators of green factories. In September 2019, it passed the acceptance of the Ministry of Industry and Information Technology and obtained green factory title. In 2018, it completed ISO14001 environmental management system certification and completed annual internal audit in December 2019. Meanwhile, by the end of 2019, the hydroxychloroquine sulfate green integration project passed the acceptance of Ministry of Industry and Information Technology, Shanghai. The creation of the project pointed out the direction for the future clean production and green development.

⑥Shanghai SPH New Asiatic Pharmaceutical Co., Ltd. (New Asiatic Pharmaceutical Factory)

In the first half of 2019, the Company completed the review of ISO14001. In the second half of 2019, the application of sewage permit was audited.

⑦Shanghai New Asiatic Pharmaceutical Minhang Co., Ltd.

The data about total amount of discharge disclosed by the enterprise was from the description relating to environmental impact assessment in the 2013 GMP Technological Transformation Project of Solid Antibiotic Preparation Workshop (Other than Penicillins and Cephalosporins). The values were calculated according to the discharge concentration at the outlet of Bailonggang Sewage Treatment Plant in Shanghai during the

"12th Five-Year" Plan period. The total amount of discharge disclosed by the enterprise was calculated based on the discharge concentration at the main outlet of the enterprise. So, there are differences. According to the environmental protection requirements, the enterprise will complete the application for the Pollutant Discharge Permit before the end of 2020 and should verify the total amount of its pollutant discharge according to the technical specification requirements then.

In 2016, the second clean production audit declaration work was initiated. In March and November 2018, it conducted two expert reviews and passed the clean production audit with a high score of 90. Meanwhile, it applied for clean production subsidy and obtained subsidies of RMB110,000 to lay a firm basis for the next round of review.

In the first half of 2019, it completed all kinds of hazardous waste electronics filing, environment day publicity and other major works; actively cooperated to complete the follow-up work of the second national pollution source census (start in the second half of 2018); actively conducted environmental protection work self-inspection and proposed rectification suggestions on problems found to improve the enterprise environment management level.

In December 2018, Shanghai New Asiatic Pharmaceutical Minhang Co., Ltd. completed the construction of environment management system, energy management system, occupational health safety management system. Meanwhile, it completed certification review work of the new version of environment management system; in November 2019, it completed certification review of the new version of energy management system and occupational health safety management system and completed three-system-in-one certification review to lay foundation for the new three-year plan and enhance the management ability and level in terms of EHS to ensure safe and stable development through continuous operation of the system. In October 2019, the Company launched Shanghai green factory declaration work. By far, it steadily operated the collection and organization of basic data to ensure the success in green factory application in 2020.

⑧Changzhou Pharmaceutical Factory Co., Ltd.

In 2019, it input around RMB8.215 million for environmental protection. Targeting characterization factors, the Company conducted standardization construction on environmental protection laboratory and established internal control indicators to ensure up-to-standard discharge of wastewater; meanwhile, it added 1 new purifier on outlet of the secondary sedimentation tank to ensure the lowest level of suspended solids in effluent and lower the impact of online instrument detection.

It carried out ISO14064 greenhouse gas verification system training and had first verification on the greenhouse gas in 2018. Meanwhile, it obtained verification report and certificate on November 12, 2019. It carried out environment management system ISO14001 internal auditors special training and completed system supervision audit.

It carried out clean production audit, completed the preparation of mid-term evaluation report of clean production, passed the mid-term expert review meeting on October 24, 2019. For 15 improvement plans formulated for the pre-evaluation stage, RMB950,000 was estimated to be input.

It carried out VOCS “one policy for one enterprise”, completed the preparation of report and passed the expert review meeting on October 16, 2019. For the 6 improvement plans formulated, RMB150,000 was estimated to be input. It vigorously optimized whole-factory power distribution system and optimized technologies of facilities of 15 kinds of units/workshops such as dismantling of high energy consumption equipment and optimization of operation strategies to lower the unit consumption of power for yields of

RMB10,000 from 108.5 kWh/RMB10,000 to 83.2 kWh/RMB10,000 and continuously lower energy consumption. It actively cooperated to complete the follow-up of the second national pollution source census.

⑨Techpool Bio-pharma Co., Ltd.

There was no other environmental information which shall be disclosed.

⑩Liaoning SPH Herbapex Pharmaceutical (Group) Co., Ltd.

There was no other environmental information which shall be disclosed.

⑪Shanghai Pharmaceutical Group (Benxi) Northern Pharma Co., Ltd.

There was no other environmental information which shall be disclosed.

5 Information of pollutant-discharging units in 2019

According to the Guidelines for Reporting of Performance Indicators of Environmental Key Data proposed by the Stock Exchange of Hong Kong and requirements of relevant documents, the environment and energy data disclosed this time include the amount of greenhouse gas generated from annual paper use and sewage treatment, amount of greenhouse gas reduced due to tree planting, and quantity of particulate matters, sulfur dioxide and nitrogen oxide generated by vehicles. Greenhouse gas emissions were calculated with reference to the Guidelines for Reporting of Performance Indicators of Environmental Key Data and Guidelines for Calculation Methods and Reporting of Greenhouse Gas Emissions from Industrial and Other Industrial Enterprises.

The enterprises under Shanghai Pharmaceuticals Holding disclosed here are as follows:

List of energy environmental data information disclosure of enterprises in 2019 social responsibility report

SN	Name of enterprises directly under the Group	Name of subsidiaries of drug manufacturers directly under the Group
1	Shanghai SPH Sine Pharmaceutical Laboratories Co., Ltd.	1-1 Shanghai SPH Sine Pharmaceutical Laboratories Co., Ltd., General Factory 1-2 Shanghai SPH Sine Pharmaceutical Laboratories Co., Ltd., No. 2 Subsidiary 1-3 Shanghai Harvest Pharmaceutical Co., Ltd. 1-4 Shanghai Fuda Pharmaceutical Co., Ltd. 1-5 Shanghai Sine Tianping Pharmaceutical Co., Ltd. 1-6 Shanghai Sine Jiufu Pharmaceutical Co., Ltd. 1-7 Shanghai Sine Yanan Pharmaceutical Co., Ltd. 1-8 Shanghai Sine Wanxiang Pharmaceutical Co., Ltd. 1-9 Shanghai Sine Jinzhu Pharmaceutical Co., Ltd. 1-10 Shandong Sine Pharmaceutical Co., Ltd. 1-11 Tianjin Jinjin Pharmaceutical Co., Ltd. 1-12 Gansu Sine Tiansen Pharmaceutical Co., Ltd.
2	Shanghai SPH No. 1 Biochemical and Pharmaceutical Co., Ltd.	2-1 Shanghai SPH No. 1 Biochemical and Pharmaceutical Co., Ltd. 2-2 Shanghai Ziyuan Pharmaceutical Co., Ltd.

SN	Name of enterprises directly under the Group	Name of subsidiaries of drug manufacturers directly under the Group
3	SPH New Asia Pharmaceutical Co., Ltd.	3-1 Shanghai SPH New Asiatic Pharmaceutical Co., Ltd., (Asia Pioneer Pharmaceutical Factory) 3-2 Shanghai SPH New Asiatic Pharmaceutical Co., Ltd. (New Asiatic Pharmaceutical Factory) 3-3 Shanghai New Asiatic Pharmaceutical Minhang Co., Ltd. 3-4 Liaoning Medya Pharmaceutical Co., Ltd.
4	Shanghai Traditional Chinese Medicine Co., Ltd.	4-1 Shanghai Leiyunshang Pharmaceutical Co., Ltd. 4-2 Shanghai Leiyunshang Fengbang Pharmaceutical Co., Ltd. 4-3 Shanghai SPH Xingling Sci. & Tech. Pharmaceutical Co., Ltd. 4-4 Shanghai Dehua Traditional Chinese Medicines Co., Ltd. 4-5 Shanghai Yutiancheng Chinese Herbal Medicine Company Limited 4-6 Shanghai Huapu Chinese Herbal Medicine Company Limited 4-7 Shanghai Xinde Chinese Herbal Medicine Company 4-8 Shanghai Huaying Pharmaceutical Co., Ltd. 4-9 Shanghai SPH Shenxiang Health Pharmaceutical Co., Ltd.
5	Shanghai Zhongxi Sunve Pharmaceutical Co., Ltd.	5-1 Shanghai Zhongxi Sunve Pharmaceutical Co., Ltd. 5-2 Shanghai SPH Zhongxi Pharmaceutical Co., Ltd. 5-3 Shanghai Jinhe Bio-Pharmaceutical Co., Ltd.
6	Shanghai Zhonghua Pharmaceutical Co., Ltd.	6-1 Shanghai Zhonghua Pharmaceutical Co., Ltd. 6-2 Shanghai Zhonghua Nantong Pharmaceutical Co., Ltd.
7	Shanghai Sunway Biotech Co., LTD.	7-1 Shanghai Sunway Biotech Co., Ltd.
8	SPH Changzhou Pharmaceutical Co., Ltd.	8-1 Changzhou Pharmaceutical Factory Co., Ltd. 8-2 Changzhou Wuxin Pharmaceutical Co., Ltd. 8-3 Nantong Changyou Pharmaceutical Technology Co., Ltd. 8-4 Chifeng Arker Pharmaceutical Technology Co., Ltd. 8-5 Chifeng Mysun Pharmaceutical Co., Ltd.
9	SPH Qingdao Growful Pharmaceutical Co., Ltd.	9-1 SPH Qingdao Growful Pharmaceutical Co., Ltd.
10	Xiamen Traditional Chinese Medicine Co., Ltd.	10-1 Xiamen Traditional Chinese Medicine Co., Ltd.
11	Chiatai Qingchunbao Pharmaceutical Co., Ltd.	11-1 Chiatai Qingchunbao Pharmaceutical Co., Ltd.
12	Hangzhou Huqingyutang Pharmaceutical Co., Ltd.	12-1 Hangzhou Huqingyutang Pharmaceutical Co., Ltd.
13	Liaoning SPH Herbapex Pharmaceutical (Group) Co., Ltd.	13-1 Liaoning SPH Herbapex Pharmaceutical (Group) Co., Ltd.
14	SPH Dong Ying (Jiangsu) Pharmaceutical Co., Ltd.	14-1 SPH Dong Ying (Jiangsu) Pharmaceutical Co., Ltd. 14-2 SPH Changzhou Kony Pharmaceutical Co., Ltd
15	Shanghai Pharmaceutical Group (Benxi) Northern Pharma Co., Ltd.	15-1 Shanghai Pharmaceutical Group (Benxi) Northern Pharma Co., Ltd.
16	Techpool Bio-pharma Co., Ltd.	16-1 Techpool Bio-pharma Co., Ltd.

Energy Saving and Environmental Protection Data Disclosure from 2019 Social Responsibility Report

1 Shanghai SPH Sine Pharmaceutical Laboratories Co., Ltd.

1-1 Company name: Shanghai SPH Sine Pharmaceutical Laboratories Co., Ltd., General Factory

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of others in exhaust gas emitted (kg)
21.26	13.18	0.25	3.96	0.61	496.61	1045.86	0
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
33198.1	385.21	32812.89	437.06	373.98	63.08	112.21	112.21
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
23.63	11761.18	2627	1.51	121678.2	0	0	0	31.7

Overall description:
In 2019, the company invested over RMB3.16 million in total in environmental protection. In 2019, the Company passed 14001 system external annual audit and carried out enterprise environmental management in accordance with standard requirements of environmental management system.

1-2 Company name: Shanghai SPH Sine Pharmaceutical Laboratories Co., Ltd., No. 2 Subsidiary

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of others in exhaust gas emitted (kg)
5.23	4.76	0.64	0	92.78	1210.36	173.89	0
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
3048.96	809.82	2239.13	51	27	28.80	23.61	22.61
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
5.82	1123.57	215.94	35.45	0	0	5	3.3	4.0

Overall description:
In 2019, the Company invested RMB50,000 in operation & maintenance of pollution prevention facilities, RMB121,200 for treatment of solid wastes, RMB260,000 for construction of new pollution prevention facilities, and RMB5,000 for association, newspapers, books, publicity, etc., and RMB18,100 in environmental monitoring fees. Total investment in environmental protection amounted to RMB454,300.

1-3 Company name: Shanghai Harvest Pharmaceutical Co., Ltd.

