

# 信用评级公告

Joint [2022] 7279.

联合资信评估股份有限公司通过对中国化工集团有限公司主体及其相关债券的信用状况进行跟踪分析和评估，确定维持中国化工集团有限公司主体长期信用等级为 AAA，并维持“19 中化工 MTN003”“19 Ltd. and maintains the long-term credit rating of "19 ChemChina MTN003", "19 ChemChina MTN005", "20 ChemChina MTN001", "20 ChemChina

MTN002", "20 CCM MTN003", "20 CCM MTN004A", "20 CCM MTN004B", "20 CCM MTN006", "20 CCM MTN008", "20 CCM MTN009A", "20 CCM MTN009B", "20 CCM MTN011".

The credit ratings of "21 China National Chemical Corporation MTN001" and "21 China National Chemical Corporation MTN001" are AAA, and the rating outlook is stable.

hereby announce



Joint Credit Appraisal Co.,

Ltd. 27 July 2002

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# China National Chemical Corporation (ChemChina)

## 2022 Tracking Rating Report

Rating results

Event	this time (military) rank	gradings look ahead	last time (military) rank	gradings look ahead
China National Chemical Corporation (ChemChina)	AAA	stabilise	AAA	stabilise
21 China National Chemical Corporation MTN001	AAA	stabilise	AAA	stabilise
20 China National Chemical Corporation MTN011	AAA	stabilise	AAA	stabilise
20 China National Chemical Corporation MTN009B	AAA	stabilise	AAA	stabilise
20 China National Chemical Corporation MTN009A	AAA	stabilise	AAA	stabilise
20 China National Chemical Corporation MTN008	AAA	stabilise	AAA	stabilise
20 China National Chemical Corporation MTN006	AAA	stabilise	AAA	stabilise
20 China National Chemical Corporation MTN004B	AAA	stabilise	AAA	stabilise
20 China National Chemical Corporation MTN004A	AAA	stabilise	AAA	stabilise
20 China National Chemical Corporation MTN003	AAA	stabilise	AAA	stabilise
20 China National Chemical Corporation MTN002	AAA	stabilise	AAA	stabilise
20 China National Chemical Corporation MTN001	AAA	stabilise	AAA	stabilise
19 China National Chemical Corporation MTN005	AAA	stabilise	AAA	stabilise
19 China National Chemical Corporation MTN003	AAA	stabilise	AAA	stabilise

### Tracking Rating Debt Profile:

Abbreviation of debt	balances (billions of dollars)	issue size (billions of dollars)	expiry cash date
21 China National Chemical Corporation MTN001	20.00	20.00	2023-08-26
20 China National Chemical Corporation MTN011	10.00	10.00	2023-11-16
20 China National Chemical Corporation MTN009B	5.00	5.00	2025-04-24
20 China National Chemical Corporation MTN009A	10.00	10.00	2023-04-24
20 ChemChina MTN008*	15.00	15.00	2023-04-17
20 China National Chemical Corporation MTN006	15.00	15.00	2023-03-19
20 China National Chemical Corporation MTN004B	5.00	5.00	2025-03-05
20 China National Chemical Corporation MTN004A	10.00	10.00	2023-03-05
20 China National Chemical Corporation MTN003	15.00	15.00	2023-02-27
20 ChemChina MTN002*	15.00	15.00	2023-02-19
20 China National Chemical Corporation MTN001*	15.00	15.00	2023-01-10
19 China National Chemical Corporation MTN005	15.00	15.00	2022-10-17
19 China National Chemical Corporation MTN003	15.00	15.00	2022-08-28

Note: 1. The above bonds include only those rated by Union Credit Rating Co., Ltd. and still in existence at the time of rating; 2. The maturity date of the bonds with \* is the next right date.

Rating: 27 July 2022

### Rating viewpoint

During the Tracking Period, China National Chemical Corporation (hereinafter referred to as "ChemChina" or "the Company") and Sinochem Corporation (hereinafter referred to as "Sinochem") implemented a joint restructuring, and the controlling shareholder of the Company was changed to Sinochem Holdings Limited (hereinafter referred to as "Sinochem"). (hereinafter referred to as "Sinochem"), the controlling shareholder of the Company was changed to Sinochem Holding Company Limited (hereinafter referred to as "Sinochem") which, as a large-scale state-owned enterprise directly held by the State-owned Assets Supervision and Administration Commission of the State Council (hereinafter referred to as "SASAC") as to 100% of its shareholdings, possesses significant advantages in terms of scale and strong comprehensive strength. The joint restructuring of the two chemical groups is conducive to the optimisation of resource allocation and the formation of synergies within the groups. As a large comprehensive chemical group company, the Company has strong business competitiveness, smooth financing channels and strong refinancing ability. However, Joint Credit Appraisal Co., Ltd (hereinafter referred to as "Joint Credit Appraisal") is also concerned about the possible adverse impact on the Company's credit level due to the heavy debt burden of the Company, the need to improve the Company's profitability, the weakness of the stability of the owner's equity, and the fact that the integration of the two chemical groups is still in progress.

The company's cash-based assets, cash flows from operating activities and EBITDA provide strong protection for the peak principal amount outstanding on the surviving bonds.

In the future, the Company plans to implement structural adjustment, integrate internal resources, optimise industrial layout and business structure, eliminate backward production capacity and take the road of differentiated market competition. After the

strategic restructuring with Sinochem Group, the competitiveness of the Company is expected to be further enhanced if it can fully improve the efficiency of resource allocation and benefit from the integration.

On the basis of the comprehensive assessment, Union Trust has determined to maintain the long-term credit rating of the main body of China National Chemical Corporation as AAA, and to maintain the credit ratings of "19 China National Chemical Corporation MTN003", "19 China National Chemical Corporation MTN005", "20 China National Chemical Corporation MTN001" and "20 China National Chemical Corporation MTN001". Chemical MTN003" "19Chem MTN005" "20Chem MTN001" "20Chem ChemChina MTN002" "20 ChemChina MTN003" "20 ChemChina MTN004A" "20 ChemChina MTN004B" "20 ChemChina MTN006" "20 ChemChina MTN008" "20 ChemChina MTN009A" "20 ChemChina MTN009A" "20 ChemChina MTN009B" "20 ChemChina MTN011" and "21 ChemChina

The credit rating of "MTN001" is AAA and the outlook is stable.

cutting edge

1. **The restructuring of Sinochem Group was completed.** During the Tracking Period, the Company and Sinochem Group

The Group has implemented joint restructuring, and the joint restructuring of the Amphibian Group is conducive to the optimisation of resource allocation and the formation of synergies within the Group.

2. **The company's business is competitive.** The company is covering new chemical materials

The rating methodology and model used for this rating:

name (of a thing)	releases
<a href="#">Chemical enterprise credit rating method</a>	V3.1.202205
<a href="#">Chemical Enterprise Main Credit Rating Model (Scoring Scale)</a>	V3.1.202205

Note: The above rating methodologies and rating models

have been publicly disclosed on the official website of Lianhe Credit Rating Co., Ltd.

Scoring table and results of this rating model:

Indicative ratings	aa	Rating results		AAA
Evaluation content	Evaluation results	risk factor	Elements of evaluation	Evaluation results
business risk	A	business environment	Macro and regional exposures	2
			Industry Risks	3
		Self-competitiveness	basic quality	1
			business management (as a study)	1
			business analysis	2
financial risk	F3	cash flows	asset quality	1
			profitability	3
			cash flow	1
		capital structure		3
		solvency		3
Factors and reasons for adjustment				Adjustment sub-levels

The controlling shareholder of the company, Sinochem, has strong comprehensive strength. The joint restructuring of Sinochem is conducive to the optimization of resource allocation and the formation of synergies within the Group, and the company is a member of the Sinochem Restructuring Group. One of the main subjects of implementation.

Note: Operational risk is divided into 6 grades from low to high, A, B, C, D, E and F, and the evaluation of factors at each grade is divided into 6 grades from low to high, 1, 2, 3, 4, 5 and 6 grades being the best and 6 grades being the worst. Financial risk is divided into 7 grades from low to high, 1, 2, 3, 4, 5, 6 and 7 grades being the best and 7 grades being the worst; the financial indicators are the weighted average of the last 3 years; the indicated ratings are obtained through the matrix analytical model. Indicative rating results are obtained through matrix analysis model.

It is a large-scale integrated chemical group with strong scientific research and development strength, which provides strong technical support for the operation of chemical and other businesses, such as speciality chemicals, petrochemicals and refinery products, seeds and agrochemicals, and tyre and rubber.

### 3. The company has smooth financing channels and strong refinancing capacity. As of 2021

At the end of the year, the Company had obtained a total of RMB619 billion in credit facilities from major commercial banks, and had not yet received a total of RMB1.5 billion in credit facilities.

With a utilisation quota of RMB 349.2 billion, the company has a smooth channel of indirect financing; meanwhile, the company holds 9 domestic A-share listed companies, 1 Hong Kong listed company and 2 overseas listed companies, and has a direct financing channel.

focus

### 1. The company has a heavy debt burden. As at the end of March 2022, the company's capital was \$4.5 billion.

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The gearing ratio is 81.41 per cent. By transferring the perpetual debt from the company's owner's equity other equity instruments to debt, the company's gearing ratio and total debt capitalisation ratio will increase to 82.41% and 76.39% as at the end of March 2022, respectively.

**2. The company's profitability needs to be improved and the stability of the owners' equity is weak.**

Although the profitability of the company's main business increased in 2021, the company's net profit was -3.676 billion yuan due to the provision of large taxes and non-recurring gains and losses. Meanwhile, the company's equity attributable to the parent company has been negative in recent years. As of the end of 2021, the company's undistributed profit was -60.957 billion yuan, and the equity attributable to the parent company decreased by 18.169 billion yuan to -44.047 billion yuan compared with the previous year.

**3. The integration of the two chemical groups is still continuing.** As of the issuance of this report

As of today, the joint restructuring of ChemChina and Sinochem

Group has completed the registration procedures for industrial and commercial changes, but the internal integration of the two groups is still in progress, and Union Credit will continue to pay attention to the impact of the integration of the two groups on the company's overall credit status.

## Key financial data:

Company consolidated calibre				
sports event	2019	2020	2021	March 2022
Cash-based assets (\$ billion)	857.64	838.13	737.69	800.54
Total assets (\$ billion)	8439.62	8574.27	8609.63	8871.42
Owners' equity (\$ billion)	1890.98	1807.49	1605.85	1649.52
Short-term debt (\$ billion)	1873.43	1957.32	2103.62	2188.34
Long-term debt (\$ billion)	3020.44	3070.84	2760.64	2772.45
Total debt (\$ billion)	4893.87	5028.16	4864.26	4960.79
Gross operating income (\$ billion)	4543.46	4173.95	5025.99	1260.16
Total profit (\$bn)	42.30	52.55	25.20	102.11
EBITDA (\$bn)	482.67	461.77	409.87	—
Net operating cash flow (\$bn)	253.78	308.39	556.88	-32.51
Operating margin (per cent)	21.19	20.73	17.98	25.52
Return on net assets (%)	1.46	0.94	-2.29	—
Gearing ratio (per cent)	77.59	78.92	81.35	81.41
Total debt capitalisation ratio (%)	72.13	73.56	75.18	75.05
Current ratio (%)	94.24	96.25	86.99	89.23
Operating cash current liabilities ratio (%)	8.35	9.64	14.85	—
Cash short-term debt ratio (times)	0.46	0.43	0.35	0.37
EBITDA Interest multiples (times)	2.39	2.47	2.62	—
All debt/EBITDA (times)	10.14	10.89	11.87	—
Corporate headquarters (parent company) calibre				
Item	2019	2020	2021	March 2022
Total assets (\$ billion)	912.36	1426.64	1416.51	1448.38
Owners' equity (\$ billion)	300.15	299.66	274.93	269.19
Total debt (\$ billion)	464.06	604.58	515.70	509.07
Gross operating income (\$ billion)	2.70	1.70	1.47	0.10
Total profit (\$bn)	-16.65	-5.48	-21.14	-4.07
Gearing ratio (per cent)	67.10	79.00	80.59	81.41
Total debt capitalisation ratio (%)	60.72	66.86	65.23	65.41
Current ratio (%)	40.88	37.24	33.42	36.16
Operating cash current liabilities ratio (%)	-9.64	-21.81	12.08	—
Cash short-term debt ratio (times)	0.07	0.01	0.00	0.12

Note: 1. The company's financial statements for January-March 2021 have been audited. The interest-bearing debt in other payables, other current liabilities, long-term payables and other non-current liabilities has been included in the full debt accounting in the consolidated calibre for the year 2019-2021; 3. The parent company's calibre for the year 2019-2021 has been included in the full debt accounting; 4. Interest-bearing debt in other current liabilities has been included in the parent company's accounting for all debt for 2019-2021.

Source: Company's financial report, collated by United Credit Union



## Rating History:

Abbreviation of debt	indebtedness (military) rank	main part (military) rank	gradings look ahead	Rating time	project team	Rating methodology/modelling	Rating reports
19 China National Chemical Corporation MTN003 19 China National Chemical Corporation MTN005 20 China National Chemical Corporation MTN001 20 China National Chemical Corporation MTN002 20 China National Chemical Corporation MTN003 20 China National Chemical Corporation MTN004A 20 China National Chemical Corporation MTN004B 20 China National Chemical Corporation MTN006 20 China National Chemical Corporation MTN008 20 China National Chemical Corporation MTN009A 20 China National Chemical Corporation MTN009B 20 China National Chemical Corporation MTN011	AAA	AAA	stabilise	2021/07/29	Ren Guiyong, Shi Mengyao	<a href="#">Joint Credit Appraisal Co., Ltd. Chemical Enterprise Credit Rating Model (V3.0.201907)</a> <a href="#">United Credit Appraisal Co., Ltd. Chemical Industry Enterprise Main Credit Rating Model (Score Sheet) Rating Model (Score Sheet) (v3.0.201907)</a>	<a href="#">Read more</a>
21 China National Chemical Corporation MTN001	AAA	AAA	stabilise	2021/08/22	Ren Guiyong, Shi Mengyao		<a href="#">Read more</a>
20 China National Chemical Corporation MTN011	AAA	AAA	stabilise	2020/11/10	Zhang Bo, Zhang Chao, Zhang Ge		<a href="#">Read more</a>
20 China National Chemical Corporation MTN009B	AAA	AAA	stabilise	2020/4/15	Zhang Bo, Zhang Ge		<a href="#">Read more</a>
20 China National Chemical Corporation MTN009A	AAA	AAA	stabilise	2020/4/15	Zhang Bo, Zhang Ge		<a href="#">Read more</a>
20 China National Chemical Corporation MTN008	AAA	AAA	stabilise	2020/3/5	Zhang Bo, Zhang Ge		<a href="#">Read more</a>
20 China National Chemical Corporation MTN006	AAA	AAA	stabilise	2020/3/9	Zhang Bo, Zhang Ge		<a href="#">Read more</a>
20 China National Chemical Corporation MTN004B	AAA	AAA	stabilise	2020/1/8	Zhang Bo, Zhang Ge		<a href="#">Read more</a>
20 China National Chemical Corporation MTN004A	AAA	AAA	stabilise	2020/1/8	Zhang Bo, Zhang Ge		<a href="#">Read more</a>

20 China National Chemical Corporation MTN003	AAA	AAA	stabilise	2019/12/26	Zhang Bo, Zhang Ge		<a href="#">Read more</a>
20 China National Chemical Corporation MTN002	AAA	AAA	stabilise	2020/2/3	Zhang Bo, Zhang Ge		<a href="#">Read more</a>
20 China National Chemical Corporation MTN001	AAA	AAA	stabilise	2019/11/7	Zhang Bo, Li Boheng		<a href="#">Read more</a>
19 China National Chemical Corporation MTN005	AAA	AAA	stabilise	2019/9/20	Zhang Bo, Li Boheng		<a href="#">Read more</a>
19 China National Chemical Corporation MTN003	AAA	AAA	stabilise	2019/6/21	Zhang Bo, Xia Qiguang	<a href="#">Chemical Industry Credit Rating Methodology (2018.12)</a>	<a href="#">Read more</a>

Note: Rating reports for the above historical rating programs are available via the report links; no version numbers are available for rating methodologies and rating models prior to 1 August 2019

## declaration      Ming Dynasty (1368-1644)

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The tracking rating results are valid from the date of this report to the due date of the corresponding

bonds; according to the conclusions of the tracking rating, the rating results may change during the validity period. JCSC reserves the right to adjust, update, terminate and withdraw the rating results.