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of benzene series in exhemitted (kg)
7.05	3.24	0.01	85.54	3.25	88.93	15.95	136.5
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
6800.62	42.67	6757.95	131.18	128.00	3.18	5.20	5.20
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
7.83	2416.24	433.37	0.55	33615.82	0.00	0.00	7.04	2.97

Overall description:
In 2019, the Company invested a total of RMB338,900 in environmental protection, which included the addition of around RMB160,000 in laboratory exhaust gas treatment facilities and RMB20,000 of environmental monitoring, around RMB71,000 in wastewater treatment facility operation and maintenance, RMB74,000 in hazardous waste treatment and RMB10,000 of ISO 14001 certification, etc.

1-4 Company name: Shanghai Fuda Pharmaceutical Co., Ltd.

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of others in exhaust gas emitted (kg)
2.03	1.24	0.02	13.11	0.21	2.2	39.52	0
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
1729.08	711.54	1017.54	40.2	40.2	10.29	13.5	9.15
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
2.25	604.7	144.17	32.43	0	0	3.35	0	0.25

Overall description:
In 2019, the company invested RMB794,000 in environmental protection. In 2019, the water consumption for yield of RMB10,000 increased by -15.7% on a year-on-year basis. In 2019, the energy consumption for yield of RMB10,000 increased by -18.33% on a year-on-year basis. In 2019, yield of RMB10,000 increased by 7.26% on a year-on-year basis. The Company completed the boiler replacement and low-nitrogen burner renovation to ensure up-to-standard emission of boiler exhaust gas. The Company purchased hydraulic baling press of packaging bag to compress dangerous waste packaging bags to lower two thirds of placement space.

1-5 Company name: Shanghai Sine Tianping Pharmaceutical Co., Ltd.

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of others in exhaust gas emitted (kg)
5.95	13.07	0.39	/	0.11	81.24	177.04	0
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
6936.29	92.85	6743.44	69.45	27.78	41.67	104.30	88.77
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
6.61	2539.52	632.56	0.84	20753.52	/	/	/	6.9

Overall description:
In 2019, the company invested about RMB2,226,000 in environmental protection. Invested RMB183,000 to rebuild the sewage treatment station so as to improve sewage treatment capacity. The wastewater COD emission amount was reduced by 3.92 tonnes compared with that of 2019 (23%).

1-6 Company name: Shanghai Sine Jiufu Pharmaceutical Co., Ltd.

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of others in exhaust gas emitted (kg)
2.17	2.99	0	0	0	0	0.22	0
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
695.78	32.43	663.35	17.23	17.23	0	6.8	6.8
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
2.41	892.13	92.59	0.14	0	0	0	2.58	8.0

Overall description:
In 2019, the company invested RMB159,600 in environmental protection, including RMB100,000 for operating costs of environmental protection facilities of dust treatment equipment and RMB59,600 for hazardous waste disposal.

1-7 Company name: Shanghai Sine Yanan Pharmaceutical Co., Ltd.

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of others in exhaust gas emitted (kg)
2.32	5.85	0.08	186	0.96	147.64	45.5	0
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
2123.22	529.76	1593.46	77.1	49	10	18.1	18.1
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
2.58	973.07	218.93	23.78	0	0	0	0	0

Overall description:
In 2019, it invested RMB572,000 in environmental protection, including the upgrade of boiler burner and QC lab exhaust gas collection renovation, etc. In 2019, it consumed water of 25,800 tonnes, reduced water consumption amount of 3468 tonnes, representing a year-on-year decrease of 11%.

1-8 Company name: Shanghai Sine Wanxiang Pharmaceutical Co., Ltd.

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of others in exhaust gas emitted (kg)
4.56	9.95	0.26	98.65	0.13	446.09	201.27	0
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
2361.5	656.77	1704.73	42.44	8	34.44	23.5	23.5
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
5.07	965.14	240.9	17.93	0	0	0	9.5	16.7

Overall description:
In 2019, the company invested about RMB600,000 in environmental protection, including investment in low-VOC transformation project for the hazardous waste warehouse and upgrading of boilers (reduction of nitrogen oxides).

1-9 Company name: Shanghai Sine Jinzhu Pharmaceutical Co., Ltd.

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of others in exhaust gas emitted (kg)
19.75	6.72	0.05	137.69	0.21	230.92	22.85	0
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
9579.92	425.77	9154.15	128.19	73.5	54.69	71.25	64.05
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
21.95	3447.01	621.78	0.00194	43365.38	0	8.41	2.33	8.54

Overall description:
In 2019, the company invested about RMB1,286,100 million in environmental protection. It completed the preparation and filing of the Contingency Plan of Enterprises for Environmental Emergency. It added lab exhaust gas treatment equipment, renovated epoxy floor level of dangerous waste storage site and newly built emergency collection tank. It added bottle washer recycling device for the supplement of cooling water in coolers. In 2019, the water consumption of the Company decreased by 1%. In 2019, the water consumption for 10,000 pieces reached 11.28, a year-on-year decrease of 1.3%.

1-10 Company name: Shandong Sine Pharmaceutical Co., Ltd.

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of others in exhaust gas emitted (kg)
1.07	0.95	0.03	34.1	0.32	175.4	16.6	0
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
2033.12	49.61	1983.503	48	48	0	67.21	78.53
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
1.34	729.8	139.75	/	8955	/	/	11.3	4.8

Overall description:
In 2019, the Company invested around RMB1.5 million in environmental protection, including the improvement and renovation, maintenance and operation, environmental protection monitoring fees for the pollution treatment facilities.

1-11 Company name: Tianjin Jinjin Pharmaceutical Co., Ltd.

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of others in exhaust gas emitted (kg)
2.5157	8.58	0.000005	393	0.12	4096.34	256.02	0
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
20091.19	6658.67	13432.52	95.6	95.6	0	36.41	6
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
2.7953	5965.08	1908	219.7	0	0	0	8.23	6.25

Overall description:
In 2019, the Company invested around RMB13,592,900, including RMB4.82 million in fixed assets and equipment and RMB8,772,900 in daily management.

1-12 Company name: Gansu Sine Tiansen Pharmaceutical Co., Ltd.

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of others in exhaust gas emitted (kg)
0.45	0.000098	0.000015	0	0.17	73.45	0	0
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
329.38	125.81	203.57	22.8	22.8	0	0	0
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
0.60	102.23	28.44	4.50	0	0	0	3.84	4.79

Overall description:
In 2019, the Company invested around RMB40,000 in environmental protection, mainly for the renovation of sewage treatment station. Currently, the Company suspended production for renovation.

2 Shanghai SPH No. 1 Biochemical and Pharmaceutical Co., Ltd.

2-1 Company name: Shanghai SPH No. 1 Biochemical and Pharmaceutical Co., Ltd.

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of ammonia in exhaust gas emitted (kg)
19.16	5.79	0.64	2961.22	0.20	7521.05	436.78	55.32
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
28330.53	10608.68	17721.85	145	145	0	991.77	991.77
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
60.08	12748.96	2516.16	403.73	0	0	0	8.98	0.31

Overall description:
In 2019, the company invested RMB10.56 million in environmental protection, including RMB400,000 for investment in exhaust gas treatment equipment in the QC and hazardous waste workshop and soil column workshop, RMB780,000 for low-nitrogen combustion transformation of boilers, RMB794,900 for operation and maintenance of pollution facilities, RMB444,500 for online operation and maintenance of wastewater and exhaust gas, and RMB7,864,100 for hazardous waste disposal. In 2019, the Company invested RMB780,000 in low-nitrogen renovation of 3 units of 4-ton boilers at Jianchuan Road to lower the emission concentration of nitrogen oxide from 80mg/m3 to 10mg/m3. In 2019, the Company invested RMB390,000 in the construction of PH emergency valve of sewage discharge outlet to reach the effect of PH real-time monitoring and linked cut-off and documents of emergency measures for excessive pollutants discharge was formulated (EHS-SMP-EMP-016-00) for control. In 2019, the Company invested RMB75,500 to establish energy system ISO 5001. In December 2019, green factory application was conducted.

2-2 Company name: Shanghai Ziyuan Pharmaceutical Co., Ltd.

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of toluene gas in exhaust gas emitted (kg)
0.56	2.09	0.07	672	0	49.19	5.37	53.88
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
611.25	112.08	499.17	0.25	0.25	0.25	61.3	61.3
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
0.7	244.56	70.75	0	0	0	0	7.79	28

Overall description:
In 2019, the company invested about RMB2.075 million in environmental protection, including RMB494,500 for maintenance of pollution facilities and RMB572,500 for hazardous waste disposal.

3 SPH New Asia Pharmaceutical Co., Ltd.

3-1 Company name: Shanghai SPH New Asiatic Pharmaceutical Co., Ltd., Asia Pioneer Pharmaceutical Factory

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of others in exhaust gas emitted (kg)
62.99	15.5	0.24	2549.75	0.41	243.39	294.08	0
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
21240.53	309.64	20930.89	823.52	578.94	244.58	56.26	56.26
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
69.99	7527.79	1495.66	0	94421.28	0	3.6	15.64	5

Overall description:
In 2019, the company invested RMB2.98 million in environmental protection. By reusing reclaimed water, 18,215 tonnes of water were saved; by residual water and heat recycling of water-making room of preparation base camp, 5 tonnes of steam were saved and 10-20 tonnes of hot water were recycled on a daily basis. Compared with 2018: the wastewater N-NH3 discharge amount was reduced by 7.69% and the usage amount of liquefied petroleum gas was reduced by 80%.

3-2 Company name: Shanghai SPH New Asiatic Pharmaceutical Co., Ltd. (New Asiatic Pharmaceutical Factory)

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of others in exhaust gas emitted (kg)
23.64	4.5	0.08	205.88	67.96	896.24	35.16	0
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
71300.14	60301.50	8268.64	365	190	175	137.15	137.15
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
26.27	5584.46	1174.47	179.48	0	0	4.8	5.5	10.2

Overall description:
In 2019, the company invested RMB3,077,100 in environmental protection. The Company completed "ISO 14001" version change review work and conducted environmental management inspection. During the phase II of circulating water and recycle water transformation, the circulating water supplement decreased by 9,148 tonnes, totaling RMB45,700 of water rate. Raw materials workshop process was subject to chilled water energy-saving renovation: the electricity consumption of air conditioners reduced by 373,800 kWh in total, namely RMB317,700 electric charge.

3-3 Company name: Shanghai New Asiatic Pharmaceutical Minhang Co., Ltd.

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of methanol in exhaust gas emitted (kg)
4.23	5.55	0.08	305.47	36.77	485.59	103.55	24.37
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
5228.82	1317.60	3911.21	74.13	0	74.13	72.98	68.28
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
4.70	1199.60	554.21	38.66	0	0	0	10.89	0

Overall description:
In 2019, the company invested about RMB2,490,600 in environmental protection, including expenses for maintenance of various environmental protection facilities, new sewage treatment station (part), annual water and gas sound testing costs, hazardous waste disposal fees, etc. The amount of waste paper boxes generated in 2019 was 25,450 kg less than in 2018, a year-on-year decrease of 33.33%. In November 2019, sewage station upgrade and renovation started. After completion, the sewage treatment ability was greatly enhanced.

3-4 Company name: Liaoning Medya Pharmaceutical Co., Ltd.

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of others in exhaust gas emitted (kg)
11	2	0.07	7.23	375.52	2026.91	170.47	0
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
5727.73	1376.24	4351.49	500	500	0	83.08	80
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
14	1366.09	617.8	59.6	0	0	5.27	17.78	5.7

Overall description:
In 2019, the company invested in RMB850,000. The production process adopted dry-type vacuum pump secondary cooling tail gas and recycled 22.82 tonnes of acetone.

4 Shanghai Traditional Chinese Medicine Co., Ltd.

4-1 Company name: Shanghai Leiyunshang Pharmaceutical Co., Ltd.

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of others in exhaust gas emitted (kg)
13.36	9.35	0.48	33.60	1.00	1262.40	1030.60	0
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
12638.90	4085.58	8553.32	1330.00	1330.00	0	40.54	40.54
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
17.67	5981.00	1215.21	180.75	0	0	0	21.41	30.93

Overall description:
In 2019, the company invested about RMB2.6 million in environmental protection. In 2019, the Company completed the upgrade and renovation of boiler low-nitrogen burners and lower the emission concentration of nitrogen oxide from 140mg/m3 to 25mg/m3. Through boiler low-nitrogen renovation, the emission of air pollutants was greatly reduced.