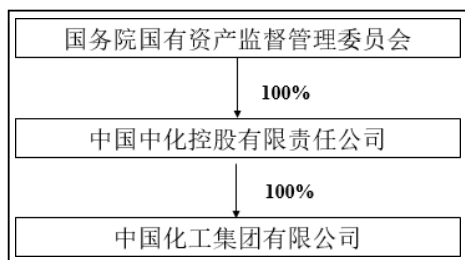
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# China National Chemical Corporation (ChemChina)

## 2022 Tracking Rating Report

### I. Reasons for tracking ratings

In accordance with the requirements of relevant regulations, this tracking rating is conducted in accordance with the tracking rating arrangement of United Credit Suisse Appraisal Corporation (hereinafter referred to as "United Credit Suisse") in respect of the bonds of ChemChina Corporation (hereinafter referred to as "the Company" or



"ChemChina") and related bonds. (hereinafter referred to as the "Company" or "ChemChina" and the related bonds, the tracking rating is conducted in accordance with the tracking rating arrangement of Joint Credit Rating Co.

### II. Basic information on enterprises

Founded in April 2004, the company was approved by the State Council's State Letter. On 18 December 2017, with the approval of the State-owned Assets Supervision and Administration Commission of the State Council (hereinafter referred to as "SASAC"), the Company was converted from a wholly state-owned enterprise to a wholly state-owned company, and its name was changed from "China National Chemical Corporation" to "China National Chemical Corporation". On 18 December 2017, with the

approval of the SASAC of the State Council, the Company was restructured from a wholly-owned enterprise to a wholly state-owned company, and the name of the Company was changed from "China National Chemical Corporation" to "China National Chemical Corporation". As of 2022

As at the end of March 2022, the paid-up capital of the Company was RMB11,592 million, and the controlling shareholder of the Company was Sinochem Holding Company Limited (hereinafter referred to as "Sinochem") with the State-owned Assets Supervision and Administration Commission of the State Council as the actual controller.

Figure 1 Shareholding structure of the company as at the end of March 2022

Source: Provided by the company

The company's development orientation is "old chemical, new materials", after integration and reorganisation, the company has formed a new chemical materials and speciality chemicals, petrochemicals and refinery products, seeds and agrochemicals, tyre and rubber products, chemical machinery and equipment manufacturing, etc.

Plates.

As at the end of 2021, the Company's headquarter comprised 14 departments: Office, Human Resources Department, Strategy and Investment Department, Strategy Execution Department, Science and Technology Innovation Department, Finance Department, Integration and Collaboration Department, Audit Department, Health, Safety and Environmental Protection Department, Digitalisation Department, Legal Compliance Department, Party Work Department, Party Inspection Office and Discipline Inspection and Supervision Group.

As of the end of 2021, the company's consolidated total assets were 8609.63 billion, owner's equity 165,585 million yuan (including minority interests 204,632 million yuan) in 2021, the company achieved a total operating income of 502,599 million yuan, total profit of 2,520 million yuan.

Total consolidated assets of the Company as at the end of March 2022 887.142 billion yuan, owners' equity 164.952 billion yuan (including minority interests 203.710 billion yuan) January-March 2022, the company achieved total revenue of 126.016 billion yuan, total profit 10,211 million.

Registered office address: Beisihuan West Road, Haidian District, Beijing, China No. 62; Legal representative: Ning Gaoning.

### III. Overview of Surviving Bonds and Use of Proceeds

As at the date of the report, the total amount of the surviving bonds assessed by Unicredit was RMB16,500 million (please refer to the table below for details) and the proceeds were used in accordance with the prescribed purposes, and except for "21 China National Chemical Industry MTN001" which has not yet arrived at the time of interest payment during the tracking period, the rest of the above bonds paid interest normally.

Table 1 Overview of the company's deposited bonds (in billions)

Abbreviation of debt	cash in issue horizontal tablet or inscribed board	balances	starting date of interest rate	maturity (of an investment bond)
21 ChemChina MTN001	20.00	20.00	2021-08-26	2023-08-26
20 ChemChina MTN011	10.00	10.00	2020-11-16	2023-11-16
20 ChemChina MTN009B	5.00	5.00	2020-04-24	2025-04-24
20 ChemChina MTN009A	10.00	10.00	2020-04-24	2023-04-24
20 ChemChina MTN008*	15.00	15.00	2020-04-17	2023-04-17
20 ChemChina MTN006	15.00	15.00	2020-03-19	2023-03-19
20 ChemChina MTN004B	5.00	5.00	2020-03-05	2025-03-05
20 ChemChina MTN004A	10.00	10.00	2020-03-05	2023-03-05

20 ChemChina MTN003	15.00	15.00	2020-02-27	2023-02-27
20 ChemChina MTN002*	15.00	15.00	2020-02-19	2023-02-19
20 ChemChina MTN001*	15.00	15.00	2020-01-10	2023-01-10
19 ChemChina MTN005	15.00	15.00	2019-10-17	2022-10-17
19 ChemChina MTN003	15.00	15.00	2019-08-28	2022-08-28
add up the total	165.00	165.00	—	—

Note: Bonds marked with \* in the Duration Bonds are perpetual medium-term notes, and the redemption date listed is the exercise date of the first redemption right.

Source: Wind

#### IV. Macroeconomic and policy environment

##### 1. Macroeconomic policy environment and economic performance

2022 In the first quarter of 2022, the complexity and uncertainty of the domestic and international environments facing China's economic development intensified, and in some cases even exceeded expectations. The global economic recovery slowed down, the Russian-Ukrainian geopolitical conflict led to sharp fluctuations in the global food, energy and other commodity markets, and there was a large-scale resurgence of epidemics in many parts of the country, which led to an obvious increase in the difficulties of market entities and a further increase in new downward pressure on the economy. Against this backdrop, "stabilising growth and expectations" has become a key theme of macroeconomic policy.

The focus of the policy, the policy force is properly forward, the policy synergy is increasing, and the policy effect is gradually apparent.

After preliminary accounting, China's GDP in the first quarter of 2022 was 27.02 trillion yuan, up 4.80 per cent year-on-year at constant prices, down from the two-year average growth rate of 5.19 per cent in the previous quarter, and up 1.30 per cent from a year earlier, higher than the same period of the previous year.

(0.50 per cent) but less than the pre-epidemic 2019 level (1.70 per cent). Among the three major industries, the tertiary industry was more affected by the epidemic. In the first quarter of 2022, the year-on-year growth rate of value added of the primary and secondary industries

6.00% and 5.80% respectively, industrial and agricultural production was generally stable, but in March, affected by the large-scale resurgence of the epidemic in many places, some enterprises reduced and stopped production, causing a certain drag on industrial production in the first quarter; the year-on-year growth rate of added value of the tertiary industry was 4.00%, which was less than the average growth rate of two years in the same period of the previous year (4.57%) and the level of 2019 before the epidemic (7.20%) and the contact-type service field was hit harder.

Table 2 Key economic data for China, Q1 2021-Q1 2022

spors e nt	2021 first quarter (of financial year)	2021 second quarter (of financial year)	2021 third quarter (of financial year)	2021 fourth quarter (of financial year)	2022 first quarter (of financial year)
Total GDP (trillion yuan)	24.80	28.15	28.99	32.42	27.02
GDP growth rate (%)	18.30 (4.95)	7.90 (5.47)	4.90 (4.85)	4.00 (5.19)	4.80

Growth rate of value added of above-scale industry (%)	24.50 (6.79)	15.90 (6.95)	11.80 (6.37)	9.60 (6.15)	6.50
Growth rate of investment in fixed assets (per cent)	25.60 (2.90)	12.60 (4.40)	7.30 (3.80)	4.90 (3.90)	9.30
Real estate investment (%)	25.60 (7.60)	15.00 (8.20)	8.80 (7.20)	4.40 (5.69)	0.70
Infrastructure investment (%)	29.70 (2.30)	7.80 (2.40)	1.50 (0.40)	0.40 (0.65)	8.50
Investment in manufacturing (per cent)	29.80 (-2.0)	19.20 (2.00)	14.80 (3.30)	13.50 (4.80)	15.60
Retail sales of consumer goods (%)	33.90 (4.14)	23.00 (4.39)	16.40 (3.93)	12.50 (3.98)	3.27
Export growth rate (per cent)	48.78	38.51	32.88	29.87	15.80
Import growth rate (per cent)	29.40	36.79	32.52	30.04	9.60
CPI increase (%)	0.00	0.50	0.60	0.90	1.10
PPI increase (%)	2.10	5.10	6.70	8.10	8.70
Growth rate of social finance stock (per cent)	12.30	11.00	10.00	10.30	10.60
Growth rate of general public budget revenue (%)	24.20	21.80	16.30	10.70	8.60
Growth rate of general public budget expenditure (%)	6.20	4.50	2.30	0.30	8.30
Urban survey unemployment rate (%)	5.30	5.00	4.90	5.10	5.80
Growth rate of disposable income per capita for the whole country (%)	13.70 (4.53)	12.00 (5.14)	9.70 (5.05)	8.10 (5.06)	5.10

Note: 1. GDP data are quarterly values, and all other data are cumulative year-on-year growth rates; 2. Total GDP is calculated at current prices, and the year-on-year growth rate is calculated at constant prices; 3. Export growth rates and import growth rates are all calculated in US dollars; 4. The growth rate of social finance stock and the urban survey and unemployment rate are the end of the period; 5. The growth rate of disposable income per capita of the whole country's inhabitants is the actual year-on-year growth rate; 6. The data for the year 2021 are shown in parentheses as the average growth rate of two years. Average growth rate of two years

Source: Credit Suisse, based on data from the National Bureau of Statistics, the People's Bank of China and Wind.



Demand side, the consumer market by the epidemic impact is larger, fixed asset investment growth is at a relatively high level, exports still maintain a high degree of prosperity. Consumption, total retail sales of consumer goods in the first quarter of 2022 10.87 trillion yuan, an increase of 3.27% year-on-year, less than the same period of the previous year two-year average growth rate (4.14%) mainly because of the March epidemic on consumption, especially catering and other aggregated service consumption, caused a greater impact. In terms of investment, the first quarter of 2022 all

National fixed asset investment (excluding farm households) 10.49 trillion yuan, up 9.30% year-on-year, at a relatively high level. Among them, the real estate development investment continues to bottom out; Infrastructure investment obvious force, reflecting the "stable growth" policy to pull the role of investment; Manufacturing investment is still at a high level, but in March marginal decline. In terms of foreign trade, exports still maintain a high degree of prosperity. 2022 first quarter China's total import and export of goods 1.48 trillion U.S. dollars, an increase of 13.00 per cent year-on-year. Among them, exports The trade surplus was \$162.940 billion, up 15.80 per cent year-on-year, while imports were \$657.980 billion, up 9.60 per cent.

The CPI year-on-year rate of increase was generally stable, while the PPI year-on-year rate of increase declined on a monthly basis.2022 The CPI increased by 1.10 per cent year-on-year in the first quarter of the year, while the hogs increased by 1.10 per cent.

Meat and other food prices fell to hedge part of the energy price hike to promote the upward space. PPI in the first quarter grew by 8.70% year-on-year, and the magnitude of the year-on-year growth rate in each month has

converged; the PPI ring has turned from decline to rise, and the upward momentum has been strengthened, and the input-type inflation pressure has been raised. Geopolitical factors led to sharp fluctuations in international energy and non-ferrous metal prices, driving domestic oil and gas mining, fuel processing, non-ferrous metals and other related industries prices upward.

### **Total social finance expands, fiscal front pacing evident.2022**

In the first quarter of 2009, the new social financing scale was 12.06 trillion yuan, 1.77 trillion yuan more than the same period of the previous year; at the end of March, the stock of social financing scale increased by 10.60 per cent year-on-year, and the growth rate was 0.30 per cent higher than that at the end of the previous year. From a structural point of view, the fiscal front led to a substantial increase in net financing of government bonds, which is the main driving force supporting the expansion of social financing, and the net financing of government bonds in the first quarter increased by 923.8 billion yuan compared with the same period of the previous year. Other supportive factors included an increase of RMB 425.8 billion yuan in RMB loans to the real economy and net financing from corporate bonds over the same period of the previous year. and \$405 billion.

Fiscal revenues are generally stable, and expenditures in key areas such as people's livelihood are strongly guaranteed.2022 In the first quarter of 2012, the national general public budget revenue was 6.20 trillion yuan, up 8.60 per cent year-on-year, with fiscal revenues generally stable. Among them, national tax revenue

5.25 trillion yuan, an increase of 7.70% year-on-year, mainly driven by the profit growth of industrial enterprises, but the continuation of the implementation of the tax mitigation policy for small, medium and micro enterprises in the manufacturing industry and other factors pulled down the increase in tax revenue. On the expenditure side, the national general public budget expenditure in the first quarter of 2022 was RMB 6.36 trillion, up 8.30% year-on-year, accounting for 23.80% of the annual budget, with the progress accelerated by 0.30 percentage point compared with the same period of the previous year. Expenditures in key areas such as people's livelihoods were strongly guaranteed, with expenditures on science and technology, education, agriculture, forestry and water, social security and employment, and health and hygiene growing by 22.40%, 8.50%, 8.40%, 6.80% and 6.20% year-on-year respectively.

**Pressure for stable employment has increased, and residents' incomes have grown steadily.**

In the first quarter of 2022, the urban survey unemployment rate averaged 5.53%, of which the employment situation was generally stable in January and February, with the survey unemployment rate at 5.30% and 5.50% respectively, close to the level of the same period of the previous year, with a slight increase from the previous year, in line with the change of seasonal patterns; and since March, when the local epidemic worsened, the urban survey unemployment rate rose to 5.80%, 0.50 percentage points higher than the same

period of the previous year, and the pressure on stable employment increased. In the first quarter of 2022, the national per capita disposable income was RMB10,300, up 5.10% year-on-year in real terms, with stable growth in residents' income.

**2. Macro policy and economic outlook**

**Putting stable growth in a more prominent position, keeping the economy operating within a reasonable range, and achieving basic stability in employment and prices.** In April 2022, the State Council executive meeting pointed out that it was necessary to put stable growth in a more prominent position, and to co-ordinate growth stabilisation and structural adjustment, Pushing forward reforms to effectively stabilise the macroeconomic fundamentals. Maintaining economic operation within a reasonable range: deploying policy initiatives to promote consumption, helping to stabilise economic fundamentals and safeguard and improve people's livelihoods; deciding to further increase export tax rebates and other policy support to promote the stable development of foreign trade; determining measures to increase financial support for the real economy, and guiding the reduction of the cost of financing for market players. Achieving basic stability in employment and prices: efforts will be made to ensure employment by stabilising market players; comprehensive measures will be taken to ensure smooth logistics and stability in the industrial chain supply chain, and to ensure food and energy security.

**The epidemic, coupled with the impact of the external situation, has increased the pressure on the economy to stabilise growth.** On the production side, work stoppages, supply chain disruptions and raw material

The drag of rising prices on industrial production

still needs attention; on the demand side, the pulling effect of investment on the economy is expected to improve, and may mainly rely on the power of infrastructure investment; the negative impact of the domestic epidemic may continue in the short term, restricting the further recovery of consumption; in the Russian-Ukrainian situation tensions, accelerated tightening of the Federal Reserve's monetary policy and other international context, the stack of

Together with the impact of the climbing base of the year, the support of exports to the economy is likely to fall gradually. In view of this, international institutions such as the IMF and the World Bank have lowered their forecasts for China's economic growth. It is expected that the pressure on economic growth will remain strong in the future, and it will be more difficult to achieve the 5.50 per cent growth target.

## V. Industry analysis

### 1. Silicone industry

**China's industrial silicon production capacity ranks first in the world, the production scale is large, in the policy of backward silicone production capacity gradual restriction and elimination of background, industrial silicon production capacity has contracted, the domestic industrial silicon capacity utilisation rate overall is not high. 2021, silicone prices fell and then rose, experiencing a wave of "roller coaster" market.**

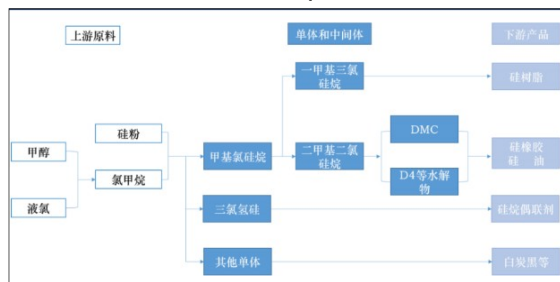
As a new type of high-tech material, silicone is widely used in the fields of electronics, electrical appliances, aviation, aerospace, construction, textile, medicine, daily chemicals and so on. There are many kinds of silicone products, which are divided into 4 categories according to their basic forms, namely, silicone oil, silicone rubber, silicone resin and silane (including silane coupling agent and silanisation reagent). The organosilicon industry chain mainly consists of four links: organosilicon raw materials, organosilicon monomers, organosilicon intermediates, and organosilicon deep processing. The upstream raw materials of organosilicon are chloromethane and industrial silicon, the midstream monomers (chlorosilanes) and intermediates (DMC, D3, D4, D5, etc.), and

the monomers are polymerised to form the downstream products of silicone rubbers (HTV, RTV, LSR), silicone oils, silicone resins, and so on.

Figure 2 Organic Silicon Industry Chain

Silicon production totalled 4.12 million tonnes, an increase of 23 per cent from 2020, of which Overseas industrial silicon output is 910,000 tonnes, and China's output is about 3.21 million tonnes, accounting for 78%. China's production share continues to improve, the production share from 67% to 78%. As industrial silicon belongs to high energy consumption and high emission industry, in recent years, under the background of energy saving and emission reduction, relevant state departments have issued relevant policies, focusing on restricting the new production capacity of industrial silicon industry and retiring inefficient electric furnaces, promoting energy saving and emission reduction of the industry, and the overall utilisation rate of the domestic industrial silicon capacity is not high.

Silicone monomer is the raw material for the preparation of silicone oil, silicone rubber, silicone resin and silane coupling agent, and thousands of silicone products



Source: Publicly available information

According to the relevant data of Huatai Futures, in 2021, the global industrial silicon production capacity will total 6.32 million tonnes, a decrease of 3% compared with 2020; its

China's industrial silicon capacity totalled 4.99 million tonnes, a decrease of 3% from 2020, and overseas industrial silicon capacity stood at 1.33 million

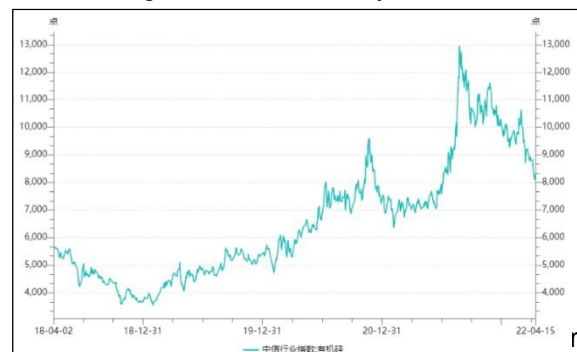
tonnes. During 2015-2021, global industrial silicon

can be produced from several basic monomers. Among them, methylchlorosilane is the most important one, accounting for more than 90% of the total amount of monomers, followed by phenylchlorosilane. In recent years, the output of silicone has been growing steadily. In 2021, the output of silicone monomers will reach 3.06 million tonnes, a year-on-year increase of 2.6 million tonnes.

15.9 per cent.

Since 2021, silicone prices first rose and then fell. 2021 in the middle and late stage, energy consumption double control policy, energy consumption tightening, the same period of raw material prices rose, silicone cost pressures, during the period of downstream demand performance is good, silicone open surge market. October, downstream start-up negative, weakening demand, Shandong factory continuously and sharply reduced the silicone DMC factory prices, raw material support is also gradually loosened. Loosening.

Figure 3 Silicone industry indices since 2018



coming from China's capacity expansion. In 2021, global industrial

2. methionine (Met), an essential amino acid

**Methionine industry production capacity still presents the leading agglomeration state. 2021, methionine supply side is relatively tight, the demand side presents regional differences, the price of the overall shock market.**

The global animal health industry consists of animal diagnostics, biologics, packaged pharmaceuticals, and feed additives. According to GrandViewResearch, animal feed additives have the largest share, and feed additives can be classified into nutritional health additives and non-nutritional health additives.

Nutritional additive, methionine, is an important amino acid species and an essential additive in animal feed.

Methionine is generally categorised in terms of form into liquid methionine and solid methionine. Due to the many advantages of liquid methionine, especially the cost advantage, in the mature methionine market, the market penetration rate of liquid methionine usually reaches more than 50%, but China and India, as the world's largest and fastest-growing methionine market, respectively, the penetration rate of liquid methionine is low, with huge room for improvement. With the gradual development of feed industrialisation and large-scale farming in China and India, the market penetration of liquid methionine will further increase in the future.

The methionine industry is capital- and technology-intensive, with complex technology processes and high barriers to entry. The global methionine market is highly concentrated in terms of production capacity, with the market share shared by industry giants such as Evonik Industries Group ("Evonik"), BlueStar Andiso Co. ("Evonik"), BlueStar Andiso Corporation ("Andiso"), Novelis International Limited ("Novelis") and Sumitomo Chemical Co.

In 2021, on the supply side, the global situation is improving, with most producers gradually returning to normal production levels following production disruptions in the first quarter, maintenance shutdowns in the second quarter and energy controls in China in the third quarter. The supply of methionine from different producers around the world is being reorganised regionally due to the impact of the US anti-dumping case and global logistical constraints. Meanwhile, rising prices of key raw materials continue to put pressure on methionine production. On the logistics front, shipping delays, lack of containers/slots, port

congestion, and lack of truck drivers have yet to improve, putting more pressure on the global methionine supply chain. This situation in logistics may continue until the end of 2022 as ocean freight prices continue to soar.

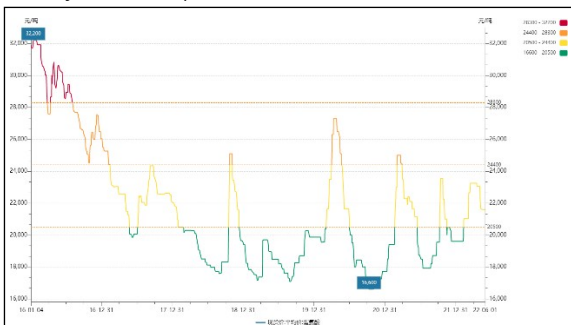
Demand for methionine in the Asia-Pacific region, including China, is growing at a high rate due to factors such as population growth, rising economic levels in developing countries, and the ongoing development of modern livestock farming. China's pork, poultry and livestock production is among the largest in the world. The related farming industry continues to maintain a high rate of development, leading to rapid growth in demand for methionine. Despite the impact of the coronavirus crisis, the methionine market has continued to grow in recent years. International industry giants have been gradually increasing their investments in Asia over the past few years in order to consolidate their existing market positions. Demand for methionine is currently high in all regions. With a global demand of 1.5 million tonnes, the market is growing at a normal rate.



long would signal an additional demand of about 200,000 tonnes in two years' time.

In 2021, the market demand in North America, Europe, Latin America and even the Middle East and Africa was strong, and the market in China and some Asian countries was weak in the third quarter. In addition, due to the tight supply and the significant increase in the cost of raw materials and energy, the price of methionine was in an oscillating market in 2021, with the overall located in the range of RMB19,000/tonne~RMB25,000/tonne.

Figure 4 Trend of spot price of methionine (unit: yuan/tonne)



Source: Wind

### 3. petrochemical industry

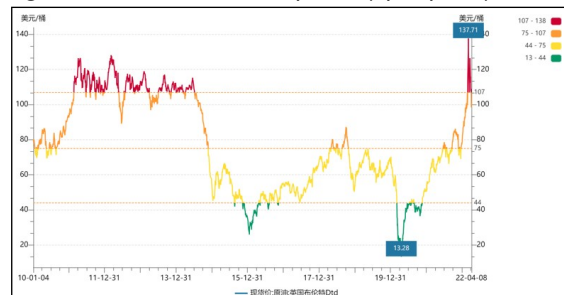
During the tracking period, oil and gas prices rose sharply due to multiple factors. Domestic supply of refined oil products was stable, and the oversupply situation in the refined oil products market eased as the domestic macroeconomy continued to develop steadily and favourably.

As for crude oil prices, in 2021, world oil demand gradually recovered, inventories fell sharply, and market supply and demand fundamentals continued to improve. Abundant global liquidity, superimposed on an over-expected boost from the European energy crisis at the end

of the year, together supported a sharp rise in international oil prices year-on-year, and since 2022, under the influence of the escalating conflict between Russia and Ukraine, the price of crude oil has risen further, and as of 8 April 2022, the

The spot price of Brent crude oil was USD100.70 per barrel. According to the National Development and Reform Commission ("NDRC"), domestic crude oil production in 2021 will be 198.98 million tonnes, up 2.4% year-on-year.

Figure 5 Brent crude oil price (spot price) trend since 2010





Source: Wind

As for the refined oil market, in 2021, the domestic macro-economy continued to show a steady improvement, driving the gradual recovery of demand for refined oil products, and the domestic supply of refined oil products was stable, easing the oversupply situation in the market. The export quota for refined oil products contracted significantly by 36%, and the net export volume of refined oil products dropped for the first time in nearly a decade. According to information from the National Development and Reform Commission and the National Bureau of Statistics, crude oil processing volume in 2021

The apparent consumption of refined oil products was 341.48 million tonnes, up 3.2% year-on-year, of which gasoline was up 5.7% year-on-year and diesel oil was up 0.5% year-on-year. Domestic refined oil product prices rose in line with international oil prices, and the State adjusted domestic gasoline and diesel oil prices for 21 times, with the cumulative increase of RMB 1,485 per tonne in the standard price of gasoline, and the cumulative increase of RMB 1,485 per tonne in the standard price of diesel oil.

1430 per tonne.

#### 4. Agrochemical industry

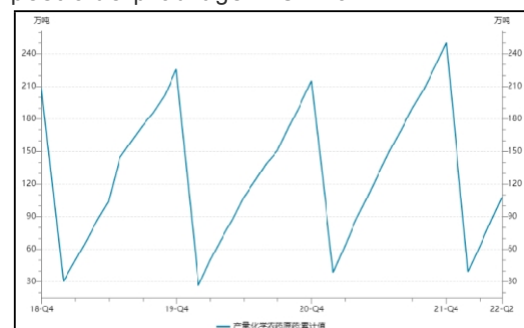
**The demand for pesticide products is relatively rigid. 2021, China's pesticide production to maintain growth, by the bulk of raw material prices, downstream demand increase and other factors, pesticide prices rose more, China's total sown area as well as the grain unit area production continues to maintain growth, for pesticide demand to form support.**

China is a major global pesticide producer and exporter. In 2021, the global easing after the

epidemic and rising concern for food security pushed up global crop planting profitability and planting willingness, driving up pesticide demand globally. According to the National Bureau of Statistics, in 2021, China's production of raw chemical pesticides was 2,498,000 tonnes, a cumulative year-on-year increase of 16.29%.

In terms of price, in 2021, pesticide prices grew at a faster rate due to the rising prices of bulk raw materials pulling up costs, upgraded global food security strategies and limited growth in pesticide production capacity.

Figure 6 Production of chemical pesticide prodrugs in China



Source: Wind

In 2021, China's total sown area and grain output per unit area will continue to grow, supporting the demand for pesticides. According to the National Bureau of Statistics, in 2021, the national grain sown area of 1.764 billion mu, an increase of 0.7% over the previous year; the national total grain output of 1365.7 billion jin, an increase of 2.0% over the previous year, stable for seven consecutive years at more than 1.3 trillion jin; the national grain crop yields of 387 kg/mu, the yield per acre increased by 1.2% over the previous year. With the increase in China's government support for agriculture and the gradual implementation of agricultural supply-side reform, the national grain unit area production continued to grow, modernised agricultural intensive operation, agricultural planting income to improve the agricultural Internet model changes in the demand for pesticides has also steadily increased, driving the development of the pesticide industry.

## VI. Basic quality analysis

### 1. Status of property rights

As at the end of March 2022, the paid-up capital of the Company was RMB 11.592 billion, the controlling shareholder of the Company is Sinochem, and the actual controller is the State-owned Assets Supervision and Administration Commission of the State Council.

### 2. Enterprise size

**The company operates in a large volume and has a number of publicly traded companies within the scope of consolidation.**

In 2021, the company achieved total revenue of 502,599 million yuan

As at the end of 2021, there were 20 first-tier subsidiaries of the Company. As at the end of 2021, the Company had a total of 20 first-tier subsidiaries, which are specialised and centralised companies responsible for the production and operation of the Group and supervising and guiding the production and operation activities of their second-tier subsidiaries.

By the end of 2021, the Company held 9 A-share listed companies, 1 Hong Kong listed company and 2 overseas listed companies. (as shown in the table below)

Table 3 Listed companies held by the Company

A-share listed companies		
stock code	short form	company identification
000553.	Andromeda A	Andromeda Corporation
600299.SH	Andesu	Bluestar Andesu Co.
600579.SH	Claus or Klaus (name)	KraussMaffei AG
000698.	Shenyang Chemical	Shenyang Chemical Co.
600469.SH	Fengshen Corporation (PRC state-owned enterprise)	Fengshen Tyre Co.
600230.SH	Cangzhou Dahua	Cangzhou Dahua Co.

600378.SH	Hao Hua Technology	Haohua Chemical Technology Group Co.
300087.	Tsuen-Yin High-Tech (TWT)	Anhui Quan Yin Gaoke Seed Industry Co.
600486.SH	Yangnong Chemical	Jiangsu Yangnong Chemical Co.
Listed Companies in Hong Kong, China		
0297.	Sinochem Fertiliser	Sinochem Fertiliser Holdings Limited
Overseas listed companies		
PIRC.BSI	Pirelli tyres	Pirelli & C. S.p.A.
—	—	Bluestar Aiken International Ltd.

Source: Provided by the company

The Company has production and research and development bases in more than 140 countries and regions around the world, and has established a comprehensive marketing network system, as well as a wide range of import and export trade and economic and technological cooperation businesses. (hereinafter referred to as "China Bluestar"), a subsidiary of the Company, issued exchangeable corporate bonds against 68,000,000 A shares of Andisu held by the Company, which accounted for 25.36% of the total share capital of Andisu. As at the end of March 2022, the cumulative number of shares exchanged by the Company was 87,921,900 shares, leaving a total of 1,050,000,000 shares.

The remaining number of pledged shares is 592078100.

### 3. Company Competitiveness

**The company is a large integrated chemical group company covering new chemical materials and speciality chemicals, petrochemicals and refinery products, seeds and agrochemicals, and tyre**

### and rubber.

In the field of new chemical materials and speciality chemicals, the company has the development and production bases of dozens of high-tech and high value-added products, such as organosilicon, organofluorine, methionine, PBT, PVC paste resin, polyformaldehyde, polycarbonate, polyphenylene ether, polyphenylene sulfide, epoxy resin, polyurethane, polyphenylene ester, sulphur hexafluoride, vapour-phase silicone, titanium dioxide, photographic chemicals, high-performance fibres, industrial coatings and so on. The output of methionine ranks second in the world, the output of silicone ranks third in the world, the production scale of PVC paste resin, PBT resin and industrial silicon ranks first in Asia, the output of fluoroelastomer, fumed silica and epoxy resin ranks first in the country, the scale of photographic colour developer series products ranks first in the country, and 95% of the products are exported, and the industrial cleaning and water treatment business occupies a market share of 90% in China.

In the field of petrochemicals and refinery products, the company has nine refineries, which provide intermediates and raw materials for new chemical materials and speciality chemicals according to the process route of "oil-head-chemicals-tail". The main organic raw materials produced by ChemChina are ethylene, propylene, butadiene, phenol, acetone, methyl ethyl ketone and maleic anhydride,

1,4-Butanediol, Tetrahydrofuran, Acrylic Acid, Nonylphenol, Bisphenol A, TDI, etc., of which Bisphenol A, TDI, Nonylphenol are the first in the country in terms of production and sales volume.

In the field of rubber and rubber-plastic machinery, the company has production lines for all-steel radial tyres, semi-steel radial tyres, aviation tyres, giant engineering tyres, and a variety of high-technology and high-value-added products such as polysulphur rubbers, rubber sealing products, and soft and hard carbon blacks of new technology. The company's tyre production capacity of more than 100 million sets, subordinate to three subsidiaries engaged in the tyre business, of which Fengshen shares is one of the leading enterprises in China's tyre industry, HaoHua south of the first self-developed meridian giant tyre successfully off the production line, fill the blank of the domestic giant tyre industry, breaking the monopoly of foreign tyre giants; the company's rubber and plastics machinery manufacturing total capacity of the world's third; the company has the only domestic In 2006, the company successfully acquired 100% equity of Kainos, the largest ethylene producer in Australia, which enabled the company to expand the scale of ethylene, the upstream raw material of plastics industry, and enabled its rubber company to get important support in raw materials.