4-2 Company name: Shanghai Leiyunshang Fengbang Pharmaceutical Co., Ltd.

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of others in exhaust gas emitted (kg)
0.54	0.39	0.01	0	0.01	1530.66	906.5	0
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
860.49	172.92	687.57	32	0	0	0.23	0.23
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
0.77	372.33	97.48	0	0	0	0	0.65	54.17

Overall description:
In 2019, the company's environmental protection cost was about RMB43,200. The Company completed the oil burning boiler renovation project to reduce the emission of nitrogen oxide. In 2019, the water consumption decreased by 6.5% on a year-on-year basis, the electricity consumption decreased by 8.1% on a year-on-year basis and oil consumption decreased by 3.6% on a year-on-year basis.

4-3 Company name: Shanghai SPH Xingling Sci. & Tech. Pharmaceutical Co., Ltd.

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of odor emitted (kg)
7.64	4.7	0.011	95.46	929.7	3017.8	2757	29.53
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
5270.19	2844.59	2425.60	663.6	663.6	/	14	14
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
8.49	2002.96	344.77	121.48	/	/	2.55	30.6	16.1

Overall description:
In 2019, the Company invested RMB2.1 million in environmental protection, including electricity charges for sewage treatment stations, annual facility maintenance fees, environmental protection operation fees, daily equipment maintenance fees, drainage treatment fees and solid waste treatment fees. In 2019, while the Company's production remained basically flat as compared with last year, its water consumption decreased by 1.1% year-on-year, electricity consumption decreased by 1.7% year-on-year, natural gas consumption decreased by 15.2% year-on- year, and comprehensive energy consumption decreased by 6.9% year-on-year.

4-4 Company name: Shanghai Dehua Traditional Chinese Medicines Co., Ltd.

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of others in exhaust gas emitted (kg)
1.155	2.75	0.19	0	0.17	41.51	27.5	0
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
1108.62	113.49	995.13	55	55	0	1.38	0.38
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
1.65	826.44	55.44	0	5483.5	0	2.45	5.402	26.624

Overall description:
In 2019, the Company invested RMB325,000 in environmental protection, including RMB200,000 for the renovation of the dust removal equipment of the herbal medicine roaster to avoid excessive emission of exhaust gas. In June 2019, the Company completed self-renovation on the sewage treatment station, rationally utilized the existing equipment and added some equipment to improve the function of sewage aeration and liquid oxygen, which greatly controlled the COD emission indicators. The Company renovated bathroom and used smart IC cards to control the water for bathing, thus saving water by one third compared to the past (about 15 tonnes of water saved per day). The water consumption decreased by 9.8% on a year-on-year basis, the hazardous waste decreased by 41.5%, and gasoline and diesel consumption decreased by 14.54%.

4-5 Company name: Shanghai Yutiancheng Chinese Herbal Medicine Company Limited

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of others in exhaust gas emitted (kg)
0.459	0.33	0.006	0	0.17	264.82	34.61	0
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
802.5	266.4	536.1	20	20	0	2.2	2.2
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
0.51	216.97	76	0	0	0	0	2.34	82.44

Overall description:
In 2019, the company invested RMB600,000 in environmental protection. Moreover, facilities and equipment with pipelines of 150 meters for collecting in-organized dust discharged were added to reduce the emission of harmful substances to the atmosphere.

4-6 Company name: Shanghai Huapu Chinese Herbal Medicine Company Limited

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of others in exhaust gas emitted (kg)
1.08	0.18	0.02	0	216.4	122.08	19.63	0
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
557.36	245.16	312.2	50	50	0	0.67	0.67
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
1.2	192.26	43.9	0	0	0	0	34.06	45

Overall description:
In 2019, the company invested around RMB460,000 in environmental protection. In terms of the treatment of exhaust gas, the Company invested RMB350,000 to install an exhaust gas treatment device at one time, achieving significant effect. In 2019, wastewater pollutants decreased by 83% and hazardous waste decreased by 33%.

4-7 Company name: Shanghai Xinde Chinese Herbal Medicine Company

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of others in exhaust gas emitted (kg)
0.83	0.03	0.0002	0	0.11	145.53	189.63	0
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
653.70	152.58	501.12	92	92	0	0.435	0.435
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
1.1851	158.24	70.9592	0	0	0	0	5.7	43

Overall description:
In 2019, the company invested about RMB765,800 in environmental protection. Among them, the facility operation and maintenance cost was RMB30,000, the factory area rain and sewage pipeline cleaning and dredging fee was RMB20,000, the solid waste disposal fee was RMB44,000, the hazardous waste disposal fee was RMB11,000, the installation of oil-water separator and soot purifier for canteen was RMB160,000, the newspaper and books were RMB800 and the new exhaust gas treatment device was RMB500,000. Water consumption decreased by 17.2% compared with 2018, hazardous waste output decreased by 34% and gasoline and diesel consumption decreased by 16%.

4-8 Company name: Shanghai Huaying Pharmaceutical Co., Ltd.

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of others in exhaust gas emitted (kg)
0.47	0.16	0.15	0	8.03	145.68	14.25	0
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
233.60	129.11	104.49	20	20	0	0.1	0
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
0.54	77.98	14.7	0	0	0	0	1.5	39.6

Overall description:
In 2019, the company invested RMB52,900 in environmental protection, mainly for the transformation, monitoring and equipment maintenance of the Company's exhaust funnel of exhaust gas. In 2019, water consumption increased by 17% on a year-on-year basis and comprehensive energy consumption decreased by 52% on a year-on-year basis.

4-9 Company name: Shanghai SPH Shenxiang Health Pharmaceutical Co., Ltd.

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of others in exhaust gas emitted (kg)
0.26469	0. 1989	0.01805	0	0	0	0	0
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
429.58	0.51	429.07	5	5	0	0.335	0.335
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
0.2941	175.1725	60.8238	0	0	0	0	0	0.147

Overall description:
In 2019, the company invested RMB300,000 in environmental protection. The Company renovated the exhaust system of the production workshop, collected all kinds of exhaust gases and filtered them with activated carbon box before centralized emission. The height of exhaust outlet meets the standard specified by the state. The hazardous waste storage room was subject to epoxy floor level renovation with measures for leakage prevention.

5 Shanghai Zhongxi Sunve Pharmaceutical Co., Ltd.

5-1 Company name: Shanghai Zhongxi Sunve Pharmaceutical Co., Ltd.

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of ammonia in exhaust gas emitted (kg)
6.0363	1.55	0.48	3987.38	66.62	992.77	77.22	410.42
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
8459.38	999.82	7459.56	38.49	38.49	2.05	271.92	271.92
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
6.707	1640.83	708.311	0	22421.57	0	5.525	13.14	18.82

Overall description:
In 2019, the Company invested RMB6.5 million in environmental protection. Among them, the second workshop exhaust gas renovation project of RMB4.5 million, the underground sewage pipeline project of RMB1.5 million and the hazardous waste warehouse renovation project of RMB500,000 were completed. After the second workshop exhaust gas renovation project was implemented, the emissions of non-methane hydrocarbon decreased by nearly 5 tonnes compared with 2018 and the emissions of other pollutants were significantly reduced. In 2019, through process optimization, the amount of hazardous waste output was reduced from the source and a total of over RMB300,000 of the cost for hazardous waste disposal were lowered. In 2019, over 720 tonnes of water were saved and around 60,000 kWh were saved on a year-on-year basis.

5-2 Company name: Shanghai SPH Zhongxi Pharmaceutical Co., Ltd.

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of others in exhaust gas emitted (kg)
9.30	3.98	0.06	193.83	94.72	1171.12	661.16	0
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
10079.02	3484.79	6594.24	119.00	109.00	10.00	19.85	19.85
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
12.15	3013.95	937.21	151.33	0	0	0	9.59	0

Overall description:
In 2019, the company invested RMB2,078,300 in environmental protection, including RMB753,900 for exhaust gas treatment facilities, RMB870,000 for commissioned sewage operations and RMB226,100 for solid waste treatment, etc. In 2019, the Company purchased a frequency conversion air compressor to replace the original fixed frequency air compressor, which can save about 90,000 kWh annually. In 2019, the Company obtained a special fund of RMB1.08 million for the upgrading and reconstruction of small and medium-sized boilers in Shanghai. In 2019, the Company passed the ISO14001 environmental management system certification.

5-3 Company name: Shanghai Jinhe Bio-Pharmaceutical Co., Ltd.

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of others in exhaust gas emitted (kg)
1.80	6.30	0.81	7704	0.18	443.42	97.23	0
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
6200.39	896.63	5303.76	8	8	0	170	170
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
2.57	1392.15	753.33	37.36	0	0	0	8.07	0.99

Overall description:
In 2019, the company invested RMB4.6 million in environmental protection. The Company completed the boiler low-carbon emission transformation project acceptance, rain drainage pipe transformation, workshop vacuum pump system exhaust gas treatment device transformation and planned to promote VOC treatment transformation project.

6 Shanghai Zhonghua Pharmaceutical Co., Ltd.

6-1 Company name: Shanghai Zhonghua Pharmaceutical Co., Ltd.

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of others in exhaust gas emitted (kg)
6.57	3.94	0.05	257.29	0.15	167.12	154.54	0
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
7308.32	99.02	7209.30	95.14	87.5	7.64	11.2	10.8
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
7.30	2372.18	626.40	1.14	25412.50	0	0	4.28	3.09

Overall description:
In 2019, the company invested a total of RMB678,650 in environmental protection, including RMB13,000 for operation and maintenance costs of sewage equipment, RMB665,565 for solid waste, management and publicity.

6-2 Company name: Shanghai Zhonghua Nantong Pharmaceutical Co., Ltd.

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of others in exhaust gas emitted (kg)
0.7	1.26	0.07	0	0.1	5.85	0.43	0
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
3527.61	1784.52	1743.09	75.3	20	55.3	21	21
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
2.2	285.5	102	0	0	0	0.15	7.04	4.35

Overall description:
In 2019, the company invested a total of RMB552,000 in environmental protection, including RMB45,000 for equipment and facilities, and RMB507,000 for daily management. In 2019, the planned water consumption was 26,000 tonnes and the actual use was 22,000 tonnes, saving 4,000 tonnes annually. In 2018, 1.21 million kWh was used and in 2019, 1.02 million kWh was used, saving 180,000 kWh annually. In 2019, the company was rated as a green enterprise by the Rudong County Environmental Protection Bureau.

7 Shanghai Sunway Biotech Co., LTD.

7-1 Company name: Shanghai Sunway Biotech Co., LTD.

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of others in exhaust gas emitted (kg)
0.65	1.70	0.03	0	0.11	35.40	3.39	0
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
1939.66	44.42	1895.25	3.5	3.5	0	0.07	0.07
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
0.72	505.3	150.53	0	7583.34	0	0	0.65	6.5

Overall description:
In 2019, the company invested RMB178,300 in environmental protection, including RMB116,000 of direct expenses and RMB32,000 of indirect expenses. In 2019, the outsourced heat consumption decreased by 1,071.66 MkJ. In 2019, the power consumption decreased by 418,700 kwh and water consumption decreased by 0.48 tons.

8 SPH Changzhou Pharmaceutical Co., Ltd.

8-1 Company name: Changzhou Pharmaceutical Factory Co., Ltd.

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of hydrogen chloride in exhaust gas emitted (kg)
19.34	38.88	0.44	459.86	0.29	133.69	450.97	1367.52
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
11037.75	361.60	10676.15	339.56	289.96	40	277.01	314.61
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
16.67	2931.10	922.3123	0.2782	38048	0	0.477	12.43	2.84

Overall description:
In 2019, the company invested about RMB8,215,000 in environmental protection. In 2019, wastewater N-NH3 emissions decreased by 2.51 tonnes on a year-on-year basis. The Company conducted ISO14064 greenhouse gas verification system training, conducted the first verification of the Company's greenhouse gas in 2018 and obtained the verification report and certificate on November 12, 2019. The Company optimized technologies of facilities of 15 kinds of units/workshops such as dismantling of high energy consumption devices and optimization of operation strategies to lower the unit consumption of power for yields of RMB10,000 from 108.5 kwh/RMB10,000 to 83.2 kwh/RMB10,000. The estimated revenue was 1.2 million.