In the field of seeds and agrochemicals, the subsidiary of the Company, China National Chemical Agrochemical Corporation (hereinafter referred to as "China Agrochemical"), has become the largest pesticide enterprise group in China, with hundreds of varieties of insecticides, herbicides, fungicides and

pesticide intermediates, and a variety of pesticides and intermediates with production capacities and outputs that ranked the first place in China.

#### 4. technical level

**The company has strong scientific research and development strength, providing strong technical support for chemical and other business operations.**

In the field of research and development, the company now has 396 R&D machines.

The number of R&D organisations in China has increased to 239, including 239 domestic R&D organisations and 239 overseas R&D organisations.

157; 24 research and design institutes, 2 national key laboratories, 4 national engineering research centres, 11 national engineering research institutes

(The company has a number of state-level R&D institutions, such as the State-approved Enterprise Technology Centre (sub-centre) 10 State-approved Enterprise Technology Centres, etc., and its R&D capability ranks among the top of central enterprises.

In order to support the independent innovation of scientific and technological personnel in the chemical industry and to promote the implementation of engineering technology results, the company has established the China Chemical Industry Science and Technology Fund for the society to promote the industrialisation of achievements through scientific and technological innovation. A number of technologies with independent intellectual property rights, such as variable pressure adsorption, organosilicon, organofluorine, acetic acid, carbon black, hydrogen peroxide, polycarbonate, polyformaldehyde, and large-sized rubber compacting machine vulcanising machine, have

gained popularity in domestic and overseas markets.

to a wide range of applications.

The company has the largest liquid separation membrane technology research, engineering development, complete sets of equipment and materials production base in China, and has outstanding advantages in pharmaceutical and food production water, industrial wastewater treatment, urban wastewater reuse, brackish water desalination, seawater desalination and so on. Meanwhile, the company has also achieved a series of important results in rubber anti-aging, catalysis and purification, chemical mines, coal gasification, environmental protection, marine chemical industry and so on.

#### 5. Past debt performance

**The Company's open market debt is performing well, and all of the Department's outstanding loans are in the normal category, but the Company has a non-performing category arising from guarantees provided to affiliated companies; there are advances in closed credit operations, which are small.**

According to the Enterprise Credit Report (Unified Social Credit Code: 91110000710932515R) provided by the Company, as of 2022

As at 30 June, all outstanding Renminbi and foreign currency loans of the Company's headquarters were classified as normal at Level 5, with no overdue loans or interest in arrears. However, there were non-performing balances arising from guarantees provided to the participating company China National Chemical Corporation and its related enterprises.

1,069 million yuan, the relevant guaranteed party has entered into reorganisation procedures, which led to the company's

guarantee being classified as non-performing, and the board of directors of the company has already approved the acquisition of the company's guaranteed financial liabilities by Sinochem Asset Management Company Limited to resolve the guarantee risk. In addition, the Company has 2 settled advances involving RMB 2,495,800,000 and 1 short-term loan of concern.

According to the Company's past records of repayment of principal and interest of debt financing instruments issued in the open market, the Company has no record of delinquency or default and is in good performance.

As at 15 July 2022, Union Credit has not found that the Company has been included in the National List of Defaulted Executors.

#### VII. Significant matters

**During the Tracking Period, the joint restructuring of the two chemical groups has completed industrial and commercial registration, the controlling shareholder of the Company has changed to Sinochem, and there has been no change in the actual controller.**

On 16 September 2021, pursuant to the arrangement for the joint restructuring of ChemChina and Sinochem, the new company after the restructuring will be Sinochem and the registration procedures for industrial and commercial changes will be completed. Completion of the transfer



Upon completion, the controlling shareholder of the Company was changed to Sinochem, and the actual controller remained unchanged.

**During the tracking period, in order to accelerate the integration of business segments within Sinochem Group, Syngenta Group Co., Ltd. acquired Jiangsu Yangnong Chemical Industry Co., Ltd. by way of a non-public agreement, and the operation right of the main operating body of the Company's petrochemicals and refining segment has been entrusted to Sinochem Energy for management. Up to now, the internal business integration of the two chemical groups has not been fully completed, and United Credit will continue to pay attention to the progress of the business integration of the two chemical groups and the overall situation of the company after the business integration.**

( 1 ) Syngenta Group Corporation  
Acquires Jiangsu Yangnong Chemical Co.

On 6 November 2020, Syngenta Group Inc. (hereinafter referred to as "Syngenta Group") Sinochem International (Holdings) Limited (hereinafter referred to as "Sinochem International") and Jiangsu Yangnong Chemical Group Co. (hereinafter referred to as "Yangnong Group") entered into the Framework Agreement on the Transfer of Equity Interests in Jiangsu Yangnong Chemical Group Company Limited and the Transfer of Shares in Jiangsu Yangnong Chemical Company Limited, pursuant to which Yangnong Group transferred 36.17% of the

shares in Jiangsu Yangnong Chemical Company Limited (hereinafter referred to as "Yangnong Chemical") to Syngenta Group in the form of a non-public agreement. Ltd. ("Yangnong Chemical") to Syngenta Group by way of non-public agreement, and at the same time, Syngenta Group transferred its 39.88% equity interest in Yangnong Group to Sinochem International. 13 July 2021, Yangnong Group and Syngenta Group completed the transfer and registration of Yangnong Chemical and Syngenta Group held 112084812 shares of Yangnong Chemical, accounting for 36.17% of the total number of issued shares of Yangnong Chemical, and was the controlling shareholder of Yangnong Chemical. It is the controlling shareholder of Yangnong Chemical. Pursuant to the Transaction Framework Agreement, the total transaction price payable by Syngenta Group to Yangon Chemical is approximately RMB10,222 million. Syngenta Group regards Yangon Chemical as an important and key supplier of its API business, and the production and sale of API is the business of Yangon Chemical with the highest percentage of revenue, and in 2021, the contribution of the API business of Yangon Chemical to the operating revenue will be approximately 59.97%.

( 2 ) China National Chemical Oil & Gas Corporation's operating rights entrusted to management

On 6 May 2022, the main operating entity of the Company's petrochemical and refining segment, ChemChina Oil & Gas Corp. (hereinafter referred to as the "Oil & Gas Company") issued the "Announcement on the Entrusted Management of the Operating Right of ChemChina Oil & Gas Company Limited", in order to realise the "unified platform" for Sinochem's energy business segment in 2021,

In order to achieve the goal of "unified planning and coordination" and enhance the overall competitiveness of the energy business segment, ChemChina entrusted the operation and management of the Oil & Gas Company and its subsidiaries to Sinochem Energy Corporation (hereinafter referred to as "Sinochem Energy"), the holding company of Sinochem. ("Sinochem Energy"), the holding company of Sinochem. During the period of trusteeship, Sinochem Energy will exercise the management right over the Oil & Gas Company and be responsible for the day-to-day operation and management of the Oil & Gas Company, including business management, financial management, human resources management, organisational management and other matters, and will assume the management responsibility of the Oil & Gas Company.

#### VIII. Management analysis

**During the Tracking Period, the relevant management structure and management system of the Company were in good operating condition; there was no change in the directors and senior management of the Company.**

#### IX. Business analysis

##### 1. Business Overview

**In 2021, the scale of the Company's total operating revenue increased significantly, benefiting from the price improvement of major products in the petrochemical and chemical materials segments, and the consolidated gross profit margin increased slightly and was more stable overall.**

During the Tracking Period, the Company continued to operate mainly in the business segments of petroleum processing and refining products, new chemical materials and speciality chemicals, seeds and agrochemicals, tyre and rubber products, and chemical machinery and equipment manufacturing.

In 2021, the Company achieved total operating revenue of RMB502,599 million, representing a year-on-year growth of 20.41%. The new chemical materials and speciality chemicals, petrochemicals and refinery products, seeds and agrochemicals and tyre and rubber products segments were prominent in the Company's operations, accounting for a total of 95.12% of the Company's total operating revenue in 2021, all of them achieving growth of varying degrees.

Table 4 Total operating income and gross profit margin of the company in recent years (unit: billion yuan)

Plate Name	2019			2020			2021		
	income s	percen tage	gross margin	income s	percen tage	gross margin	income s	percent age	gross margin
Petrochemicals and Refined Products	1779.31	39.16	7.86	1405.04	33.66	5.12	1735.71	34.53	9.80
New chemical materials and speciality chemicals	513.78	11.31	19.30	562.81	13.48	22.28	673.02	13.39	24.96
Seeds and agrochemicals	1451.16	31.94	38.21	1525.61	36.55	33.61	1820.78	36.23	32.52
Tyre and rubber products	559.10	12.31	37.55	472.52	11.32	33.94	551.52	10.97	31.78
Chemical Machinery and Equipment Manufacturing	124.91	2.75	21.70	128.56	3.08	20.54	117.65	2.34	18.77
the rest	115.20	2.54	22.24	79.41	1.90	17.07	127.33	2.53	25.83
add up the total	4543.46	100.00	23.25	4173.95	100.00	21.81	5025.99	100.00	23.09

Source: Provided by the company and compiled by Union Trust based on the company's financial report.



In terms of gross profit margin, the Company's consolidated gross profit margin increased slightly by 1.28 percentage points to 23.09% in 2021. Among them, driven by rising oil and gas prices, the gross profit margin of petrochemicals and refining segment increased by 4.68 percentage points year-on-year; the gross profit margin of new chemical materials and speciality chemicals increased by 1.28 percentage points year-on-year.

Gross profit margin increased by 2.68 percentage points year-on-year; seeds and agrochemicals

Gross profit margin of academic products decreased by 1.09 percentage points year-on-year; tyre rubber

Gross profit margin of products decreased by 2.16 percentage points year-on-year; Chemical machinery

Gross profit margin for equipment manufacturing declined 1.77 percentage points year-on-year.

January - March 2022, the company achieved total revenue 126,016 million, an increase of 7.81 per cent year-on-year, with a consolidated gross profit margin of 28.43 per cent, an increase of 4.29 percentage points year-on-year.

## 2. Petrochemicals and Refined Products

**In 2021, the production and sales volume of petrol and diesel oil in the Company's petroleum refining segment rose sharply, and the production and sales situation was good. Influenced by the rise in oil and gas prices, the sales price of the Company's products rose significantly, and the profitability was enhanced.**

The petrochemical business is an important foundation of the Company's "oil-head and chemical-tail" process route, providing intermediates and chemical raw materials for the production of new chemical materials and basic chemicals. The Company's petrochemicals and refinery products segment is mainly focused on oil refining and oil trading, which is mainly operated by the Oil & Gas Company.

As at the end of March 2022, the company has crude oil import allocation

The amount of 16.4 million tonnes; in 2021, the oil and gas company imported 1610 tonnes of raw oil, an increase of 4.41%, the company's average purchase price of imported crude oil rose sharply year-on-year, mainly due to the sharp rise in international crude oil prices.

Table 5 Procurement of raw materials by the company (unit: 10,000 tonnes, yuan/tonne)

sports event	2019		2020		2021	
	quantities	average price	quantities	average price	quantities	average price
imported materials	1421	3953	1542	2717	1610	3850
the rest	60	4188	102	2514	41	3724
add up the total	1481	3963	1644	2704	1651	3847

Source: Provided by the company

By the end of 2021, the Company's primary processing capacity was 19.2 million tonnes/year. Starting from the first quarter of 2022, the refining capacity of Daqing Zhonglan Petrochemical Company Limited (hereinafter referred to as Zhonglan Petrochemical), a subsidiary of the Company, is lower than 3 million tonnes, and according to the relevant policy the plant will be shut down, and the primary processing capacity of the Company will be changed to 17 million tonnes/year. The primary processing capacity of Oil & Gas was changed to 17 million tonnes per year.

Table 6 Sales of major products in Oil &amp; Gas' petroleum processing and refined products segment

sports event		2019	2020	2021
petroleum	Production (tonnes)	210.00	207.22	420.00
	Sales volume (million tonnes)	210.30	206.48	420.61
	Production to sales ratio (%)	100.14	99.64	100.15
	Unit sales price (yuan/tonne)	5251.98	4525.64	5506.34
	Production (tonnes)	280.00	279.85	754.00

diesel	Sales volume (million tonnes)	279.45	280.42	764.81
oil	Production to sales ratio (%)	99.80	100.20	101.43
	Unit sales price (yuan/tonne)	5028.09	4254.87	4888.16

Source: Provided by the company

In terms of production and sales, in 2021, the calibre of the company's product production and sales data changed, gasoline and diesel production and sales rose significantly, and the production-to-sales ratio remained at a high level. Influenced by the increase in oil and gas prices, the recovery of downstream demand side and the increase in the proportion of the Company's direct sales portion, the Company's gasoline and diesel fuel gross profit margin rose significantly.

### 3. New chemical materials and speciality chemicals

The company's new materials segment is mainly focused on China Bluestar, which mainly owns silicon materials, engineering plastics, functional chemicals, methionine and other business segments.

#### (1) silicon

**In the field of silicone, the company still maintains a certain scale advantage, and in 2021, benefiting from the rise in product prices, the revenue and gross margin of the main products of silicon materials grew significantly.**

The company's silicon materials business specifically includes organosilicon and silicon materials,

The company's downstream products include silicone monomer, silicone rubber, silicone oil, microsilicon powder and silicone resin. Among them, the company's organosilicon downstream product technology is complete, capable of producing more than 3,000 kinds of organosilicon products, the main products include organosilicon monomer, industrial silicon, silicone rubber, silicone oil, microsilicon powder, silicone resin and so on.

In terms of production, the company's silicon materials segment has a sound industrial chain, with relatively complete production equipment and leading technical strength. As of the end of March 2022, the company's annual production capacity of silicone monomers was 700,000 tonnes, and the production capacity of silicone monomers was ranked at the forefront of the world. Aiken owns 4 silicon metal plants and 3 silica mines outside China, with industrial silicon production capacity

Total 300,000 tonnes/year, the main products are silicon metal and microsilica powder.

The company has built 9 workshops and 26 production lines for domestic silicone products.

With 500,000 tonnes/year of silicone monomers and 220,000 tonnes/year of silicone downstream products, there are more than a hundred different grades of commercial products, mainly covering the fields of building sealing, high-temperature vulcanised silicone rubber, liquid silicone rubber, special silicone oil, leather and textile treatment, and personal care, which provide raw material support for the development of silicone in the direction of multi-species and

high-value-added development.

Table 7 Production capacity of China Bluestar's silicon materials as of the end of March 2022  
(Unit: 10,000 tonnes/year)

Main products	domestic production capacity	foreign production capacity	Total capacity
Silicone Monomers	50	20	70
industrial silicon	5	25	30
Ferro-Silicon Alloy	—	32	32
carbon	—	33	33

Source: Provided by the company

In 2021, the prices of the company's silicon and organosilicon products rose sharply, and operating income and gross profit margin both rose significantly; carbon prices rose slightly, coupled with rising sales, carbon operating income increased by 18.98% year-on-year.

Table 8 Operating conditions of main products of the

offerings	sports event	2019	2020	2021
carbon	Operating income (\$bn)	14.41	13.75	16.36
	Main products (carbon)	5608.02	5369.68	5565.82
	Average sales price (yuan/tonne)			
	Gross profit (\$ billion)	2.42	3.22	3.82
	Gross margin (%)	16.79	23.42	23.00
organosilicon	Operating income (\$bn)	88.50	93.21	131.07
	Main Products (Functionality)	26339.55	25056.63	32045.50
	Additives and functional coatings			

	(Material) Average sales price (RMB/tonnes)			
	Gross profit (\$ billion)	11.96	9.97	27.61
	Gross margin (%)	13.51	10.70	21.07
Silicon products (merger of the former Silicon Materials and Foundry segments)	Operating income (\$bn)	—	85.11	111.17
	Average sales price of major products (\$/tonne)	—	16180.59	22145.05
	Gross profit (\$ billion)	—	8.74	27.84
	Gross margin (%)	—	10.27	25.04

Note: 1. The above data does not include the offsetting portion among products; 2. The gross profit margin in the above table is calculated based on the EBITDA data of each major product disclosed in the annual report of Aiken; 3. Since Aiken will reclassify its business segments in 2020 and merge the silicon materials (industrial silicon) and casting business (ferrosilicon alloys) into the silicon products segment, the company's silicon materials business will be subdivided into three segments, namely organosilicon, silicon products and carbon products, as of 2020. The company's silicon materials business will be subdivided into three segments from 2020 onwards, namely silicone, silicon products and carbon.