8-2 Company name: Changzhou Wuxin Pharmaceutical Co., Ltd.

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Ethanol exhaust gas emitted (kg)
0.1740	0.43	0.044	370.36	0.0047	2.31	59.12	424.84
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
826.56	11.98	814.58	11.20	11.20	0	549.25	544.89
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
0.704	328.20	45.48	0	4485.08	0	1.82	0	0.35

Overall description:
In 2019, the company invested over RMB 3 million in environmental protection.

8-3 Company name: Nantong Changyou Pharmaceutical Technology Co., Ltd.

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of hydrogen chloride exhaust gas emitted (kg)
6.77	16.98	0.2	5437.08	0.84	477.58	47.04	10.15
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
12144.08	840.55	11303.53	117	117	0	771.21	803.64
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
8.25	3820.75	978	19.56	39413.75	0	0	8.76	34.61

Overall description:
In 2019, the company invested RMB2.81 million in environmental protection equipment. It includes ①investment of RMB430,000 to increase two rake dryers; ②investment of RMB480,000 of iron-carbon micro-electrolysis pretreatment equipment; ③investment of RMB300,000 to increase Fenton oxidation equipment; ④investment of RMB280,000 to increase inclined plate settling pond; ⑤investment of RMB290,000 to increase the low-temperature container-type sludge dryer; ⑥investment of RMB800,000 to merge the first-stage exhaust gas into the RTO system for treatment; ⑦investment of RMB100,000 to cover the initial settling pond and Fenton oxidation equipment to collect inorganized exhaust gas; ⑧investment of RMB60,000 to increase the environmental monitoring and pollution control system; ⑨investment of RMB70,000 to run PLC data and data communication in the sewage station, connect to the computer in operation room and set an alarm for abnormal conditions. The frequency conversion motor was added to the public engineering refrigerant external circulation pump, which can save about 200 kwh per day. The newly built project applied a level-2 condenser, which can save about 300,000 kwh one year. The Company newly built 400-cubic inhibitive ethylene glycol storage tank and applied valley electricity at night for refrigeration (energy storage) to save electricity costs by RMB150,000 one year. In 2019, the Company replaced 30 sets of new steam traps, saving about 20 tonnes of steam per year. The Company added 8 new environmentally friendly water-flushing vacuum pumps, saving about 800 tonnes of water annually.

8-4 Company name: Chifeng Arker Pharmaceutical Technology Co., Ltd.

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of others in exhaust gas emitted (kg)
11.5	14.92	0.8	36420	0.072	4.19	0.31	0
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
8129.1	98.45	8030.65	80.34	80.34	0	4.4665	0
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
13.8	6910.86	389.13	0	48119.4	0	0	6.14	0.48

Overall description:
In 2019, the company invested RMB1,530,000 in environmental protection, including RMB900,000 for operation of pollution prevention facilities, RMB0 for treatment of solid wastes, RMB400,000 for construction of new pollution prevention facilities, RMB180,000 for detest fees, and RMB20,000 for association, newspapers, books, publicity, etc. The Company maintained the absorption apparatuses of 5 newly added exhaust gas absorption towers to emit the generated exhaust gas through a 20m exhaust funnel after absorption through the purification absorption tower. The removal rate reached 90%. It changed the cooling water of the vacuum pump from the original groundwater to purchased reclaimed water and started cyclic utilization and changed part of the water ring vacuum pump to the mechanical reciprocating vacuum pump, which can save 30,000 tonnes of water every year.

8-5 Company name: Chifeng Mysun Pharmaceutical Co., Ltd.

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of others in exhaust gas emitted (kg)
5.2	1.59	0.05	0	1.72	5721.95	3940.33	0
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
2816.78	417.46	2399.32	2	2	0	0	0
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
6.5	1336.58	242.77	0	6285.6	0	0	30.93	102.81

Overall description:
In 2019, the company invested RMB659,000 in environmental protection, including RMB463,800 for operation of pollution prevention facilities, RMB166,000 for facilities and equipment, RMB20,000 for detest fees, and RMB20,000 for association, newspapers, books, publicity, etc. The Company added 18 new dust collectors and made up-to-standard emission of generated exhaust gas after the absorption of dust collectors.

9 SPH Qingdao Growful Pharmaceutical Co., Ltd.

9-1 Company name: SPH Qingdao Growful Pharmaceutical Co., Ltd.

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of others in exhaust gas emitted (kg)
9.95	16.82	0.41	0	2.06	310.35	2781.35	0
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
20595.13	453.76	20141.37	1150	82	1068	10.6	6.5
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
13.27	4279.14	953.69	0.91	114142.00	0	0	37.6	67.8

Overall description:
In 2019, the Company invested around RMB2.12 million in environmental protection, including RMB1.4214 million for the operation and maintenance of pollutant treatment facilities, RMB300,000 for technical renovation of exhaust gas treatment facilities, RMB298,600 for solid waste disposal and around RMB100,000 for EIA, etc. It carried out technical transformation project EIA of the old synthetic raw materials workshop, completed the expert review at the end of August, and obtained approval on January 10, 2020; the water consumption in 2019 decreased by 1.85% on a year-on-year basis, the outsourced heat consumption decreased by 25.12% on a year-on-year basis and the comprehensive energy consumption decreased by 77.76 tonnes of standard coal. The total energy consumption decreased by 1.78% on a year-on-year basis.

10 Xiamen Traditional Chinese Medicine Co., Ltd.

10-1 Company name: Xiamen Traditional Chinese Medicine Co., Ltd.

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of others in exhaust gas emitted (kg)
9.09	2.36	0.484	0	0.669	121.76	98.73	0
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
11428.55	305.96	11122.59	1047.9	1027	20.9	2.201	2.946
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
9.20	2325.4	635.91	0	44486.4	0	0	26.46	7.11

Overall description:
In 2019, the company invested about RMB4.355 million in environmental protection, including RMB700,000 for operation and maintenance of pollution facilities and RMB3.075 million for hazardous waste disposal. When the production capacity increased, in 2019, the water consumption decreased by 4.7%, electricity consumption decreased by 6.2%, the total energy consumption decreased by 1.4%.

11 Chiatai Qingchunbao Pharmaceutical Co., Ltd.

11-1 Company name: Chiatai Qingchunbao Pharmaceutical Co., Ltd.

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of others in exhaust gas emitted (kg)
27.63	22.93	0.88	0	171.20	8441.19	1199.43	0
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
21712.89	10254.31	11458.58	5300	600	4700	84.18	84.18
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
37.52	7199.07	1523.04	423.05	0	0	0	77.62	47.70

Overall description:
In 2019, the company invested RMB6.25 million in environmental protection, including major renovation of sewage treatment stations and odor management of sewage stations. In 2019, wastewater discharge decreased by 16,900 tonnes, greenhouse gas emissions decreased by 2,249.47 tonnes and comprehensive energy consumption decreased by 949.05 tonnes of standard coal on a year-on-year basis.
The annual review certification of the new version of the environmental management system GB/T24001-2016 standard was completed.

12 Hangzhou Huqingyutang Pharmaceutical Co., Ltd.

12-1 Company name: Hangzhou Huqingyutang Pharmaceutical Co., Ltd.

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of others in exhaust gas emitted (kg)
18.68	4.15	0.12	0	0.10	1299.15	429.26	0
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
12895.41	31.59	12863.82	4769.2	112	4657.2	1.78	1.5
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
15.55	3202.64	827.46	/	63863.55	/	5.9	3.52	1.69

Overall description:
In 2019, the company invested RMB769,000 in environmental protection. When the production capacity increased by 13.67%, the electricity consumption decreased by 15.9%; the steam consumption decreased by 18.15%; the tap water consumption decreased by 1.11%; the gasoline consumption decreased by 19.27%; the diesel consumption decreased by 21.03%; the energy consumption of yield of RMB10,000 decreased by 27.38%; the total cost dropped by 9.18% on a year-on-year basis.

13 Liaoning SPH Herbapex Pharmaceutical (Group) Co., Ltd.

13-1 Company name: Liaoning SPH Herbapex Pharmaceutical (Group) Co., Ltd.

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of others in exhaust gas emitted (kg)
7.63	6.03	0.0026	49.75	118948.17	25045.54	12096.61	0
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
29559.82	18066.92	11492.9	4522	0	4522	0.038	0.1643
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
16.6	11232.51	530.56	0	70309.22	8700	7.5	28.42	13.21

Overall description:
In 2019, the company invested RMB6,021,900 in environmental protection. In 2019, the Company implemented centralized steam supply, old boilers improvement to improve thermal efficiency and reduce exhaust gas emissions. In 2019, the Company newly planted over 5,660 trees, an increase of 800 compared with last year, reducing 130.18 tonnes of carbon dioxide emissions.

14 SPH Dong Ying (Jiangsu) Pharmaceutical Co., Ltd.

14-1 Company name: SPH Dong Ying (Jiangsu) Pharmaceutical Co., Ltd.

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of others in exhaust gas emitted (kg)
0.43	0.13	0.015	0	0.63	404.2	28.58	0
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
2369.26	742.94	1626.32	9.8	6.6	3.2	1.89	3.42
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
3.05	360.34	150.28	0.45	5074.35	0	0	18.75	22.39

Overall description:
In 2019, the Company invested RMB287,047 in environmental protection, mainly for daily operation of pollution prevention facilities.

14-2 Company name: SPH Changzhou Kony Pharmaceutical Co., Ltd

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of methanol in exhaust gas emitted (kg)
4.7	4.60	0.027	41.38	0.22	1669.30	94.02	71.66
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
6600.25	1966.76	4633.5	134	132.2	1.8	293.93	300.2
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
5.18	1589.04	657	68.56	0	0	0	2.434	11.67

Overall description:
In 2019, the Company invested RMB6.32 million in environmental protection, including the upgrading and improvement of the anaerobic towers of wastewater treatment stations, biochemical tanks, aeration tanks, regulating tanks, and primary sedimentation tank, the addition of 7 sets of photocatalytic oxidation devices in the front treatment facility? of the exhaust gas absorption tower. Through the upgrading and improvement of environmental protection facilities, the concentration of sewage and exhaust gas emissions in 2019 dropped significantly.

15 Shanghai Pharmaceutical Group (Benxi) Northern Pharma Co., Ltd.

15-1 Company name: Shanghai Pharmaceutical Group (Benxi) Northern Pharma Co., Ltd.

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Amount of others in exhaust gas emitted (kg)
3.65	0.67	0.01	255.66	274.2	3373.90	300.23	0
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
10311.55	3988.83	6322.72	65.78	60	5.78	50.06	41.86
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
6.59	3329.92	896.52	182.89	0	0	0	2.36	2.60

Overall description:
In 2019, the Company invested RMB2.783 million in environmental protection, including RMB1.855 million for equipment and facilities of environmental protection and about RMB928,000 for daily management. In 2019, through the strengthening of systems and operating procedures, real-time monitoring and operation of equipment and facilities, all water pollutants were subject to up-to-standard discharge and the average value of major pollutant COD was lowered to less than 40mg/l and ammonia nitrogen was lowered to less than 0.5mg/l. In 2019, the Company newly built and put into operation a set of VOC treatment equipment. It completed the frequency converting control transformation of 4 refrigerated circulation pumps to make the operating current 65% of the original after adding frequency converting control; completed the frequency converting control transformation of 4 air-supplement machines?; effectively reduced indoor cooling and heating loss through adding the frequency converting control and made the operating current 50% of the original; completed the heating improvement engineering of 2 production workshops, saving about 20% of gas cost and electricity cost.

16 Techpool Bio-pharma Co., Ltd.

16-1 Company name: Techpool Bio-pharma Co., Ltd.