## (2) engineering plastics

**Engineering plastics segment maintains certain scale advantages in some segmented products, and in 2021, the output and sales volume of major products in engineering plastics segment all achieved different degrees of growth. However, product prices fluctuate greatly due to changes in the market environment. In 2021, the average sales price of most products increased significantly, while the average sales price of polyphenylene ether products decreased due to the sharp decline in downstream demand and the input of new production capacity.**

China BlueStar has a wide range of engineering plastics products, including epoxy resins, PBT, modified PBT, bisphenol A, phenol, acetone and polyphenylene ether (PPE), which

In 2021, the operating income of the main products of China BlueStar Engineering Plastics segment achieved different degrees of growth, mainly due to the year-on-year growth in the production and sales volume of the main products, and the sales price of the main products except for polyphenylene ether increased, polyphenylene ether was restricted by the downstream photovoltaic industry on the demand for polyphenylene ether products dramatically weakened, superimposed on the industry's new production capacity inputs to drive the intensification of competition in the industry and other factors, resulting in the decline in the average price of the sales year-on-year.

are mainly used in composites, coatings, adhesives, textile, electrical and electronic, telecommunications, automotive and other industries. Among them, epoxy resin products have strong brand advantages in China.

In terms of production capacity, China BlueStar's engineering plastics products are mainly produced in East China, which is close to the end market, with certain location advantages, and the raw material Bisphenol A has been self-produced. As at the end of March 2022, China BlueStar has a production capacity of 16.00 million tonnes/year of epoxy resin and 15.00 million tonnes/year of bisphenol A. China BlueStar is the leading producer of special epoxy resin and the third largest producer of bisphenol A in China. Meanwhile, China BlueStar is a leading

Table 9 Business situation of main products of engineering plastics of the company in recent years

offerings	sports event	2019	2020	2021
epoxy resin (chemistry)	Production (tonnes)	11.14	14.57	15.42
	Sales volume (million tonnes)	9.88	13.17	14.06
	Revenue (\$bn)	20.31	21.98	37.58
	Average sales price (yuan/tonne)	16891	16693	26731
PBT	Production (tonnes)	5.83	6.19	6.26
	Sales volume (million tonnes)	6.14	6.73	6.88
	Revenue (\$bn)	5.35	4.88	10.42
	Average sales price (yuan/tonne)	8719	7258	15145
Modified plastics	Production (tonnes)	1.30	1.63	2.26
	Sales volume (million tonnes)	1.41	1.69	2.38
	Revenue (\$bn)	1.95	2.15	4.19
	Average sales price (yuan/tonne)	13660	12752	17591
polyphenyl ene ether	Production (tonnes)	1.80	2.23	2.52
	Sales volume (million tonnes)	1.71	2.37	2.84
	Revenue (\$bn)	4.04	4.46	4.65
	Average sales price (yuan/tonne)	23663	18832	16353
Phenol acetone	Production (tonnes)	14.79	12.93	14.65
	Sales volume (million tonnes)	14.74	12.92	14.70
	Revenue (\$bn)	6.14	4.42	6.95
	Average sales price (yuan/tonne)	6763	5556	7671

Note: The production and sales ratio of modified plastic products is greater than 100%, mainly due to the fact that the sales of modified plastics include products processed on behalf of Guangzhou Synthetics Research Institute Co.

Source: Provided by the company

### ( 3 ) Functional chemicals

It is the sixth largest PBT base resin manufacturer and the third largest modified engineering plastics manufacturer in China, with production capacity of 60,000 tonnes/year of PBT base resin and 30,000 tonnes/year of modified PBT, and its main equipment and

technology were imported from Gemma China Bluestar. In addition, China Bluestar has a production capacity of 50,000 tonnes/year of polyphenylene ether (PPE), which is the largest PPE manufacturer in China; China Bluestar has a phenol production capacity of 90,000 tonnes/year and an acetone production capacity of

56,000 tonnes/year.

**In 2021, China Bluestar's functional chemical production capacity will be maintained at a high level.**

**Stable, 300,000 tonnes/year of new high-performance polyether polyol project was put into operation in batches; the revenue of polyether and acrylic ester maintained growth, while the revenue of PVC (domestic) and paste resin decreased due to the impact of production and sales volume. Driven by the cost of upstream raw material price increase, the average selling price of main products of functional chemicals increased.**

China Bluestar Functional Chemicals is the leading supplier of petroleum products, organic chemicals, and other chemical products.

industrial products and more than one hundred functional chemicals with other properties, such as acrylic acid, acrylate, propylene, ethylene, methanol, polyether polyol and PVC paste resin. In addition to external sales, China Bluestar's functional chemicals are also used in its own silicon industry chain and in the production and processing of advanced materials such as engineering plastics.

During the Tracking Period, the production capacity of major products of China BlueStar Functional Chemicals remained stable. As at the end of March 2022, China BlueStar had a polyether production capacity of 250,000 tonnes/year, with a domestic market share of more than 11%, a PVC paste resin production capacity of 200,000 tonnes/year, and was one of the leading producers of PVC paste resins in Asia and globally, and polyethylene

(The capacity (foreign) has reached 500,000 tonnes/year, polyethylene (domestic) has reached 100,000 tonnes/year, and the annual capacity of acrylates has reached 130,000 tonnes/year. In addition, China Bluestar 300,000 tonnes/year new high-performance polyether polyol project is planned to be put into operation in three batches, the first batch of feeding production line has been successfully tested in May 2021; the remaining production lines have been constructed, and are now in the stage of pre-feeding preparations, and are planned to be put into operation in September 2022 in full.

In 2021, China BlueStar's sales revenue of polyether, polyethylene (foreign) and acrylates increased year-on-year. Revenue from polyethylene (domestic) and PVC paste resin decreased due to the impact of production and sales volume.

In terms of production and sales, in 2021, the

production and sales of polyether and acrylate increased year-on-year, but the production and sales of PVC paste resin and polyethylene products were affected by the industry's overcapacity and the decline in demand for medical protective gloves and other epidemic prevention supplies under the improvement of the domestic and international epidemiological situation, and production and sales declined. In the first quarter of 2022, the production and sales of polyether products were normal, and the production and sales of China Bluestar's PVC paste resin and polyethylene products were affected by the Beijing Winter Olympics. In the first quarter of 2022, the production and sales of polyether products were normal, and the production and sales of PVC paste resin and polyethylene products were affected by the Beijing Winter Olympics, and the production and sales of polyethylene products were affected by the Beijing Winter Olympics, and the production and sales of polyethylene products were affected by the Beijing Winter Olympics, and the production and sales of polyethylene products were affected by the Beijing Winter Olympics.

In terms of selling prices, in 2021, affected by the growth of upstream raw material prices, the selling prices of major products of China Bluestar's Functional Chemicals segment showed increases of different proportions. In the first quarter of 2022, the average selling prices of polyether and acrylate decreased due to the decline in raw material prices such as ethylene oxide, propylene oxide and butanol, and the prices of paste resin decreased due to the decline in downstream demand. During the same period, the average selling prices of polyethylene continued to grow driven by the continued high price of international crude oil. During the same period, the average sales price of polyethylene continued to increase due to the continued high price of crude oil.



Table 10 Functional chemical products operation of the company in recent years

offering s	sports event	2019	2020	2021
poly ether	Production (tonnes)	21.35	19.58	21.05
	Sales volume (million tonnes)	21.21	19.74	20.86
	Operating income (\$bn)	21.19	23.20	33.15
	Average sales price (yuan/tonne)	9989.00	11751.97	15890.05
PVC paste resin	Production (tonnes)	19.82	19.65	17.11
	Sales volume (million tonnes)	20.48	19.72	16.20
	Operating income (\$bn)	14.45	24.35	21.22
	Average sales price (yuan/tonne)	7056.00	12351.58	13097.6
Polythene (domestic)	Production (tonnes)	12.09	6.97	6.67
	Sales volume (million tonnes)	11.57	7.82	6.58
	Operating income (\$bn)	8.23	5.10	4.78
	Average sales price (yuan/tonne)	7113.00	6520.05	7268.04
Polyethylene (foreign)	Production (tonnes)	34.13	32.80	32.50
	Sales volume (million tonnes)	35.13	34.90	32.48
	Operating income (\$bn)	34.05	30.31	34.30
	Average sales price (yuan/tonne)	8492.00	7991.45	9494.49
acrylic ester	Production (tonnes)	12.09	9.57	11.45
	Sales volume (million tonnes)	11.89	9.61	11.45
	Operating income (\$bn)	9.27	7.65	16.93
	Average sales price (yuan/tonne)	7575.00	6991.94	12981.65

Source: Provided by the company

The company has a complete range of methionine and a strong scale advantage. In 2021, the company's life science segment revenue increased year-on-year, and gross margin declined due to the impact of rising raw material prices and transport costs.

The Company's life science products are mainly manufactured and operated by its subsidiary, Andisu. Andisu is the second largest global supplier of methionine, one of the few companies in the world that produces both solid and liquid methionine, and the world's leading supplier of rumen-protective methionine.

The company's main products are divided into three categories: functional products (methionine, vitamins, ammonium sulphate and sodium sulphate) speciality products (enzymes, ruminant products, organic selenium products) and others (carbon disulphide, sulphuric acid, powder processing services, etc.) By the end of March 2022, Andisu has 2 major production platforms (located in Europe and Nanjing, China) and 7 production sites, with a methionine production capacity of 558,000 tonnes/year. Among them, the production capacity of the plants in Nanjing and Europe is 170,000 tonnes/year and 388,000 tonnes/year respectively. In addition, Andisu proposes to invest in

#### ( 4 ) methionine (Met), an essential amino acid



Self-funded investment of US\$490 million in the new liquid methionine plant BANC2 project in Nanjing, with a designed annual production capacity of 180,000 tonnes/year, which is currently progressing well, with the civil works completed and construction progress reaching 99%, and the pre-commissioning phase has begun, and the project will start trial operation in the second half of 2022. In addition, the renovation of the Andesu Pyrenees project in France has been fully completed and put into operation in September 2021, which has brought an increase of 28,000 tonnes/year of liquid methionine production capacity to the Company.

In recent years, the company has gradually transferred methionine production to the country, which is conducive to reducing production and sales costs. With the completion of the expansion of the projects under construction one after another, the company's scale advantage and competitive strength in the field of methionine is expected to be further enhanced. In addition to methionine products, Andisu can also provide customers with a full range of vitamin products, of which feed vitamin A accounted for about 20% of the production capacity. In terms of sales, the company's life sciences business has a global coverage of

Andisu has established a local supply chain system according to the characteristics of customer distribution in each region, and sells its products to global customers through channel dealers or its own distribution companies, with a global market share of about 27%. In the domestic market, in order to ensure the timely and safe delivery of products to customers in all parts of the country, Andisu has set up a multi-functional supply chain transit centre in Nanjing and 10 regional distribution warehouses across the country according to the concentration of customers. The

sales team and sales channels of Andisu are located in more than 140 countries and regions all over the world.

Andisu has set up additional sales subsidiaries or offices all over the world in order to gradually establish and improve the local sales organisations in accordance with the needs of the development of the emerging markets. In addition, Andisu has also established long-term and close cooperation with a number of sales agencies and distributors around the world, in order to better serve the local market and customers. In 2021, the company's life sciences sales revenue for all types of products are Achieving year-on-year growth, the company's life sciences segment gross profit margins all declined due to the impact of rising raw material prices and rising transport costs, but the gross profit margins of functional and speciality products remained at a high level.

Table 11 Company's life science product operations in recent years

(Unit: billion yuan, per cent)

offerings	sports event	2019	2020	2021
Functional products	sales revenue	80.86	85.23	90.72
	gross profit	24.02	29.43	27.26
	gross margin	29.71	34.53	30.04
specialty	sales revenue	24.31	28.24	31.64

commodity	gross profit	11.91	14.08	15.39
	gross margin	48.98	49.85	48.65
Other Products	sales revenue	4.33	5.64	6.33
	gross profit	1.85	1.69	1.29
	gross margin	29.96	30.03	20.42

Source: Provided by the company

#### 4. Tyre and rubber products

**In 2021, the company's tyre production and sales volume both grew significantly, and the average sales price increased slightly, driving year-on-year growth in the segment's revenue and gross profit.**

The Company's rubber business is handled by its subsidiary China National Chemical & Rubber Corporation (hereinafter referred to as the "Rubber Corporation"), while the Rubber Corporation's passenger tyre business is mainly operated by Pirelli & C.S.p.A (hereinafter referred to as "Pirelli Tyre"), and the industrial tyre business is mainly operated by Fengshen Tyre Co. The industrial tyre business is operated by two subsidiaries, Fengshen Tyre Company Limited (hereinafter referred to as "Fengshen") and Prometeon Tyre Group S.r.l. (hereinafter referred to as "PTG")

By the end of 2021, the company has all-steel radial tyre production capacity 12.18 million sets/year and 73.05 million sets/year of semi-steel radial tyres, The production capacity of construction machinery tyres and agricultural tyres is 1.07 million sets/year, and the total production capacity of all kinds of tyres is

97.04 million sets/year, etc. In 2021, the company's tyre production was more than 86.92 million, and the sales volume was more than 84.24 million, with significant growth in production and sales volume, and the unit price of sales increased by 5.01% year-on-year.

Table 12 Production of tyres (including passenger and industrial tyres) by rubber companies

sports event	2019	2020	2021
Production capacity (10,000 sets)	10170	9936	9704
Production (million sets)	8228	7158	8692
Capacity utilisation (%)	80.84	72.04	89.57
Sales (10,000 units)	8547	7410	8424
Unit price (yuan/set)	624.20	611.21	641.82

Source: Provided by the company

In 2021, the company's operating revenue from tyre rubber products was 55,152 million yuan, an increase of 17.00 per cent year-on-year, accounting for the company's total business

10.97 per cent of revenue, a relatively stable share, with a gross profit of 175.30 per cent.

This represents an increase of 9.00 per cent over the previous year.

#### 5. Seeds and agrochemicals

**In 2021, the Company's seed and agrochemicals segment saw significant growth in revenue and gross profit, and its share in total revenue was relatively stable.**

The company's pesticide (plant protection) business derives its revenue mainly from the Syngenta Group and its subsidiary Andromeda, whose business encompasses plant protection, seeds, fertilisers and other agricultural and digital technologies, as well as from an advanced distribution network in China with more than 200 raw materials.

The company's pesticide and plant protection business mainly includes insecticides, fungicides, herbicides, plant growth regulators and so on. The main products of the company's pesticide and plant protection business include insecticides, fungicides, herbicides and plant growth regulators.

The Company's seed business is mainly operated by Syngenta Group and China Seed Group Corporation (hereinafter referred to as **the "China Seed Group"**). Products in the seed sector mainly include corn and soybeans, vegetables, field crops and rice.

The fertiliser business of the Company is mainly operated by Sinochem Fertilizer Holdings Limited (hereinafter referred to as **"Sinochem Fertilizer"**). It operates throughout the entire fertiliser industry chain, including research and development, production, trading and agrochemical services of fertiliser products, covering major fertiliser products such as nitrogen, phosphorus, potassium and compound fertilisers. The Company's fertiliser business achieves sustained growth in product sales by consolidating long-term and stable strategic partnerships with large domestic and international suppliers, providing stable, sufficient and high-quality diversified products to the downstream distribution network, and complemented by matching warehousing and logistics support and public welfare agrochemical services.

In 2021, the company's seed and

agrochemicals segment operating income of 182.078 billion yuan, an increase of 19.35% year-on-year, accounting for 36.45% of the company's total operating income, accounting for a relatively stable, gross operating profit of 59.205 billion yuan, an increase of 15.47% year-on-year.

#### 6. operational efficiency

**In 2021, the Company's operating efficiency indicators increased, but the comparison with the industry shows that all operating efficiency indicators are at a lower level.**

In 2021, the company's sales claim turnover, inventory turnover, and inventory turnover will be as follows  
Turnover and total asset turnover were 7.75 and 3.91, respectively.

and 0.58 times. Sales claims turnover, inventory turnover

The total number of assets and total asset turnover increased by 0.97 per cent year-on-year, respectively, 0.26 percent and 0.09 per cent. In comparison with other large petrochemical central enterprises, the company's operating efficiency indicators are at a lower level than those of other large petrochemical central enterprises.

Table 13 Comparison of Operating Efficiency of  
Petrochemical Central Enterprises in 2021

(Unit: times)

Indicator name	Inventory turnover	Accounts receivable turnover	Total asset turnover
----------------	--------------------	------------------------------	----------------------

		hasty	
China Petroleum and Chemical Corporation, Sinopec	9.10	62.39	1.20
China National Chemical Corporation (ChemChina)	3.91	9.00	0.59
China National Petroleum Corporation	11.70	33.60	0.68

Note: In order to ensure the consistency of the calibre of the comparative indicators in the same industry, the indicators in the above table uniformly use the Wind calibre.

## 7. Projects under construction and future development

**The company has more subsidiaries, involving more projects under construction, mostly around the existing main business, there is still a certain investment demand in the future. The company plans to implement structural adjustment in the future, integrate internal resources, optimise industrial layout and business structure, and eliminate backward production capacity. United Credit Suisse will continue to pay attention to the progress of the company's asset integration.**

The Company has a large number of subsidiaries and is involved in a large number of projects under construction. As at the end of 2021 and the end of March 2022, the Company's construction work in progress will be as follows

18,151 million and 18,520 million respectively, mainly centred on capacity expansion of the existing main business, industry chain extension and variety enrichment.

In the future, the Company plans to further implement structural adjustment, highlight and grow its leading businesses, and continue to promote the "3+1"

industrial development strategy with materials science as the core, life science and environmental science as the future, and basic chemical industry as the guarantee and support. We will integrate internal resources, optimise industrial layout and business structure, eliminate backward production capacity, upgrade to high-tech and high value-added products, transform to "manufacturing + service", and enhance the competitive advantages of agrochemicals, animal nutrition, polyurethane, silicone and fluorine materials, and environmental engineering. We will intensify innovation, take the harmonious development path that neither competes with upstream enterprises for resources nor competes with downstream end-products for the market, form economies of scale and technical barriers through R&D and innovation, form our own characteristics and competitive advantages in the new chemical materials and speciality chemicals industry, take the road of differentiated market competition, and continue to grow stronger and larger, so that we can become a large-scale chemical enterprise group with strong competitiveness in the international market.

## X. Financial analysis

### 1. Financial quality and financial position

Baker Tilly International (Special General Partnership) has audited the Company's 2021 financials and issued a standard unqualified report.

Qualified audit conclusion. The financial statements provided by the Company for the first quarter of 2022 are unaudited. 2021, the Company's consolidated statements of operations were as follows

Ltda and Vipagro Ltda, and decreased by Pingyuan Xinglong Textile Company Limited, Tsuenyin Xiangyu (Beijing) Biotechnology Company Limited and Anhui Dingke Seed Industry Company Limited, which had a certain impact on the financial data of the Company. Ltd. and Anhui Dingke Seed Company Limited, which had a certain impact on the Company's financial data.

At the end of 2021, the company's consolidated total assets were 8609.63 per cent.

billion, owner's equity 165,585 million yuan (including minority interests 204,632 million yuan) in 2021, the company achieved a total operating income of 502,599 million yuan, total profit of 2,520 million yuan.

Total consolidated assets of the Company as at the end of March 2022 887.142 billion yuan, owners' equity 164.952 billion yuan (including minority interests 203.710 billion yuan) January-March 2022, the company achieved total revenue of 126.016 billion yuan, total profit

10,211 million.

## 2. asset quality

**As at the end of 2021, the company's asset scale rose steadily and the proportion of current assets increased, but the proportion of non-current assets was still high. Among the non-current assets, the rate of newness of fixed assets was average, and the scale of goodwill and intangible assets was large, so the liquidity of the Company's assets was average.** As at the end of 2021, the total consolidated assets of the Company was 8609.63 per cent.

The proportion of non-current assets was 62.11 per cent, up 0.41 per cent from the end of the previous year. Among them, current assets accounted for 37.89% and non-current assets accounted for 62.11%. The company's assets are mainly non-current assets, and the asset structure has not changed much from the end of last year.

Table 14 Main components of the company's assets

subjects	End of 2019		End of 2020		End of 2021	
	Amount (\$ billion)	Percentage (%)	Amount (\$ billion)	Percentage (%)	Amount (\$ billion)	Percentage (%)
current asset	2862.93	33.92	3080.62	35.93	3262.54	37.89
money funds	780.79	9.25	741.84	8.65	632.88	7.35
accounts receivable	540.72	6.41	533.19	6.22	583.72	6.78
Other receivables (total)	323.20	3.83	516.84	6.03	504.84	5.86
inventory (of material)	900.45	10.67	886.67	10.34	1090.54	12.67
Other current assets	132.27	1.57	136.51	1.59	202.80	2.36
non-current asset	5576.69	66.08	5493.64	64.07	5347.10	62.11
fixed assets	1209.04	14.33	1158.39	13.51	1182.18	13.73
intangible asset	1607.96	19.05	1529.30	17.84	1451.34	16.86
reputation of a firm's product	2000.50	23.70	1922.73	22.42	1866.53	21.68
Total assets	8439.62	100.00	8574.27	100.00	8609.63	100.00

Data source: Company's financial report, collated by Joint Credit Union

As at the end of 2021, current assets amounted to RMB326,254 million, representing an increase of 5.91 per cent as compared with the end of the previous year, which was mainly attributable to the increase in inventories and accounts receivable.

As at the end of 2021, the Company's currency funds amounted to RMB63,288 million, a decrease of 14.69% compared with the end of the previous year, mainly due to the Company's higher net repayment of debts in the current year. There were RMB9,427 million of restricted funds in the monetary funds, with a restricted ratio of 14.90%, which were mainly security deposits, judicial freezing, earmarked funds, deposit reserves, pledges and housing maintenance funds.

As at the end of 2021, the carrying value of the Company's accounts receivable

58,372 million yuan, an increase of 9.48% compared with the end of last year, mainly due to the increase in the scale of business income, which led to the expansion of the corresponding receivables. The book balances of accounts receivable for which the Company made bad debt provision according to a combination of credit risk characteristics and accounts receivable for which bad debt provision was made individually were RMB56,141 million and RMB891 million, accounting for 96.18% and 1.53% respectively. As at the end of 2021, the Company had made bad debt provision of RMB6,308 million for accounts receivable, and the age of the Company's accounts receivable was mainly within one year. The top five debtors of accounts receivable had an aggregate balance of RMB2,512 million, accounting for 3.89%, with a very low concentration.

At the end of 2021, the company's other receivables (total)



50,484 million, a decrease of 2.32 per cent from the end of the previous year, with little change from the end of the previous year.

As at the end of 2021, the Company's inventory amounted to RMB109,054 million, representing an increase of 22.99% as compared with the end of the previous year, mainly due to the increase in raw materials and inventory goods. Inventories mainly consisted of raw materials (25.08%) self-manufactured semi-finished products and products-in-progress (20.13%) and inventories. (53.22 per cent), with a cumulative provision of 44.43 per cent.

The accrual rate is 3.91 per cent.

The Company's other current assets mainly included prepaid taxes, investment and financial management, entrusted loans and advances, tax rebates receivable, effective portion of hedging derivative financial instruments and currency investment funds, etc. As at the end of 2021, the Company's other current assets amounted to RMB20,280 million, representing an increase of 48% over the previous year-end. As at the end of 2021, the Company's other current assets amounted to RMB20,280 million, representing an increase of 48.56% as compared with the end of the previous year, which was mainly due to the increase of input tax to be deducted and buyback and sellback financial assets.

At the end of 2021, the company's non-current assets 5347.10

This represents a decrease of 2.67 per cent from the end of the previous year, which is not a significant change.

As of the end of 2021, the Company's fixed assets amounted to RMB118,218 million, representing an increase of 2.05% from the end of last year and little change from the end of

last year. Fixed assets mainly consisted of houses and buildings (RMB 36,681 million) and machinery and equipment (RMB 71,157 million), with accumulated depreciation of RMB 119,316 million; the rate of newness of fixed assets was 51.19%, which was average.

As at the end of 2021, the Company's intangible assets amounted to RMB145,134 million, a decrease of 5.10% compared with the end of the previous year. The Company's intangible assets mainly consisted of non-patented technologies (RMB57,211 million) and trademark rights (RMB60,725 million), with an accumulated amortisation of RMB62,548 million, and provision for impairment.

Provision of \$2,540 million.

As at the end of 2021, the Company's goodwill was RMB186,653 million, a decrease of 2.92% from the end of the previous year and little change from the end of the previous year. The goodwill of the Company was mainly formed by the acquisition of Syngenta, and as at the end of 2021 80.89% of goodwill arising from the acquisition of Syngenta

As at the end of 2021, the Company's restricted assets amounted to RMB 12,035 million, representing a restricted ratio of 1.40 per cent.

Table 15 Restricted assets of the Company as of the end of 2021 (in billions of yuan)

sports event	book value	Reason for restriction
money funds	94.27	Guarantee deposits, letter of credit deposits, building fund, building maintenance fund, litigation freeze
notes receivable	10.06	pledge of notes
Receivables financing	0.49	pledge of notes
fixed assets	13.67	secured loan

intangible asset	0.84	secured loan
the rest	1.02	Bonds, litigation
add up the total	120.35	—

Source: Company's financial report, collated by United Credit Union

Total consolidated assets of the Company as at the end of March 2022

887.142 billion yuan, an increase of 3.04% compared with the end of last year, of which current assets accounted for 40.06% and non-current assets accounted for 59.94%, the company's current assets accounted for a higher proportion.

### 3. capital structure

#### (1) owners' equity

**The company's owner's equity attributable to the parent company is negative, and the proportion of minority interests is high. In 2021, the company's loss widened compared with the previous year, and the capital surplus declined, and the company's owner's equity declined. At the same time, considering that the company's equity centre is divided into perpetual bonds, the stability of the equity structure is weak.**

As at the end of 2021, the Company's ownership interest was RMB 165,585 million, a decrease of 11.16 per cent from the end of the previous year, mainly due to the decrease in capital reserve and undistributed profits, and as at the end of 2021, the Company's ownership interest attributable to the parent company was RMB -44,047 million, a

decrease of RMB 18,169 million from the end of the previous year; the Company's minority interests

As at the end of 2021, the company's undistributed profit was -60,957 million yuan, a decrease of 0.97 per cent compared with the end of last year. As of the end of 2021, the company's undistributed profit was -60.957 billion yuan, widening from the loss at the end of the previous year. 2020, the company's capital surplus decreased more due to the company's same-control business merger in that year. The other equity instruments of RMB 8,900 million in the company's ownership interest attributable to the parent company were perpetual bonds.

Owner's equity as at end March 2022 164.952 billion yuan, an increase of 2.72% compared with the end of last year, the company's undistributed profit increased. Among them, the proportion of equity attributable to owners of the parent company was -23.50 per cent, and the proportion of minority shareholders' equity was 123.50 per cent.

#### (2) be in debt

**In 2021, the overall debt size of the Company decreased slightly, but due to the decline in the Company's ownership interest in that year, the Company's gearing ratio and all debt capitalisation ratio increased, with a heavy debt burden; meanwhile, the Company's current liabilities increased in size and proportion year on year, and the Company needed to further strengthen its management of short-term liquidity.**

As of the end of 2021, the Company's total liabilities amounted to RMB 700,378 million, an increase of 3.50% from the end of the previous year, of which, the current liabilities accounted for



53.55 per cent and non-current liabilities accounted for 46.45 per cent. Current liabilities The scale and proportion of current liabilities of the company increased year by year, and the structure of liabilities was relatively balanced.

Table 16 Main components of corporate liabilities

subjects	End of 2019		End of 2020		End of 2021	
	Amount (\$ billion)	Percentage (%)	Amount (\$ billion)	Percentage (%)	Amount (\$ billion)	Percentage (%)
<b>current liability</b>	<b>3037.83</b>	<b>46.39</b>	<b>3200.58</b>	<b>47.30</b>	<b>3750.53</b>	<b>53.55</b>
short term loan	770.35	11.76	813.28	12.02	782.95	11.18
accounts payable	654.51	9.99	648.76	9.59	760.56	10.86
Taxes payable	90.41	1.38	112.50	1.66	205.62	2.94
Other accounts payable (total)	187.99	2.87	210.45	3.11	596.91	8.52
Non-current liabilities due within one year	831.85	12.70	884.29	13.07	683.61	9.76
Contractual liabilities	71.49	1.09	137.30	2.03	286.43	4.09
Other current liabilities	198.56	3.03	154.52	2.28	208.83	2.98
<b>non-current liability</b>	<b>3510.81</b>	<b>53.61</b>	<b>3566.20</b>	<b>52.70</b>	<b>3253.25</b>	<b>46.45</b>
long term loan	1044.31	15.95	967.88	14.30	1014.40	14.48
bonds payable	1858.81	28.38	1987.68	29.37	1559.99	22.27
Deferred income tax liabilities	317.32	4.85	314.97	4.65	311.02	4.44
<b>Total liabilities</b>	<b>6548.64</b>	<b>100.00</b>	<b>6766.78</b>	<b>100.00</b>	<b>7003.78</b>	<b>100.00</b>

Data source: Company's financial report, collated by United Credit Union

As at the end of 2021, the Company's current liabilities amounted to RMB375,053 million, representing an increase of 17.18% from the end of the previous year, which was mainly due to the growth of other payables, accounts payable and contract liabilities.

As of the end of 2021, the Company's short-term borrowings amounted to RMB78,295 million, a decrease of 3.73% from the end of the previous year. The Company's short-term borrowings mainly consisted of credit borrowings of RMB47,483 million and guaranteed borrowings of RMB30,692 million. As of the end of As at the end of 2021, accounts payable of the Company amounted to RMB76.056 billion, representing an increase of 17.23% as compared with the end of last year, and accounts payable with an age of less than one

year accounted for 96.95%. As at the end of 2021, the Company's other payables (total) amounted to RMB59,691 million, representing an increase of 183.64% as compared with the end of last year, which was mainly due to the increase in current accounts. As of the end of 2021

As at the end of 2021, the Company's non-current liabilities due within one year amounted to RMB68,361 million, a decrease of 22.69% as compared with the end of the previous year, which was mainly due to the maturity of debt repayment. As at the end of 2021, the Company's contractual liabilities amounted to RMB28,643 million, a decrease of 22.69% compared with the previous year.

As at the end of 2021, the Company's other current liabilities amounted to RMB20,883 million, representing an increase of 35.15% over the end of last year.

As at the end of 2021, the Company's other current liabilities amounted to RMB20,883 million, representing an increase of 35.15% as compared with the end of last year, which was mainly due to the increase in short-term financing bills.

As at the end of 2021, the Company's non-current liabilities amounted to RMB325.325 billion, a decrease of 8.78% from the end of last year, mainly due to the decrease in bonds payable.

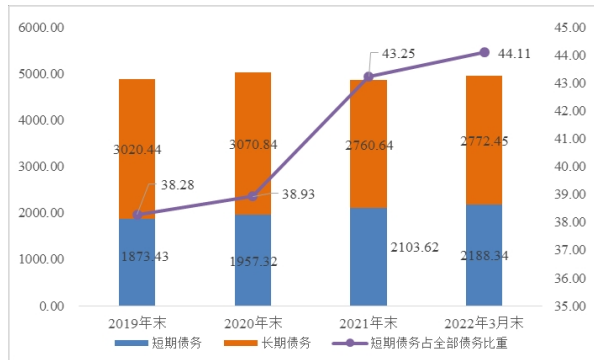
As at the end of 2021, the

Company's long-term borrowings amounted to RMB 101,440 million, representing an increase of 4.81% over the end of the previous year. The Company's long-term borrowings mainly consisted of credit borrowings of RMB 34,072 million and guaranteed borrowings of RMB 64,712 million.

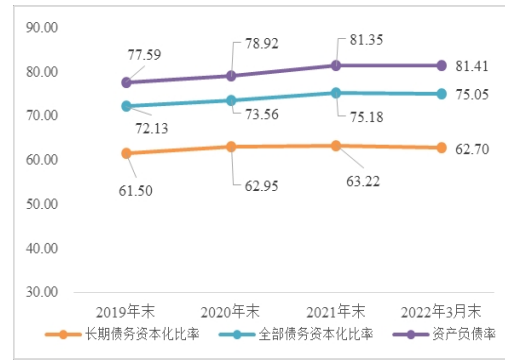
As at the end of 2021, bonds payable amounted to RMB155,999 million, representing a decrease of 21.52% as compared with the end of last year, which was mainly due to the maturity of the bonds or the transfer of bonds due within one year to non-current liabilities due within one year. As of the end of 2021, the Company's deferred income tax liabilities amounted to RMB31,102 million, a decrease of 1.26% from the end of last year.