Emissions							
Amount of wastewater discharged (10,000 tonnes)	Amount of COD in wastewater discharged (tonne)	Amount of N-NH3 in wastewater discharged (tonne)	Total amount of non-methane hydrocarbon in exhaust gas emitted (kg)	Amount of sulfur dioxide in exhaust gas emitted (kg)	Amount of nitrogen oxide in exhaust gas emitted (kg)	Amount of particulate matter in exhaust gas emitted (kg)	Ethanol exhaust gas emitted (kg)
4.91	1.06	0.17	12.41	0	1166.04	21.35	128.20
Greenhouse gas emissions (tonne)	Direct greenhouse gas emissions (tonne)	Indirect greenhouse gas emissions (tonne)	Amount of general solid waste produced(tonne)	Amount of general solid waste disposed (tonne)	Amount of general solid waste utilized (tonne)	Amount of hazardous waste produced (tonne)	Amount of hazardous waste disposed of (tonne)
8639.25	2835.73	5803.52	1126.64	1083.46	43.18	1037.55	1019.15
Energy used							
Water consumption (10,000 tonnes)	Comprehensive energy consumption (tonne of standard coal)	Electricity consumption (10,000 kWh)	Natural gas (gaseous) consumption (10,000 cubic meters)	Outsourcing thermal power consumption (million kJ)	Coal consumption (tonne)	Liqueed petroleum gas consumption (tonne)	Gasoline consumption (tonne)	Diesel fuel consumption (tonne)
9.16	1630	819.747	46.79	/	/	/	/	/

Overall description:
In 2019, the company invested RMB5,905,000 in environmental protection. Among them, RMB125,000 was invested in facilities and equipment, and RMB5.78 million was invested in daily management.

6 Packaging for finished products

Company name: Shanghai SPH Sine Pharmaceutical Laboratories Co., Ltd., General Factory

Category of materials	Name of materials	Amount of materials purchased (kg)	Material usage (kg)	Recycling amount (kg)	Recycling rate (%)
Raw material	Metformin Hydrochloride	41925	56425	/	/
Raw material	Rabeprazole Sodium	20	123	/	/
Raw material	Methotrexate	656	473.04	/	/
Raw material	Digoxin	70	76.772	/	/
Raw material	Spironolactone	2600	3162.06	/	/
Raw material	Salbutamol Sulfate	20	3.18	/	/
Auxiliary materials	Corn starch	71975	74850	/	/
Auxiliary materials	White sugar	2000	2550	/	/
Auxiliary materials	Pregelatinized starch	41500	41500	/	/
Auxiliary materials	Magnesium stearate	2340	2849.47	/	/
Auxiliary materials	White dextrin	3500	3650	/	/
Auxiliary materials	Talcum powder	1425	3650	/	/
Auxiliary materials	Magnesium oxide	800	1206.8	/	/
Auxiliary materials	Mannitol (Imported)	0	900	/	/
Auxiliary materials	Polyvinylpyrrolidone k29/32	0	141.72	/	/
Auxiliary materials	Isopropanol	5521	4671.2	/	/
Auxiliary materials	Dichloromethane	2752	4934.9	/	/
Auxiliary materials	Film coating premix HEY5403747	600	486.9	/	/
Auxiliary materials	Titanium dioxide	50	51.74	/	/
Auxiliary materials	Carboxymethyl starch sodium / made in China	400	550	/	/
Auxiliary materials	Hypromellose / E5-LV	4000	4596.58	/	/
Auxiliary materials	Calcium carbonate	201	199	/	/
Auxiliary materials	Cross-linked PVPxl	0	598.98	/	/
Auxiliary materials	95% Ethanol	64020	64632	/	/
Auxiliary materials	Carmellose sodium (SH-SJJ-4000)	2075	4950	/	/
Auxiliary materials	Hypromellose K100M	34200	37775	/	/

Category of materials	Name of materials	Amount of materials purchased (kg)	Material usage (kg)	Recycling amount (kg)	Recycling rate (%)
Auxiliary materials	Microcrystalline cellulose PH302 Asahi Kasei	11975	11400	/	/
Auxiliary materials	99.5% Ethanol	2775.454	2667.454	/	/
Auxiliary materials	HFA-134a	2736.71	2736.71	/	/
Auxiliary materials	Maltodextrin	4575	8975	/	/
Auxiliary materials	Skim milk powder	48975	53225	/	/
Auxiliary materials	Oligofructose P95	4000	6000	/	/
Auxiliary materials	Fresh milk essence (powder)	90	340	/	/
Auxiliary materials	Glucose (water free)	975	4800	/	/
Auxiliary materials	Yeast extract	4985.5	7413.5	/	/
Auxiliary materials	Trypticase soy agar	8440	8682	/	/
Auxiliary materials	Soy peptone	950	2037.5	/	/
Auxiliary materials	Dipotassium phosphate	550	499	/	/
Auxiliary materials	Ammonium sulphate	700	743	/	/
Auxiliary materials	Ammonium sulphate	5000	8250	/	/
Auxiliary materials	Vitamin C Sodium	300	225	/	/
Packaging materials	Medicinal high-density polyethylene bottle for oral solid dosage 60ml/01B	6288.146	6619.596	/	/
Packaging materials	Medicinal aluminium foil for rabeprazole (SPH)	0	321.3	/	/
Packaging materials	Rabeprazole 250 double aluminium	1778	1338.32	/	/
Packaging materials	Lei Bei composite film (155mm) 10mg*7 pieces	47	1996.8	/	/
Packaging materials	Lei Bei composite film (155mm) 10mg*14 pieces	0	210.5	/	/
Packaging materials	Medicinal high-density polyethylene bottle for oral solid dosage 25ml	16158	16203	/	/
Packaging materials	Medicinal aluminum platinum for Digoxin 30 tablets	650.2	1355.1	/	/
Packaging materials	Polyvinyl chloride solid medicinal hard patch (digoxin)	9265	10224.2	/	/
Packaging materials	Medicinal high density polyethylene bottle for oral solid dosage 70ml/01B	640.32	574.08	/	/
Packaging materials	Medicinal high density polyethylene bottle for oral solid dosage 50ml/01B	11529	11711.4	/	/
Packaging materials	Bidobacterium triple active bacteria powder composite film	8981	16771.9	/	/

Company name: Shanghai Sine Tianping Pharmaceutical Co., Ltd.

Category of materials	Name of materials	Amount of materials purchased (kg)	Material usage (kg)	Recycling amount (kg)	Recycling rate (%)
Raw material	Sulfasalazine	60050	59400	/	/
Auxiliary materials	Pregelatinized starch	17075	14750	/	/
Auxiliary materials	Starch	31500	28100	/	/
Auxiliary materials	Magnesium stearate	3700	2660	/	/
Auxiliary materials	Carboxymethyl starch sodium	8600	6225	/	/
Packaging materials	Aluminum foil for 60 tablets/box of salazide	2484.2	2025	/	/
Packaging materials	PVC for 60 tablets/box of salazide	16620	12591	/	/
Packaging materials	Single box for 60 tablets/box of salazide	670450	667050	/	/
Packaging materials	Medicinal high-density polyethylene bottle for 60 tablets of salazide	1602180	1469890	/	/
Packaging materials	Single box for 60 tablets/bottle of salazide	1365800	1317500	/	/
Packaging materials	Medicinal high-density polyethylene bottle for 100 tablets of salazide	0	0	/	/
Packaging materials	Single box for 100 tablets/bottle of salazide	252300	226500	/	/

Company name: Shanghai SPH Sine Pharmaceutical Laboratories Co., Ltd., No. 2 Subsidiary

Category of materials	Name of materials	Amount of materials purchased (kg)	Material usage (kg)	Recycling amount (kg)	Recycling rate (%)
Raw material	Warfarin sodium	684	734.44	/	/
Raw material	Amiodarone hydrochloride	9967.535	10088.235	/	/
Auxiliary materials	Dextrin	4032	4032	/	/
Auxiliary materials	Pregelatinized starch	4032	4032	/	/
Auxiliary materials	Microcrystalline cellulose	9408	9408	/	/
Auxiliary materials	Corn starch	6690	6690	/	/
Auxiliary materials	Magnesium stearate	327.36	327.36	/	/
Packaging materials	Medicinal high-density polyethylene bottle	4417600 (piece)	4465600 (piece)	/	/
Packaging materials	Medicinal PVC	5523.8	7864.4	/	/
Packaging materials	Medicinal aluminum foil	917.5	1328.7	/	/

Company name: Shanghai Sine Jinzhu Pharmaceutical Co., Ltd.

Category of materials	Name of materials	Amount of materials purchased (kg)	Material usage (kg)	Recycling amount (kg)	Recycling rate (%)
Raw material	Salbutamol Sulfate	275	175	/	/
Auxiliary materials	Sodium	1500	126.311	/	/
Packaging materials	Low borosilicate glass ampoule	54164312	54164000	/	/
Packaging materials	Single box	132639300 (piece)	13269300 (piece)	/	/

Company name: Shanghai Fuda Pharmaceutical Co., Ltd.

Category of materials	Name of materials	Amount of materials purchased (kg)	Material usage (kg)	Recycling amount (kg)	Recycling rate (%)
Raw material	Sulfasalazine	18000	18000	/	/
Raw material	Spironolactone	3600	3600	/	/
Auxiliary materials	Corn starch	10861	10861	/	/
Auxiliary materials	Dextrin	720	720	/	/
Auxiliary materials	Low-substituted hydroxypropyl cellulose	1617	1617	/	/
Auxiliary materials	Magnesium stearate	395.28	395.28	/	/
Auxiliary materials	Carboxymethyl starch sodium	216	216	/	/
Auxiliary materials	Coated powder	3000	3000	/	/
Auxiliary materials	Calcium hydrogen phosphate	5385.6	5385.6	/	/
Packaging materials	Medicinal PVC	13200	13200	/	/
Packaging materials	Medicinal high-density polyethylene bottle	1800000 (piece)	1800000 (piece)	/	/
Packaging materials	Medicinal aluminum foil	1920	1920	/	/

Company name: Shanghai SPH No. 1 Biochemical and Pharmaceutical Co., Ltd.

Category of materials	Name of materials	Amount of materials purchased (kg)	Material usage (kg)	Recycling amount (kg)	Recycling rate (%)
Raw material	Small box for tanshinone IIA	3072	2830	/	/
Raw material	Pericarpium trichosanthis	118200	107250	/	/
Raw material	Chymotrypsinogen	2359.6	495.248	/	/
Raw material	Dibutyl cyclic phosphate adenosine calcium	336.844	514.905	/	/
Auxiliary materials	Glucose (for injection)	8000	7717.612	/	/
Auxiliary materials	Dichloromethane (industrial)	94450	83850	/	/
Auxiliary materials	Hydrochloric acid (CP)	25280	23000	/	/
Auxiliary materials	Ethanol (food grade)	739761	739761	/	/
Auxiliary materials	Mannitol injection (250ml: 50g)	1200	1640	/	/
Auxiliary materials	Dextran 20	0	117	/	/
Packaging materials	Low borosilicate glass ampoule (2ml)	148496000 (piece)	143448000 (piece)	/	/
Packaging materials	Low borosilicate glass ampoule (5ml)	6201360 (piece)	5864000 (piece)	/	/
Packaging materials	Low borosilicate glass control injection bottle (2ml)	25885720 (piece)	33370270 (piece)	/	/
Packaging materials	Freeze-dried halogenated butyl rubber plug for injection (Φ13)	27639000 (piece)	35107000 (piece)	/	/
Packaging materials	Small box for tanshinone IIA sodium sulfonate injection (2ml: 10mg)	20228800 (piece)	20075100 (piece)	/	/
Packaging materials	Small box for dibutyl cyclic phosphate adenosine calcium for injection (20mg)	9821300 (piece)	9682900 (piece)	/	/
Packaging materials	Small box for chymotrypsinogen for injection (4000u)	5307200 (piece)	5158700 (piece)	/	/
Packaging materials	Small box for pericarpium trichosanthis injection (4ml)	4139100 (piece)	4139100 (piece)	/	/

Company name: Shanghai Leiyunshang Pharmaceutical Co., Ltd.

Category of materials	Name of materials	Amount of materials purchased (kg)	Material usage (kg)	Recycling amount (kg)	Recycling rate (%)
Raw material	Salvia miltiorrhiza	772319.05	778816.53	/	/
Raw material	Patchouli oil	360	276.13	/	/
Auxiliary materials	Corn starch	47000	42817.88	/	/
Auxiliary materials	Salvia miltiorrhiza tablet coating premix	12000	11684.58	/	/
Auxiliary materials	Polyethylene glycol 6000	2880	2272.33	/	/
Packaging materials	1*1 color box for 100 salvia miltiorrhiza tablets	552356 (piece)	522379 (piece)	/	/
Packaging materials	60ml medicinal high density polyethylene bottle	297780 (piece)	656510 (piece)	/	/
Packaging materials	1*1 color box for 60 tablets of Huodan Diwan	928586 (piece)	805443 (piece)	/	/
Packaging materials	1*1 color box for 60 tablets of Huodan Diwan	1035000 (piece)	806640 (piece)	/	/
Packaging materials	Color box for 10 tablets*6 tubes/box of Liushenwan (artificial)	2292529 (piece)	2363089 (piece)	/	/
Packaging materials	Bottle with cover for 10 tablets/tube of Liushenwan	23460000 (piece)	22638280 (piece)	/	/

Company name: Shanghai Leiyunshang Fengbang Pharmaceutical Co., Ltd.

Category of materials	Name of materials	Amount of materials purchased (kg)	Material usage (kg)	Recycling amount (kg)	Recycling rate (%)
Raw material	Hypoglaucous Collett Yam Rhizome	9852	9360	/	/
Raw material	Liquorice Root	4935	4680	/	/
Raw material	Combined Spicebush Root	2168	2340	/	/
Auxiliary materials	Talcum powder	9000	8460	/	/
Auxiliary materials	Sucrose	2000	1925	/	/
Packaging materials	Medicinal high-density polyethylene	5642000 (set)	3895644 (set)	/	/
Packaging materials	Color box	807562 (piece)	397190 (piece)	/	/

Company name: Shanghai SPH Xingling Sci. & Tech. Pharmaceutical Co., Ltd.

Category of materials	Name of materials	Amount of materials purchased (kg)	Material usage (kg)	Recycling amount (kg)	Recycling rate (%)
Raw material	Ginkgo leaf	614400	614400	/	/
Raw material	Ginkgo ketoester	656.05	656.05	/	/
Auxiliary materials	Ethanol	342400	345450	/	/
Auxiliary materials	Macroporous resin	14400	9600	/	/
Auxiliary materials	Polyamide resin	4800	4800	/	/
Auxiliary materials	Cyclohexane	18600	18150	/	/
Auxiliary materials	Corn starch	800	1309.22	/	/
Auxiliary materials	Microcrystalline cellulose	150	235.83	/	/
Auxiliary materials	Carboxymethyl starch sodium	125	177.78	/	/
Auxiliary materials	Film coating premix	100	224.46	/	/
Packaging materials	Ginkgo ketoester paper bucket	2000 (piece)	1634 (piece)	/	/
Packaging materials	20ml Medicinal high density polyethylene bottle	1120900 (piece)	1105130 (piece)	/	/
Packaging materials	Small box for ginkgo ketoester tablets (12 tablets)	1120200 (piece)	1164160 (piece)	/	/
Packaging materials	Small box for ginkgo ketoester tablets (12 tablets)	111285 (piece)	116401 (piece)	/	/

Company name: Changzhou Pharmaceutical Factory Co., Ltd.

Category of materials	Name of materials	Amount of materials purchased (kg)	Material usage (kg)	Recycling amount (kg)	Recycling rate (%)
Raw material	Reserpine	20	21	/	/
Raw material	Dihydrazide sulphate	3125	3870	/	/
Auxiliary materials	Starch	51000	50000	/	/
Packaging materials	30ml Medicinal high density polyethylene bottle	6478400 (piece)	6500000 (piece)	/	/
Packaging materials	15ml Medicinal high density polyethylene bottle	20976400 (piece)	21000000 (piece)	/	/
Packaging materials	Small box	25372720 (piece)	25500000 (piece)	/	/

Company name: Nantong Changyou Pharmaceutical Technology Co., Ltd.

Category of materials	Name of materials	Amount of materials purchased (kg)	Material usage (kg)	Recycling amount (kg)	Recycling rate (%)
Raw material	(3R)-3-tertbuty ldimethylglyoxylglutarate Rmandelate	24575	26020	/	/
Auxiliary materials	Methanol	349960	351980	228787	65.00%
Auxiliary materials	Triethylamine	44200	41540	/	/
Auxiliary materials	Toluene	104180	104180	88553	85.00%
Packaging materials	Medicinal transparent polyethylene bags	78000 (piece)	74000 (piece)	/	/

Company name: SPH New Asia Pharmaceutical Co., Ltd.

Category of materials	Name of materials	Amount of materials purchased (kg)	Material usage (kg)	Recycling amount (kg)	Recycling rate (%)
Raw material	Ceftriaxone	54566.28	54000	/	/
Raw material	Meropenem	849.41	840	/	/
Raw material	Cefotiam Hydrochloride	26295.09	26200	/	/
Raw material	Ceftazidime	7915.44	7915.44	/	/
Raw material	Praxilene Sodium Sulbactam	10000	10000	/	/
Raw material	Cefamandole Nafate	5899.02	5800	/	/
Raw material	Amphotericin B	8.88	8	/	/
Raw material	Cefixime	/	/	/	/
Auxiliary materials	Anhydrous sodium carbonate	7330	7330	/	/
Auxiliary materials	Sodium deoxycholate	20	20	/	/
Auxiliary materials	Lecithin	150	150	/	/
Auxiliary materials	Pregelatinized starch	/	/	/	/
Auxiliary materials	Talcum powder	/	/	/	/
Packaging materials	10ml molded bottles	138879000 (piece)	127240130 (piece)	/	/
Packaging materials	25ml molded bottles	14333600 (piece)	11595220 (piece)	/	/
Packaging materials	30ml molded bottles	10501800 (piece)	9716304 (piece)	/	/
Packaging materials	25ml glass vials	1287495 (piece)	594000 (piece)	/	/
Packaging materials	Coated butyl rubber plug	89420000 (piece)	68676100 (piece)	/	/
Packaging materials	Butyl rubber plug	130580000 (piece)	104502960 (piece)	/	/
Packaging materials	Freeze-dried butyl rubber plug	13066000 (piece)	7495500 (piece)	/	/

Company name: Shanghai New Asiatic Pharmaceutical Minhang Co., Ltd.

Category of materials	Name of materials	Amount of materials purchased (kg)	Material usage (kg)	Recycling amount (kg)	Recycling rate (%)
Raw material	Benazepril hydrochloride	1240.49	1240.49	/	/
Raw material	Amoxicillin potassium clavulanate (7:1)	8977.21	7795.45	/	/
Auxiliary materials	Microcrystalline cellulose (import PH102)	15960	15960	/	/
Auxiliary materials	Lactose (import 200M)	25500	25500	/	/
Auxiliary materials	Low-substituted hydroxypropyl cellulose	2400	2400	/	/
Auxiliary materials	Hypromellose	1600	1600	/	/
Auxiliary materials	Ethanol (water free)	5850	5850	/	/
Auxiliary materials	Ethanol	43000	43000	/	/
Auxiliary materials	Coated powder (OY-22967)	1100	1100	/	/
Auxiliary materials	Carboxymethyl starch sodium	10175	10175	/	/
Auxiliary materials	Magnesium stearate	2950	2950	/	/
Auxiliary materials	Croscarmellose sodium	2150	2150	/	/
Auxiliary materials	Silicon dioxide (solid phase)	1600	1600	/	/
Packaging materials	Molding material 250	35081.5	35081.5	/	/
Packaging materials	Medicinal aluminum foil for benazepril hydrochloride tablets	5222	5222	/	/
Packaging materials	Medicinal composite _Im for amoxicillin potassium clavulanate dispersible tablets (0.5g)	6314.5	5871.08	/	/
Packaging materials	Single box for amoxicillin potassium clavulanate dispersible tablets (0.5g)	1689300 (piece)	1612920 (piece)	/	/

Company name: Shanghai SPH Zhongxi Pharmaceutical Co., Ltd.

Category of materials	Name of materials	Amount of materials purchased (kg)	Material usage (kg)	Recycling amount (kg)	Recycling rate (%)
Raw material	Hydroxychloroquine sulphate	60806.1	63974.366	/	/
Raw material	Aripiprazole	510.306	317.48	/	/
Raw material	Diloxetine hydrochloride	2160.7	2236.056	/	/
Auxiliary materials	Corn starch	38500	35752.361	/	/
Auxiliary materials	Magnesium stearate	15300	1629.581	/	/
Auxiliary materials	Talcum powder	15000	12951.375	/	/
Auxiliary materials	Lactose	16095	12343.031	/	/
Packaging materials	Small box for hydroxychloroquine sulfate tablets	39245700 (piece)	40558283 (piece)	/	/
Packaging materials	Medicinal aluminium foil for hydroxychloroquine sulfate tablets (0.1g)	17383.3	17586.7	/	/
Packaging materials	Polyester / aluminium / polyethylene medicinal composite film and bag (Aripiprazole tablets)	4803	3374.34	/	/
Packaging materials	Small box for Aripiprazole tablets	1526650 (piece)	1721192 (piece)	/	/
Packaging materials	Medicinal aluminium foil for duloxetine hydrochloride enteric-coated tablets (20mg)	3814	3236.7	/	/
Packaging materials	Small box for duloxetine hydrochloride enteric-coated tablets	4588980 (piece)	4317709 (piece)	/	/

Company name: Techpool Bio-pharma Co., Ltd.

Category of materials	Name of materials	Amount of materials purchased (kg)	Material usage (kg)	Recycling amount (kg)	Recycling rate (%)
Raw material	Ulinastatin solution	5915.625	6554.011	/	/
Raw material	Urinary Kallidinogenas	24.607	23.187	/	/
Auxiliary materials	Mannitol injection	1280.25	1373.25	/	/
Auxiliary materials	Sodium hydroxide	2066	1997.3	/	/
Auxiliary materials	Acetic acid	3475	3545.04	/	/
Auxiliary materials	Sodium acetate	2215	2375.226	/	/
Auxiliary materials	Ammonium sulphate	59850	59817.152	/	/
Auxiliary materials	Phosphoric acid	534	596	/	/
Auxiliary materials	Sodium hydroxide	2066	1997.3	/	/
Auxiliary materials	Phosphoric acid	534	596	/	/
Auxiliary materials	Phosphoric acid	534	596	/	/
Auxiliary materials	Acetic acid	3475	3545.04	/	/
Auxiliary materials	Sodium acetate	2215	2375.226	/	/
Auxiliary materials	Polysorbate20	829	739.5	/	/
Auxiliary materials	Mannitol	1030.1	935.435	/	/
Auxiliary materials	EDTA	631	592.04	/	/
Auxiliary materials	95% Ethanol	4242.5	4600	/	/
Auxiliary materials	Zinc chloride solution	3000	2564.2	/	/
Packaging materials	Aluminium composite cover	10863000 (piece)	12048531 (piece)	/	/
Packaging materials	Aluminium composite cove	529800 (piece)	557110 (piece)	/	/
Packaging materials	Aluminium composite cove	1927750 (piece)	2049616 (piece)	/	/
Packaging materials	Rubber plug	12105100 (piece)	11835000 (piece)	/	/
Packaging materials	Rubber plug	2218998 (piece)	2130965 (piece)	/	/
Packaging materials	Control injection bottle	1950825 (piece)	2043849 (piece)	/	/
Packaging materials	Control injection bottle	11846479 (piece)	12475683 (piece)	/	/
Packaging materials	Liquid medicinal polypropylene bottle	40628 (piece)	31835 (piece)	/	/
Packaging materials	Carton for Ulinastatin for Injection	107879 (piece)	110297 (piece)	/	/
Packaging materials	Carton for Ulinastatin for Injection	1202222 (piece)	1175929 (piece)	/	/
Packaging materials	Mini-box for Urinary Kallidinogenas for Injection	1622224 (piece)	1592490 (piece)	/	/
Packaging materials	Medium box for Urinary Kallidinogenas for Injection	169092 (piece)	164266 (piece)	/	/

Company name: Chiatai Qingchunbao Pharmaceutical Co., Ltd.

Category of materials	Name of materials	Amount of materials purchased (kg)	Material usage (kg)	Recycling amount (kg)	Recycling rate (%)
Raw material	Red ginseng	28000	24550	0	/
Raw material	Radix	28000	24550	0	/
Raw material	Salvia	428000	407520	0	/
Auxiliary materials	Activated carbon	3000	2676	0	/
Auxiliary materials	Polysorbate 80	1800	1655	0	/
Auxiliary materials	Sodium chloride	2400	2318	0	/
Packaging materials	50ml Infusion bottle (Type B)	5400000 (piece)	4910000 (piece)	0	/
Packaging materials	10ml Ampoule bottle	28000000 (piece)	27168000 (piece)	0	/
Packaging materials	Small box for Shenmai injection (50)	4876000 (piece)	4910000 (piece)	0	/
Packaging materials	Small box for Salvia miltiorrhiza injection (10ml*6)	4786000 (piece)	4528000 (piece)	0	/

Company name: SPH Qingdao Growful Pharmaceutical Co., Ltd.