Figure 7 Corporate debt structure (in billions of yuan, %)

Figure 8 Corporate debt leverage levels (in per cent)



Source: Company's financial report, collated by United Credit Union



Source: Company's financial report, collated by United Credit Union

As at the end of 2021, the Company's total debt was RMB486.426 billion, down 3.26% from the end of last year. As for the debt structure, short-term debt accounted for 43.25% and long-term debt accounted for 56.75%, with a relatively balanced structure. As at the end of 2021, the Company's gearing ratio, total debt capitalisation ratio and long-term debt capitalisation ratio were 81.35%, 75.18% and 63.22% respectively, representing increases from the end of last year.

2.43 percentage points, 1.62 percentage points and 0.27 percentage points, respectively. If the perpetual debt in the Company's owner's equity other equity instruments is transferred to long-term debt, as of the end of 2021, the Company's gearing ratio, total debt capitalisation ratio and long-term debt capitalisation ratio would be 82.38%, 76.56% and 65.26%, respectively. The company has a heavy debt burden.

As at the end of March 2022, the company's total liabilities amounted to RMB 722.191 billion, an increase of 3.11% compared with the end of last year, of which, current liabilities accounted for 55.16% and non-current liabilities accounted for 44.84%. Current liabilities and non-current liabilities are relatively balanced, and the structure of liabilities has not changed much compared with the end of last year.

As at the end of March 2022, the company's

total debt was RMB496.079 billion, an increase of 1.98% from the end of last year, with short-term debt accounting for 44.11% and long-term debt accounting for 55.89%, a relatively balanced structure. The structure is relatively balanced, with 44.11 per cent short-term debt and 55.89 per cent long-term debt.

As at the end of March 2022, the Company's gearing ratio, total debt capitalisation ratio and long-term debt capitalisation ratio were 81.41%, 75.05% and 62.70% respectively, representing an increase of 0.06 percentage points, a decrease of 0.13 percentage points and a decrease of 0.53 percentage points from the end of the previous year. By transferring the perpetual bonds from the Company's ownership interest in other equity instruments to long-term debt, the Company's gearing ratio, total debt capitalisation ratio and long-term debt capitalisation ratio as at the end of March 2022 were 82.41%, 76.39% and 64.71% respectively.

#### 4. profitability

In 2021, the Company's total operating income increased significantly year-on-year, and the period expense ratio remained high, affected by the Company's accrual of large tax payable and non-recurring gains and losses, the Company's earnings scale and profitability declined.

In 2021, the Company achieved total operating revenue of RMB 502,599 million, up 20.41% year-on-year, mainly due to the revenue growth of petrochemicals and refinery products and seeds and agrochemicals; operating costs of RMB 386,555 million, up 18.45% year-on-year, an increase smaller than total operating revenue; the Company's gross profit for the year increased by 27.47% year-on-year to RMB 116,044 million; however, the Company made large accruals for taxes and surcharges that year, which rose significantly. However, the company provided for a large amount of tax payable in that year, and taxes and surcharges rose sharply.

Table 17 Corporate earnings (in billions of yuan, %)

spor ts eve nt	2019	2020	2021
total revenue	4543.46	4173.95	5025.99
gross profit	1056.14	910.39	1160.44
Taxes and surcharges	93.46	45.18	256.57
Total cost:	908.89	813.51	854.62
Of which: Selling expenses	341.26	292.40	273.48
overheads	255.22	230.49	272.14
R&D costs	113.08	113.91	133.90
financial cost	199.34	176.70	175.10
investment income	9.20	29.28	13.06
Impairment losses on assets	-71.72	-30.16	-40.25
Gain on change in fair value	17.49	8.79	4.95
Gain on disposal of assets	13.20	4.35	7.04
Other gains	13.83	15.69	15.18
non-operating income	23.88	22.35	9.43

return on net assets	1.46	0.94	-2.29
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Source: Company's financial report, collated by Joint Credit Union

In 2021, manpower cost, financing cost, sales cost and other expenses caused the company's expenses to remain at a very large scale, with the company's total expenses amounting to RMB85.462 billion, up 5.05% year-on-year, mainly due to the growth of management expenses and R&D expenses. In terms of composition, the company's selling expenses, management expenses, R&D expenses and financial expenses accounted for 32.00%, 31.84%, 15.67% and 20.49% respectively.

In 2021, the Company's period expense ratio was 17.00%, a decrease from the same period last year

2.49 percentage points, but the company's period expense ratio is still high.

In terms of non-recurring profit and loss, in 2021, the company achieved investment income of RMB1.306 billion, down 55.39% year-on-year, mainly due to the decrease in the income from trading financial assets of overseas enterprises compared with that of the previous period, and investment income accounted for 32.71% of operating profit, which had a greater impact on the operating profit; impairment loss on assets of RMB4.025 billion, mainly due to the loss on decline in the value of inventories and impairment loss on fixed assets, In 2021, the company's net gain from changes in fair value -495 million yuan, an increase of 384 million yuan compared with 2020, mainly due to changes in the fair value of derivative financial instruments of overseas enterprises. Gain on disposal of assets of RMB704 million, an increase of 61.92% year-on-year, mainly due to the increase in gain on disposal of fixed assets; other gains of RMB1,518 million, a year-on-year decrease of 3.29%, the company's other gains mainly include

scientific research subsidies, research subsidies, energy-saving and environmental protection subsidies, special funds, production and technological reform and R & D subsidies, various types of government subsidies, and tax rebates, etc.; non-operating income of RMB943 million, a year-on-year decrease of 3.29%. 943 million yuan, a year-on-year decline of 57.80%, mainly due to the bargain purchase gains and the reduction of payables without repayment, non-operating income accounted for 37.45% of the total profit, a greater impact on profit; non-operating expenditures of 2,418 million yuan, a year-on-year increase of 246.68%, mainly due to the occurrence of a large amount of litigation and settlement fees of China Agrochemical's overseas enterprises, non-operating expenses Non-operating expenses accounted for 95.97% of the total profit, which had a greater impact on profit. Non-recurring profit and loss accounted for a large proportion of the company's operating profit, which had a greater impact on the company's profitability.

In 2021, the company's total profit was RMB2,520 million, a year-on-year decrease of 52.05%, and the company's operating profit margin was 17.98%, a year-on-year decrease of 2.75 percentage points.

In terms of profitability indicators, in 2021, the Company's return on total capital and return on net assets were 1.94% and -2.29% respectively, down 1.03 percentage points and 3.23 percentage points year-on-year respectively. The Company's profitability indicators have declined. The Company's profitability indicators declined.

Decrease. Compared with the same industry, the gross profit margin of the company is at a high level, but the company's return on total assets and return on net assets are at a low level due to the provision of large amount of tax payable and the impact of non-recurring gains and losses in 2021.

Table 18 Comparison of Profitability Indicators of Petrochemical Central Enterprises in 2021

Indicator name	Gross profit on sales Rate (per cent)	Total assets report Rate of remuneration (%)	net asset value Rate of return (per cent)
China Petroleum and Chemical Corporation, Sinopec limited company	19.64	5.12	7.14
China National Chemical Corporation department (under a ministry)	23.09	2.09	-2.29
China National Petroleum Corporation limited company	22.98	4.48	4.30

Note: In order to ensure the consistency of the calibre of the comparative indicators in the same industry, the indicators in the above table uniformly use the Wind calibre.

January - March 2022, the company achieved total revenue 126,016 million yuan, an increase of 7.81 per cent year-on-year, with total profits of 10,211 million, an increase of 68.62 per cent over the previous year.

#### 5. cash flows

In 2021, the scale of cash gained from operating activities of the company increased significantly, and the quality of revenue realisation was better; the scale of cash outflow from investing activities of the company decreased, but in that year, the company repaid a large scale of maturing debt, and

#### cash from financing activities showed a large-scale net outflow.

From the perspective of operating activities, in 2021, the company's cash inflow from operating activities was 562.292 billion yuan, an increase of 25.26% year-on-year, and cash outflow from operating activities was 506.605 billion yuan, an increase of 21.18% year-on-year, and the company's net cash inflow from operating activities was 55.688 billion yuan, an increase of 80.58% year-on-year, mainly due to the increase in the amount of current payments to and from affiliates, which led to an increase in the cash received from other activities related to operations. In 2021, the company's cash to income ratio was 106.35%, an increase of 1.49 percentage points year-on-year, with higher quality of income realisation.

Table 19 Corporate cash flow (in billions of yuan, %)

sports event	2019	2020	2021
Subtotal cash inflow from operating activities	4879.78	4488.87	5622.92
Subtotal cash outflows from operating activities	4625.99	4180.49	5066.05
Net cash flows from operating activities	253.78	308.39	556.88
Subtotal cash inflow from investing activities	205.47	232.52	278.76
Subtotal cash outflows from investing activities	376.57	555.71	511.43
Net cash flows from investing activities	-171.10	-323.19	-232.67
Net cash flows before financing activities	82.69	-14.81	324.21
Subtotal cash inflow from financing activities	1939.94	3245.36	3157.55



Subtotal cash outflows from financing activities	1966.89	3240.59	3535.16
Net cash flows from financing activities	-26.96	4.77	-377.61
Cash to income ratio	104.20	104.85	106.35

Source: Company's financial report, collated by United Credit Union

From the perspective of investing activities, in 2021, the Company's cash inflow from investing activities was RMB27,876 million, an increase of 19.89% year-on-year, cash outflow from investing activities was RMB51,143 million, a decrease of 7.97% year-on-year, and the Company's net cash outflow from investing activities was RMB23,267 million, a decrease of 28.01% year-on-year, which was mainly attributable to the decrease in cash outflow incurred by the Company's acquisition activities.

In 2021, the Company's net cash flow before financing activities was At RMB32,421 million, the Company's net cash flow from operating activities for the year could cover the net cash outflow from investing activities.

From the perspective of financing activities, in 2021, the company's cash inflow from financing activities was RMB 315,755 million, a year-on-year decrease of 2.71%, with little year-on-year change; cash outflow from financing activities was RMB 353,516 million, a year-on-year increase of 9.09%, and in 2021, the company's net cash outflow from financing activities was RMB 37,761 million, which was mainly attributable to the maturity of the debt

spor ts eve nt	spor ts eve nt	2019	2020	2021
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activities of RMB 3,251 million and net cash outflow from investing activities of RMB 5,585 million.

The net cash inflow from financing activities was

Short-term solvency	Current ratio (%)	94.24	96.25	86.99
	Operating cash current liabilities ratio (per cent)	8.35	9.64	14.85
	Cash short-term debt ratio (times)	0.46	0.43	0.35
Long-term solvency	EBITDA (\$bn)	482.67	461.77	409.87
	All debt/EBITDA (times)	10.14	10.89	11.87
	EBITDA Interest multiples (times)	2.39	2.47	2.62
	Total debt/operating cash	19.28	16.30	8.73

Long-term and short-term solvency indicators have been strengthened compared with the previous year, but the performance of long-term and short-term solvency indicators is still average, meanwhile, it has a certain scale of guarantees for affiliated enterprises. Although the company's strong financing ability effectively protects its liquidity, the company needs to control the proportion of debt financing and improve the stability of sustained profitability and cash flow in order to strengthen its solvency indicators.

In terms of short-term solvency indicators, as at the end of 2021, the Company's current ratio decreased to 86.99% from 96.25% as at the end of last year, and the Company's operating cash current liabilities ratio was 14.85% as at the end of 2021, an increase of 5.21 percentage points year-on-year. The Company's cash-to-short-term debt ratio decreased from 0.43 times as at the end of last year to 0.35 times, the degree of protection of cash assets for short-term debts is average. Overall, the company's short-term solvency indicators are average.

Table 20 Corporate solvency indicators



Note: Cash from operations refers to net cash flow from operating activities, the same below Source: Compiled by United Credit Suisse based on the Company's financial reports

In terms of long-term solvency indicators, in 2021, the Company's EBITDA was RMB 40,987 million, a year-on-year decrease of 11.24%, mainly due to the decrease in total profit and interest expense. In 2021, the Company's EBITDA interest multiples increased from the previous year's 2.47 times to 2.62 times, EBITDA to interest coverage is high; the company's all debt / EBITDA from the previous year's 10.89 times rose to 11.87 times, with weak EBITDA coverage of total debt. All debt/cash from operations decreased from 16.30x in the previous year to 8.73 times. Overall, the company's long-term debt servicing capacity indicators have been enhanced compared with the previous year, but the overall performance is still average.

In respect of material outstanding litigation, as at the date of this report, according to public information, ChemChina Corporation is jointly and severally liable for RMB2.57 billion of the amount repayable by Gansu Tianji Investment Management Company Limited to Gansu Bank Co. The case has been taken over by the Legal Compliance Department of Sinochem and it is intended to apply to the Supreme People's Court for a retrial.

guarantees provided by the Company to the participating company China National Chemical New Materials Corporation and its affiliates were as follows 26,275 million, with a guarantee ratio of 16.36 per cent.

The Company has good co-operation with a number of banks and as at the end of 2021

The company has received a total of 619 billion yuan in credit from major commercial banks.

With an unutilised quota of RMB 349.2 billion, the company's indirect financing channels are smooth; at the same time, the company owns a number of listed companies both at home and abroad, and has direct financing channels.

#### 7. Financial overview of the parent company

**The Company's head office is mainly responsible for management functions, with a small scale of revenue, poor profitability and a heavy debt burden.**

At the end of 2021, the parent company's total assets were 1,416.51 per cent.

Of this amount, \$30,729 million was in current assets (as a percentage of total assets).

(21.69 per cent), non-current assets 110,922 million yuan (%)

(78.31 per cent). In terms of composition, current assets mainly consisted of other receivables (total) (99.63%); non-current assets mainly consisted of investments in other equity instruments (23.81%) and long-term equity investments (74.79%). As at the end of 2021, the Parent Company's monetary funds amounted to RMB37 million.

At the end of 2021, the parent company had total liabilities of 1141.58 per cent.

Of this amount, \$91,938 million was in current liabilities (as a percentage of the total).

80.54 per cent), non-current liabilities 22,220 million yuan (as a percentage)

(19.46 per cent). In terms of composition, current liabilities mainly consisted of short-term payables (total) (67.89%), non-current liabilities due within one year (15.01%) and other current liabilities (8.29%), while non-current liabilities mainly consisted of long-term borrowings (28.22%) and bonds payable (71.57%). As at the end of 2021, the parent company had a heavy debt burden. At the end of 2021, the gearing ratio of the parent company was 80.59%, and the parent company had a heavy debt burden.

As of the end of 2021, the parent company's total debt was RMB 51,570 million. Among them, short-term debt accounted for 57.00 per cent and long-term debt accounted for 43.00 per cent. As of the end of 2021, the parent company's short-term debt was RMB 515.70 billion.

RMB29,397 million, and as at the end of 2021, the capitalisation ratio of all debts of the parent company was 65.23%, so the debt burden of the parent company was relatively heavy.

As of the end of 2021, the parent

company's ownership interests were 27,493 million, a decrease of 8.25 per cent from the end of the previous year. Owners' rights

Of this amount, paid-in capital and other equity instruments amounted to \$11,592 million.

8,900 million yuan, capital surplus totalled 22,729 million yuan, and undistributed profit totalled -15,728 million yuan.

In 2021, the parent company's total operating income was 147 million yuan, and total profit was -2,114 million yuan. During the same period, the investment income of the parent company was RMB 89 million.

In terms of cash flow, in 2021, the company's parent company's net cash flow from operating activities will be \$11,104 million, cash flow from investing activities

Net \$3,817 million and net cash flow from financing activities -\$15,035 million.

#### xi. external support

**At present, the restructuring of the two companies has completed industrial and commercial registration, and the controlling shareholder of the company has been changed to Sinochem, which, as a large-scale state-owned enterprise directly held by 100% of the State-owned Assets Supervision, Administration and Administration Commission of the State Council, has significant scale advantages and strong comprehensive strength. Reorganisation of Sinochem**

**The matter is conducive to the optimisation of resource allocation and the formation of synergies within the Group, and the Company, as one of the implementation entities of the dual-integration restructuring, is expected to benefit from the integration of resources.**

The company is a large-scale integrated chemical group company covering new chemical materials and speciality chemicals, petrochemicals and refinery products, seeds and agrochemicals, chlor-alkali chemicals, rubber and rubber-plastic machinery. At present, the reorganisation of the two chemical companies has completed the industrial and commercial registration, and the controlling shareholder of the company has changed to Sinochem.