Category of materials	Name of materials	Amount of materials purchased (kg)	Material usage (kg)	Recycling amount (kg)	Recycling rate (%)
Raw material	Common Bletilla Tuber	12179	6727	/	/
Raw material	Cuttlebone Sepium	10992	21881.8	/	/
Raw material	Yanhusuo Tuber	45108	67166.4	/	/
Raw material	Pilose Asiabell Root	62496	54046	/	/
Raw material	Chinese goldthread rhizome	28620	28620	/	/
Raw material	Ginseng	10500	12850.8	/	/
Raw material	Ferric chloride	173288	221819	/	/
Raw material	Syrup	232250	238123.16	/	/
Raw material	Sodium hydroxide	133175	134525	/	/
Auxiliary materials	Coating agent	2300	1753.45	/	/
Auxiliary materials	Starch	10000	6377.35	/	/
Auxiliary materials	Opadry 80W	6000	5719.1	/	/
Auxiliary materials	Magnesium stearate	2000	1300	/	/
Auxiliary materials	Talcum powder	2000	2050	/	/
Auxiliary materials	Ethanol	538930	264000	2211000	89.30%
Packaging materials	Small box (90 pieces of Kuaiwei Tablets)	1304185 (piece)	1383614 (piece)	/	/
Packaging materials	Medicinal high-density polyethylene bottle	3410200 (piece)	3213198 (piece)	/	/
Packaging materials	Small box (90 pieces of Yangxinshi Tablets)	1249200 (piece)	1230700 (piece)	/	/
Packaging materials	Medicinal PVC (175 Transparent)	44803 (piece)	43401 (piece)	/	/
Packaging materials	Medicinal composite film	13049.5	17355.5	/	/
Packaging materials	Small box (Polyferose Capsules)	21740061 (piece)	19888171 (piece)	/	/
Packaging materials	Medicinal PVC (180 Orange yellow)	14150(180)\ 37973(280)	19928(180)+ 29141(280)	/	/
Packaging materials	Medicinal composite film	37073.6	37360.6	/	/

Company name: Liaoning SPH Herbapex Pharmaceutical (Group) Co., Ltd.

Category of materials	Name of materials	Amount of materials purchased (kg)	Material usage (kg)	Recycling amount (kg)	Recycling rate (%)
Raw material	Figwort Root	59393	59740	/	/
Raw material	Sanchi	61100	57000	/	/
Raw material	Safflower	131735	131213	/	/
Raw material	Rehmannia root	177831	165734	/	/
Raw material	Asper-like Teasel Root	106169	124039	/	/
Raw material	Common Swisscentaury Root	32925	32456	/	/
Raw material	Chinese Angelica	28347	28958	/	/
Raw material	Milkvetch Root	8000	5141	/	/
Raw material	Malaytea Scurfpea Fruit	5150	9141	/	/
Raw material	Indian Buead Tuckahoe	21846	19088	/	/
Raw material	Common Yam Rhizome	17265	20541	/	/
Raw material	Prepared Milkvetch Root	36321	32480	/	/
Auxiliary materials	Sucrose	170000	177111	/	/
Auxiliary materials	Talcum powder	102975	117483.8	/	/
Auxiliary materials	Coated powder	8925	8580	/	/
Auxiliary materials	Dextrin	40000	36857.3	/	/
Auxiliary materials	Blood stasis capsule shells	18099	17230.17	/	/
Packaging materials	Medicinal PVC	160320	174751	/	/
Packaging materials	Medicinal aluminum foil	21284.5	19175.8	/	/
Packaging materials	Medicinal high-density polyethylene bottle	5027310 (piece)	6459700 (piece)	/	/
Packaging materials	Composite film	12363.4	9571.4	/	/
Packaging materials	Small box for Rupixiao Tablet	5798498 (piece)	7705540 (piece)	/	/
Packaging materials	Small box for Qiangshen Tablet	1309090 (piece)	2598063 (piece)	/	/
Packaging materials	Small box for Tongru Granule	753460 (piece)	619644 (piece)	/	/
Packaging materials	Small box for Blood Stasis Capsule	3153050 (piece)	2853910 (piece)	/	/
Packaging materials	Small box for Wangbi Tablet	9559320 (piece)	11591577 (piece)	/	/

Company name: Hangzhou Huqingyutang Pharmaceutical Co., Ltd.

Category of materials	Name of materials	Amount of materials purchased (kg)	Material usage (kg)	Recycling amount (kg)	Recycling rate (%)
Raw material	Red ginseng	102000	84000	/	/
Raw material	Isodon amethystoides	1700000	1600000	/	/
Raw material	Submature bitter orange	180000	160000	/	/
Raw material	Loquat leaf	101390	100000	/	/
Raw material	Stemona root	27700	21600	/	/
Raw material	Chinese goldthread rhizome	200	135	/	/
Raw material	Baikal skullcap root	200	135	/	/
Auxiliary materials	Starch	15000	22800	/	/
Auxiliary materials	Magnesium stearate	1020	1020	/	/
Auxiliary materials	Sucrose	836000	860000	/	/
Auxiliary materials	Citric acid	600	720	/	/
Auxiliary materials	Refined honey	2000	1400	/	/
Packaging materials	Small box	1650000 (piece)	16439190 (piece)	/	/
Packaging materials	Medicinal high-density polyethylene bottle	1900000 (piece)	1840000 (piece)	/	/
Packaging materials	Medicinal polyester bottle	12000000 (piece)	11640000 (piece)	/	/

Company name: Shanghai Zhonghua Pharmaceutical Co., Ltd.

Category of materials	Name of materials	Amount of materials purchased (kg)	Material usage (kg)	Recycling amount (kg)	Recycling rate (%)
Raw material	Menthol	36000	26596.08	/	/
Raw material	Camphor (synthetic)	34500	24153.12	/	/
Raw material	Dementholized peppermint oil	21600	14729.4	/	/
Raw material	Camphorated oil	0	4029.9	/	/
Raw material	Eucalyptus oil	21420	15398.82	/	/
Auxiliary materials	Yellow Vaseline	31520	25089.47	/	/
Auxiliary materials	White vaseline	25600	7778.4	/	/
Auxiliary materials	Eugenol	0	252.72	/	/
Auxiliary materials	Methyl salicylate	3000	2190.24	/	/
Packaging materials	3g OTC cooling ointment tin box	38134800 (piece)	39932791 (piece)	/	/
Packaging materials	3g cooling ointment tape	3110 (roll)	2804.39 (roll)	/	/
Packaging materials	3g cooling ointment tape	450000 (piece)	400773 (piece)	/	/
Packaging materials	10g OTC cooling ointment (white) tin box	3451500 (piece)	2627274 (piece)	/	/
Packaging materials	10g domestically sold cooling ointment (white) small box	3229200 (piece)	2622254 (piece)	/	/
Packaging materials	6ml essential balm small box 2018	1725600 (piece)	1473424 (piece)	/	/
Packaging materials	6ml essential balm cylindrical glass bottle	1809000 (piece)	1487360 (piece)	/	/
Packaging materials	essential balm bottle cap 2018	2284000 (piece)	1487360 (piece)	/	/

Company name: Xiamen Traditional Chinese Medicine Co., Ltd.

Category of materials	Name of materials	Amount of materials purchased (kg)	Material usage (kg)	Recycling amount (kg)	Recycling rate (%)
Raw material	Sanchi	62479	53203	/	/
Raw material	Artificial Bezoar	5000	3540.234	/	/
Raw material	Artificial Forest Musk Abelmosk	162	160.337	/	/
Auxiliary materials	Corn starch	10000	12271.8	/	/
Auxiliary materials	Magnesium stearate	4090	4440.68	/	/
Packaging materials	Medicinal aluminium foil for Xin Huang Tablet (234mm)	8004.4	8436.5	/	/
Packaging materials	Composite film for Xin Huang Tablet [145*150mm (36 pieces)]	9161.3	8913.65	/	/
Packaging materials	Medicinal aluminium foil for Pill of Eight Treasures capsules (170mm)	1170.7	2036.2	/	/

Company name: SPH Dong Ying (Jiangsu) Pharmaceutical Co., Ltd.

Category of materials	Name of materials	Amount of materials purchased (kg)	Material usage (kg)	Recycling amount (kg)	Recycling rate (%)
Raw material	Cisatracurium Besilate	52.5523	67.06441	/	/
Raw material	Perindopril tert-butylamine	33.595	55.06616	/	/
Auxiliary materials	Mannitol	1000	837.58489	/	/
Auxiliary materials	Medicinal charcoal	10	10.61731	/	/
Auxiliary materials	Lactose	400	370.18063	/	/
Auxiliary materials	Magnesium stearate	15	19.35877	/	/
Packaging materials	Freeze-dried sterile powder for injection with chlorinated butyl rubber plug	5999000 (piece)	8994700 (piece)	/	/
Packaging materials	Aluminium composite cover for antibiotic bottle	7500000 (piece)	7554500 (piece)	/	/
Packaging materials	Polyvinyl chloride solid medicinal PVC sheet	2980	4059.64236	/	/
Packaging materials	Perindopril tert-butylamine tablets	466.2	656.48734	/	/

Company name: SPH Changzhou Kony Pharmaceutical Co., Ltd

Category of materials	Name of materials	Amount of materials purchased (kg)	Material usage (kg)	Recycling amount (kg)	Recycling rate (%)
Raw material	Acyclovir crude	24600	33400	/	/
Raw material	N-benzyloxycarbonyl-L-valine	65322.2	60120	/	/
Raw material	Dicyclohexylcarbodiimide	49150	50100	/	/
Raw material	N, N-dimethylformamide N	207920	584500	501118	85.7
Raw material	Methanol	1761740	855040	434880	50.9
Packaging materials	Medicinal low-density polyethylene bags	19000 (piece)	9500 (piece)	/	/
Packaging materials	40*50 fiber can	5015 (piece)	2075 (piece)	/	/

7 Significant benefits brought by normalized green offices

Video conference

From January to December of 2019, the Company held 227 video conferences in total. The total duration of the video conferences was 539 hours and the average duration of the video conferences was 2.33 hours. Supposing that an average travelling expense of RMB3,000/ time is provided for eight attendees outside Shanghai, the Company saved travel costs of more than RMB5.44 million in 2018.

Collaborative office management OA

Up to now, the Company's OA has over 40,000 users, initiated over 3.98 million processes, and uploaded more than 3.57 million files. If each file has 10 pages on average and each electronic file is printed twice for distribution, it is equivalent to cumulative savings of more than 71.4 million pieces of paper.

Our goal

- Dedicated to the fight against the pandemic, go all out to ensure supply

Our measures

- Guarantee the supply of anti-pandemic materials
- Ramp up the production of pandemic prevention drugs
- Accelerate the R&D of anti-pandemic drugs
- Actively donate anti-pandemic materials

CHAPTER 6

Shanghai Pharmaceutical Took Actions to Combat the Epidemic

Dedicated to the fight against the pandemic, go all out to ensure supply

Amid the COVID-19, Shanghai Pharmaceuticals carefully implemented the spirit of the relevant instructions of the Central Committee of the Communist Party of China, the Shanghai Municipal Party Committee and the Shanghai Municipal Government and established an emergency working group consisting of group leaders and relevant enterprise leaders on January 23 to coordinate the pandemic prevention and control of the whole Group and solve major issues. It required to take the fight against the pandemic as the most important work of the Group, serve the people whole-heartedly and go all out to complete relevant works with the corporate social responsibility and sense of mission.

1 Guarantee the supply of anti-pandemic materials

Shanghai Pharmaceuticals and SPH KeYuan subordinated to Shanghai Pharma, by virtue of their advantages in materials procurement, logistic distribution, pharmacy retails, hospital supply chain services, had fully mobilized, responded in a timely manner and made every effort to ensure the supply of anti-pandemic materials.

Shanghai Pharma predicted the expansion of the pandemic as early as the afternoon of January 20 and immediately launched an emergency response plan. It immediately established a pandemic response leading group, established a rapid response mechanism for the supply of drugs/materials for the entire pandemic prevention system. The Company established a 24-hour special line for pandemic prevention and control drugs/materials supply and announced it to the Shanghai Municipal Health Bureau, Shanghai Municipal Food and Drug Administration, and various medical units and was well-prepared for emergencies at any time. The Company urgently deployed nearly 400 employees from other provinces to stayed in

Shanghai to ensure the distribution of materials during the Spring Festival. Meanwhile, as required by the reserve catalog of Shanghai Municipal Health Commission and the pandemic needs, it made inventory, supplemented stock and locked emergency stock in the first time, reserving over 10,000 reserve drugs of 28 generic names, 61 specifications and urgently purchased 600,000 masks of all kinds to get prepared for the emergent invoking of relevant materials of the government and make every effort to guarantee the demands of medical institutions at all levels and front lines.

Shanghai Pharma was confirmed as the base for guaranteeing medical supplies for the fight against the COVID-19 and the anti-pandemic medical supplies procurement platform in Shanghai. According to the unified deployment and command of the municipal government, the Company worked around the clock to successfully complete the tasks of transporting, allocating, and distributing emergent anti-pandemic materials at home and abroad. SPH KeYuan was confirmed as an emergency medical supplies procurement reserve enterprise for two-tier pandemic prevention and control in Hubei Province and Wuhan City and undertook emergency support tasks including Huoshenshan Hospital, Leishenshan Hospital and mobile cabin hospitals.

Meanwhile, to satisfy the demands of first-line anti-pandemic materials, Shanghai Pharma and SPH KeYuan reacted fast and actively implemented global procurement.

Shanghai Pharma and Halyard initiated strategic cooperation to guarantee the follow-up supply of anti-pandemic medical supplies in Shanghai; SPH KeYuan fully coordinated with air transportation and trade clearance to ensure the smooth arrival of protective materials.

Fahrenheit Pharmacy affiliated to Shanghai Pharma and pharmacies affiliated to SPH KeYuan and other retail stores subordinated to Shanghai Pharma all promised that all pandemic-related drugs/materials will never have price hike amid the pandemic and those stores are operated 24 hours alternately. All of our staff stick to the front-line posts without fears to provide professional medication consultation services and protect the health of the people.

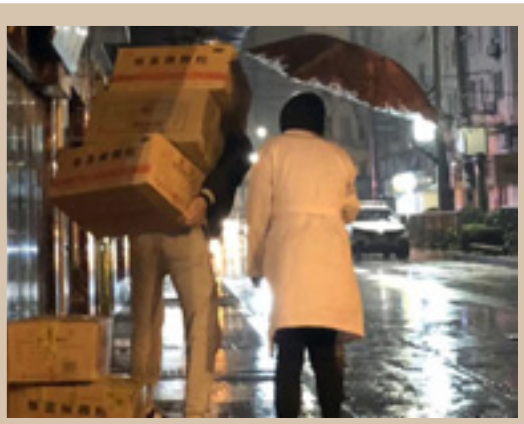
Shanghai Pharma and SPH KeYuan joined hands and went all out to support Shanghai Medical Team that provide assistance to Wuhan. A total of nearly 10 tonnes of various medical supplies were transferred for the medical team. Moreover, to satisfy the supply of medical devices and materials in urgent needs in Wuhan, Shanghai Pharma implemented global procurement and successfully completed suppliers liaison, purchase intention confirmation, order contract signing and emergency loading in less than 60 hours and successfully delivered supplies to Wuhan. Hubei branches of SPH KeYuan and local enterprises worked together to transport the supplies to relevant hospitals in Wuhan, which reflected the speed and responsibility of SPH.

01

Shanghai Pharma went all out to prepare and deliver materials to support hospitals, pharmacies and other anti-pandemic positions

02

SPH KeYuan always guarantees the supply of drugs and protective materials and provides convenient drug purchase services for the public



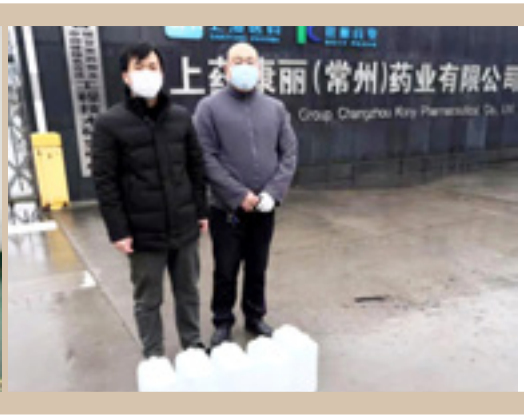
03

Retail stores affiliated to Shanghai Pharma stick to their front-line posts against the pandemic

2 Ramp up the production of pandemic prevention drugs

The manufacturers affiliated to Shanghai Pharmaceuticals complied and made statistics on the varieties of clinical drugs available for combating the pandemic and established pandemic prevention drug list, including ten varieties such as anti-virus, antibiosis, glucocorticoid, antipyretic and analgesics, expectorant, antiasthmatic, immune regulation, preventive drugs, Chinese patent medicine, Traditional Chinese Medicine decoction pieces, etc. in light of the key pandemic prevention monitoring varieties of the Ministry of Industry and Information Technology and the COVID-19 diagnosis and treatment program. The products listed in the anti-pandemic drug list of the Ministry of Industry and Information Technology were dynamically monitored and various plans were prepared in advance to ensure 24-hour supply.

As required by the Ministry of Industry and Information Technology, the Resochin of SPH Zhongxi Sunve was included in the central medical reserve and the Company packaged and shipped 25,380 boxes of Resochin Tablets/ Primaquine Phosphate Tablets in stock to the Ministry of Science and Technology free of charge to ensure the smooth development of the research work; the Company resumed work and production in advance and the workshop implemented 24 hours of uninterrupted production. As a result, it only took 3 weeks to complete the production task of 2.8 million tablets, which were distributed to 80 medical institutions in Hubei by SPH KeYuan Hubei branches. According to the unified deployment of the Shanghai Municipal Commission of Economy and Informatization, the radix isatidis infusion and Jingyin mixture of Shanghai Lei Yun Shang Pharmaceutical Co., Ltd. were included in the emergency requisitioned materials. The Company went all out to cooperate with raw materials and personnel deployment and production arrangement to ensure market supply of pandemic prevention and control materials. During the Spring Festival, SPH Sine and SPH Growful worked overtime to ensure the production of key anti-pandemic drugs such as bifico, ribavirin and Kugan particles.



04

Subsidiaries took an active part in pandemic prevention and control and prepared for the production of relevant drugs

06

Subsidiary companies all resumed work in advance to guarantee the supply of the pandemic prevention and control drugs

05

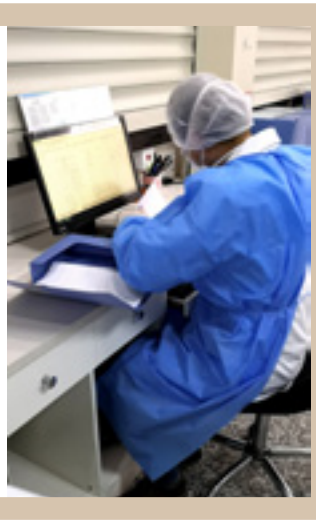
Quickly resumed work and production and completed the emergent production of 2.8 million tablets of Resochin

3 Accelerate the R&D of anti-pandemic drugs

SPH R&D team reached out to the CDC actively and cooperated with the Shanghai Institute of Materia Medica of the Chinese Academy of Sciences to deliver 246 samples including research compounds and marketed drugs for active screening against the COVID-19. Meanwhile, it cooperated with the Ministry of Science and Technology and the Academy of Military Sciences to launch the research on the Resochin tablets and injections and other COVID-19 indications. It actively cooperated with the clinical research work of multiple centers nationwide on hydroxychloroquine sulfate tablets against the COVID-19 initiated by scientific research institutions and clinical experts.

07

SPH R&D team actively promoted anti-pandemic drugs R&D work



4 Actively donate anti-pandemic materials

Meanwhile, Shanghai Pharmaceuticals donated medical devices including operating tables and ventilators to major hospitals in Hubei and Wuhan and donated anti-pandemic drugs including Resochin tablets, Liu Shen Wan, chymotrypsin, polymyxin, Angong Niuhuang Wan, Babaodan, donated anti-pandemic materials including masks, protective clothing, disinfectants and tried their best to fight against the pandemic by all means.

08

Enterprises donate anti-pandemic materials to support Wuhan

Our Responsibility, Our Commitment (2019)

Let people take medicine of high quality and make the medicine affordable:

Shanghai Pharmaceuticals is patient-oriented, adheres to innovation, efficacy, safety and compliance, closely integrates medical development and clinical needs, and is open to cooperation and works together with partners; We continue to seek new ways and methods for the diagnosis and treatment of major diseases and chronic diseases, provide safe and effective branded therapeutic drugs, continue to increase investment in R&D, pave the way for innovative development in the pharmaceutical industry, and accelerate the development of major innovative drugs, gene therapy and cell therapy products, and microecological products. We will continue to strive for excellence and continuously improve the energy level of production technology and equipment, production management and quality management with world leading standards to ensure the quality and safety of drugs.

Let people take medicine with ease

Shanghai Pharmaceuticals has basically established the nation's third drug and medical device distribution service platform and innovation platform, and has a modern drug distribution system that covers 31 provinces and cities in China and has a high level of intensification and informatization. In the future, through (1) the innovative drug distribution approach, we will continue to provide services for the reform of medical institutions, and simplify the process of drug purchase by patients and improve service experience by means of leading supply chain management, information technology, and logistics technology; (2) upgrading global resource allocation, we will build a new structure of integrated services with large channels, expand international perspectives, and enhance the overall capabilities of one-stop service, integrated cooperation, and seamless management through cooperation in technology and services, and continue to introduce the world's most valuable innovative therapeutic drugs with optimal efficiency through the establishment of an internationally competitive import variety operating platform; (3) accelerating the development of new online and offline retail models, and building a "backtracking cloud" service platform, focusing on the data of the whole process of production, distribution and use, we establish an electronic traceability and regulatory public platform covering drugs, equipment and other goods covering multiple regions to ensure the safe use of drugs of patients, striving to build a modern healthcare service provider driven by services and technology.

Ensure that special needs of special groups are met

Shanghai Pharmaceuticals, as the group- based industrial company with the most abundant pharmaceutical approvals in China, will continue to ensure the normal supply of low-cost drugs in shortage, and continue to bring good news to special groups and patients with rare diseases.

Care for the community and help build a healthy China

Shanghai Pharmaceuticals pays close attention to the backward medical conditions in remote mountain areas of China and responds positively to the call from the government about healthy China and targeted poverty alleviation. We have invested RMB10 million to launch the establishment of a special fund for the "Shanghai Medical Care Guardian Plan" to build hope clinics in Yunnan, Guizhou and other mountain areas, train local village doctors, and help children with congenital heart diseases in Yunnan through free medical consultation and follow-up surgery. Moreover, in active response to the call for the whole party and the whole society to participate in poverty alleviation of Party Central Committee, Shanghai Pharmaceuticals' subsidiaries were all engaged in targeted poverty alleviation activities such as "one hundred enterprises helping one hundred villages", "ten thousand enterprises helping ten thousand villages". Through funds support, materials donation, improvement of infrastructure in villages, provision of information assistance and technical training on project management and industrial development and education assistance and other forms, they realized village-enterprise paired assistance in Yunnan and Hebei. Shanghai Pharmaceuticals hopes to make full use of its expertise to improve local people's health.

Sound governance and operations ensure the interests of investors

Shanghai Pharmaceuticals is an A+H listed company. It also takes into account the requirements of laws and regulations in China and Hong Kong and maintains sound governance and operations. The management of the Company performs its duties diligently and takes the initiative to create more values for shareholders.

Respect the value of employees and create opportunities and platforms for employee development

Shanghai Pharmaceuticals constantly integrates internal and external recruitment channels and resources, enhances market allocation, and attracts various types of talents; pays high attention to the growth and development of employees, and provides employees with systematic learning development paths and training courses to empower employees; adheres to the concept of remuneration based on position, ability, performance and market, improves employee remuneration system, performance assessment system and benefit system, so that employees can share the development results.

CHAPTER 7

Our Responsibility, Our Commitment

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