According to Sinochem's website, Sinochem was formed by the joint reorganisation of Sinochem Group and China National Chemical Corporation, and is an important state-owned backbone enterprise under the supervision of the State-owned Assets Supervision and Administration Commission of the State Council, with 220,000 employees. After the reorganisation, Sinochem is a global large-scale comprehensive chemical enterprise with business scope covering eight fields, including life sciences, materials science, petrochemicals, environmental sciences, rubber tyres, machinery and equipment, urban operation and industrial finance, and has leading advantages in agrochemicals and animal nutrition in life sciences and fluorosilicone materials, engineering plastics, and rubber auxiliaries in materials science, while petrochemicals have distinctive features. Petrochemical business has distinctive features and has built

a petrochemical industry chain development model; environmental science business focuses on industrial environmental protection and is in the process of rapid development; high-end tyre business is a global leader; plastics machinery business is world-class; in the field of urban operation, the company is one of the first 16 central enterprises with real estate as their main business as determined by the State-owned Assets Supervision, Administration and Administration Commission (SASAC); in the field of industrial finance, the company owns a number of financial licences, with significant business advantages in trusts, leasing and so on. In the field of industrial finance, the Company possesses a number of financial business licences, with significant advantages in trust, leasing, etc. Sinochem has production bases and R&D facilities in more than 150 countries and regions around the world, as well as a comprehensive marketing network. Upon completion of the restructuring, Sinochem has 17 listed companies both domestically and internationally.

China Sinochem, as a large state-owned enterprise directly owned by the State Council's State-owned Assets Supervision and Administration Commission (SASAC), has a significant scale advantage and strong comprehensive strength. The two chemical joint restructuring matters are conducive to the optimisation of resource allocation and the formation of synergies within the group. Since 2019, the two chemical groups within the two chemical groups continue to continue the integration of the internal seed and agrochemical plate industry chain, so as to optimise the plate industry chain and expand the scale of the business. During the tracking period, in order to accelerate the integration of the agrochemical plate within the two chemical groups, Syngenta Group acquired Jiangsu

Yangnong Chemical Company Limited by way of a non-public agreement. In the future, with the enhancement of synergies, the business anti-risk ability is expected to be further strengthened.

## XII. Analysis of repayment capacity of surviving bonds

**The Company's cash-based assets, cash flows from operating activities and EBITDA is highly protective of the peak principal amount outstanding on the surviving bonds.**

As at the end of June 2022, the Company's deposited bonds comprised RMB 38 billion and USD 11,650 million. Of which, maturing within 2022

(The balance of bonds payable (including the exercise of rights) is RMB27.560 billion, reaching the peak of the principal amount of the surviving bonds to be repaid. As of the end of 2021, the company's cash assets amounted to RMB73.769 billion, which is 2.68 times of the peak principal amount of bonds payable (RMB27.560 billion); in 2021, the company's cash inflow from operating activities, net cash flow from operating activities, and EBITDA will be RMB62.292 billion, RMB55.688 billion, and RMB40.987 billion, respectively.

billion, or 20.40, 2.02 and 1.49 times the peak principal amount outstanding on surviving bonds (\$27.560 billion).

Table 21 Maturity amount of the company's deposited bonds as at the end of June 2022

vintages	Amount of maturing domestic bonds (RMB billion)	Amount of foreign bonds maturing (US\$ billion)	Total (RMB billion)
2022	180.00	15.00	275.60
2023	180.00	13.00	262.85
2024	0.00	11.00	70.10
2025	20.00	14.00	109.22
2026	0.00	0.00	0.00
2027	0.00	10.00	63.73
2028	0.00	17.50	111.53
2029	0.00	9.00	57.36
2030	0.00	10.00	63.73
2030 to empress	0.00	17.00	108.34

add up the total	380.00	116.50	1122.45
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Note: The exchange rate of the United States dollar to the renminbi is based on data as at 31 December 2021, i.e., 1 United States dollar = 6.3730 renminbi.

Source: Wind

As of the end of 2021, the company's long-term debt balance totalled \$4.5 billion. 276,064 million in 2021, the Company's cash inflow from operating activities, net cash flow from operating activities and EBITDA are 2.04 times, 0.20 times and 0.15 times, respectively, the Company's long-term debt.

Table 22 Indicators of the Company's ability to repay perpetual bonds

spor ts eve nt	2021
Long-term debt* (\$ billion)	4864.26
Operating cash inflow/long-term debt (times)	2.04
Operating cash/long-term debt (times)	0.20
EBITDA/long-term debt (times)	0.15

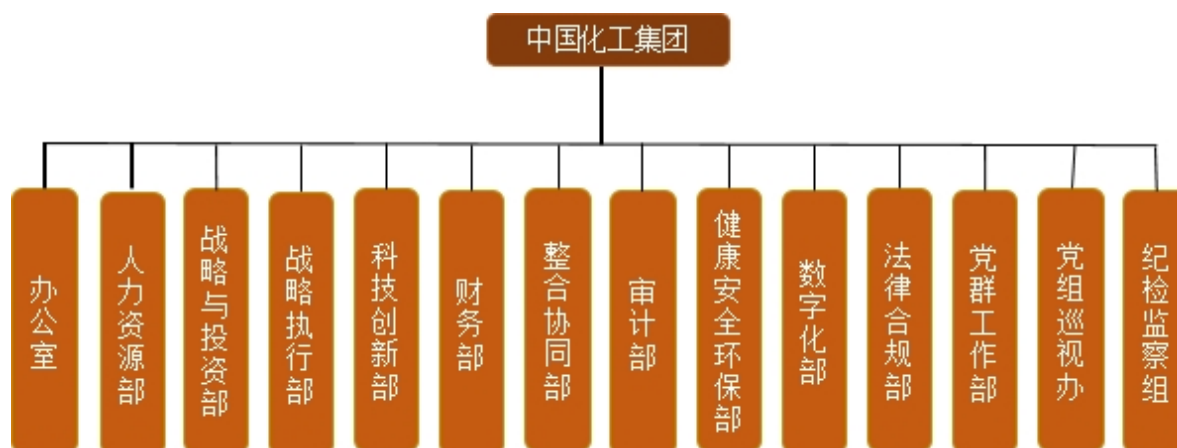
Note: 1. Long-term debt in the above table is the amount after including perpetual debt in the company's owner's equity other equity instruments; 2. Cash from operations, cash inflow from operations, and EBITDA are adopted from the previous year's data  
 Source: Joint Credit Union based on company annual reports and public information.

### XIII. Conclusion

基于对公司经营风险、财务风险、外部支持及债项条款等方面的综合分析评估，联合资信确定维持中国化工集团有限公司主体长期信用等级为 AAA，并维持“19 中化工 MTN003”“19 中化工 MTN005”“20 ChemChina MTN001”“20 ChemChina MTN002”“20 ChemChina MTN003”“20 ChemChina MTN004”“19 ChemChina MTN005”“20 ChemChina MTN004A”“20 ChemChina MTN004B”“20 ChemChina MTN006”“20 ChemChina ChemChina MTN008”“20 ChemChina MTN009A”“20 ChemChina MTN009B”“20 ChemChina

The credit rating of “21 China Chemical MTN001” is AAA, and the rating outlook is stable.

## Annex 1-1 Organisational chart of the Company as at the end of 2021



Source: Provided by the company



## Annex 1-2 Company's first-tier subsidiaries as of the end of 2021

serial number	company identification	paid-up capital (\$ million)	percentage of shareholding (per cent)	proportion of voting rights (per cent)	Nature of business
1	China Bluestar (Group) Co.	1536558.92	99.99	99.99	Chemical products
2	China Haohua Chemical Group Co.	422121.93	100.00	100.00	Chemical products
3	Haohua Chemical Co.	235408.12	100.00	100.00	Chemical products
4	China National Chemical Equipment Corporation	100000.00	100.00	100.00	Chemical Machinery
5	ChemChina Agrochemicals Ltd.	4182115.99	100.00	100.00	Agrochemicals
6	China Chemical & Rubber Co.	160000.00	100.00	100.00	Tyre manufacturing
7	China Motor Vehicle Automobile Repair (Group) Corporation	82422.05	100.00	100.00	car repair
8	Qingdao Yellow Sea Rubber Group Co.	33282.57	100.00	100.00	Manufacture of rubber products
9	China National Chemical Oil & Gas Corporation	497672.73	100.00	100.00	oil processing
10	China Blue Petrochemical Co.	51100.87	100.00	100.00	Chemical products
11	China Academy of Chemical Sciences Ltd.	18762.90	100.00	100.00	Technical Services
12	ChemChina Finance Ltd.	84122.50	100.00	100.00	financial
13	China National Chemical Information Centre Ltd.	15000.00	100.00	100.00	information service
14	ChemChina Asset Management Co. <sup>1</sup>	85714.29	35.00	35.00	Chemical products
15	China National Chemical Museum	5000.00	100.00	100.00	museums
16	Bluestar Information Equipment (Beijing) Co.	1000.00	100.00	100.00	Chemical equipment
17	National Star Group Limited	72000.00	100.00	100.00	Metal ore materials
18	ChemChinaHKCompanyLimited	0.85	100.00	100.00	Overseas fund-raising, investment
19	ChemChina Century Ltd.	0.88	100.00	100.00	Overseas fund-raising, investment
20	Zhonglianhua (Beijing) Holding Co.	155500.00	100.00	100.00	Business services

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<sup>1</sup> The Company is the largest shareholder of ChemChina Asset Management Company Limited, and other external shareholders are mainly financial investors. The Company can directly exercise the power of appointment and dismissal of personnel and performance appraisal of the Asset Company, and the investment projects of the Asset Company are all within the Company, and the external shareholders basically will not intervene in and influence the day-to-day operation of the Asset Company and decision-making on major matters. Therefore, the Company has the power over ChemChina Asset Management Company Limited and has the ability to use such power to influence the amount of the Company's return.

## Annex 2-1 Key financial data and indicators (consolidated)

Item	2019	2020	2021	March 2022
<b>Financial data</b>				
Cash-based assets (\$ billion)	857.64	838.13	737.69	800.54
Total assets (\$ billion)	8439.62	8574.27	8609.63	8871.42
Owners' equity (\$ billion)	1890.98	1807.49	1605.85	1649.52
Short-term debt (\$ billion)	1873.43	1957.32	2103.62	2188.34
Long-term debt (\$ billion)	3020.44	3070.84	2760.64	2772.45
Total debt (\$ billion)	4893.87	5028.16	4864.26	4960.79
Gross operating income (\$ billion)	4543.46	4173.95	5025.99	1260.16
Total profit (\$bn)	42.30	52.55	25.20	102.11
EBITDA (\$bn)	482.67	461.77	409.87	—
Net operating cash flow (\$bn)	253.78	308.39	556.88	-32.51
<b>Financial Indicators</b>				
Sales claims turnover (times)	7.52	6.78	7.75	—
Inventory turnover (times)	4.07	3.65	3.91	—
Total asset turnover (times)	0.55	0.49	0.58	—
Cash receipts ratio (%)	104.20	104.85	106.35	85.32
Operating margin (per cent)	21.19	20.73	17.98	25.52
Total return on capital (per cent)	3.38	2.97	1.83	—
Return on net assets (%)	1.46	0.94	-2.29	—
Long-term debt capitalisation ratio (%)	61.50	62.95	63.22	62.70
Total debt capitalisation ratio (%)	72.13	73.56	75.18	75.05
Gearing ratio (per cent)	77.59	78.92	81.35	81.41
Current ratio (%)	94.24	96.25	86.99	89.23
Quick ratio (%)	64.60	68.55	57.91	61.44
Operating cash current liabilities ratio (%)	8.35	9.64	14.85	—
Cash short-term debt ratio (times)	0.46	0.43	0.35	0.37
EBITDA Interest multiples (times)	2.39	2.47	2.62	—
All debt/EBITDA (times)	10.14	10.89	11.87	—

Note: 1. the company's financial statements for January-March 2022 are unaudited; 2. interest-bearing debt in other payables, other current liabilities, long-term payables and other non-current liabilities has been accounted for as all debt in the consolidation for 2019-2021

Source: Company's financial report, collated by Joint Credit Union

## Annex 2-2 Key Financial Data and Indicators (Company Headquarters/Parent Company)

Item	2019	2020	2021	March 2022
<b>Financial data</b>				
Cash-based assets (\$ billion)	20.12	1.51	0.37	33.46
Total assets (\$ billion)	912.36	1426.64	1416.51	1448.38
Owners' equity (\$ billion)	300.15	299.66	274.93	269.19
Short-term debt (\$ billion)	277.00	286.10	293.97	268.50
Long-term debt (\$ billion)	187.06	318.48	221.73	240.57
Total debt (\$ billion)	464.06	604.58	515.70	509.07
Gross operating income (\$ billion)	2.70	1.70	1.47	0.10
Total profit (\$bn)	-16.65	-5.48	-21.14	-4.07
EBITDA (\$bn)	/	/	/	—
Net operating cash flow (\$bn)	-40.95	-176.25	111.04	45.58
<b>Financial Indicators</b>				
Sales claims turnover (times)	*	*	*	—
Inventory turnover (times)	*	*	*	—
Total asset turnover (times)	*	*	*	—
Cash receipts ratio (%)	103.49	104.68	103.63	75.74
Operating margin (per cent)	94.76	90.40	90.64	99.40
Total return on capital (per cent)	-2.18	-0.61	-2.67	—
Return on net assets (%)	-5.55	-1.83	-7.69	—
Long-term debt capitalisation ratio (%)	38.39	51.52	44.64	47.19
Total debt capitalisation ratio (%)	60.72	66.86	65.23	65.41
Gearing ratio (per cent)	67.10	79.00	80.59	81.41
Current ratio (%)	40.88	37.24	33.42	36.16
Quick ratio (%)	40.88	37.24	33.42	36.16
Operating cash current liabilities ratio (%)	-9.64	-21.81	12.08	—
Cash short-term debt ratio (times)	0.07	0.01	0.00	0.12
EBITDA Interest multiples (times)	/	/	/	—
All debt/EBITDA (times)	/	/	/	—

### Calibre)

Note: 1. The company's financial statements for January-March 2022 have not been audited; 2. The interest-bearing debt in other current liabilities has been included in the accounting of all debts in the calibre of the parent company for the year 2019-2021; 3. "/" indicates that the data are available but not obtained. \*\*—" indicates that the relevant indicator is meaningless, and \* indicates that the data are too large or too small.

Source: Company's financial report, collated by United Credit Union

### Annex 3 Formulas for calculating key financial indicators

Indicator name	formula
Growth indicators	
Compound annual growth rate of total assets	(1) 2 years of data: Growth rate = (current period - previous period)/previous period x 100 per cent (2) n years of data: growth rate = [(current period/previous n years)^(1/(n-1)) - 1] x 100%
Compound annual growth rate of net assets	
Compound annual growth rate of gross operating income	
Compound annual growth rate of total profit	
Operational efficiency indicators	
Sales claims turnover	Total operating income/(average net accounts receivable + average notes receivable + average receivables financing)
Inventory turnover	Operating costs/average net inventories
Total asset turnover	Gross operating income/average total assets
Cash to income ratio	Cash received from sales of goods and services/gross operating income x 100%
Profitability indicators	
Total return on capital	(Net profit + Expensed interest expense) / (Owners' equity + Long-term debt + Short-term debt) x 100 per cent
return on net assets	Net profit/owners' equity x 100 per cent
operating profit margin	(Total operating revenue - operating costs - taxes and surcharges) / Total operating revenue x 100 per cent
Debt structure indicators	
gearing	Total liabilities/total assets x 100 per cent
Total debt capitalisation ratio	Total debt/(long-term debt + short-term debt + owner's equity) x 100 per cent
Long-term debt capitalisation ratio	Long-term debt/(long-term debt + owner's equity) x 100 per cent
Guarantee ratio	Balance of guarantees/owner's equity x 100 per cent
Long-term solvency indicators	
EBITDA Interest multiples	EBITDA/interest expense
Total debt/ EBITDA	Total debt/ EBITDA
Short-term solvency indicators	
current ratio	Total current assets/total current liabilities x 100 per cent
quick ratio	(Total current assets -- inventories)/total current liabilities x 100 per cent
Operating cash current liabilities ratio	Net cash flows from operating activities/total current liabilities x 100 per cent
Cash-to-short-term debt ratio	Cash-based assets/short-term liabilities

Note: Cash-based assets = money funds + trading financial assets + notes receivable + notes receivable in receivables financing  
Short-term debt = short-term borrowings + financial liabilities for trading + non-current

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liabilities due within one year + notes payable + other short-term debt Long-term debt =  
long-term borrowings + bonds payable + lease liabilities + other long-term debt  
Total debt = short-term debt + long-term debt  
EBITDA = Total Profit + Expensed Interest Expense + Depreciation of Fixed  
Assets + Depreciation of Right of Use Assets + Amortised Interest Expense  
= Capitalised Interest Expense + Expensed Interest Expense



## Annex 4-1 Long-term credit rating settings for subjects and their meanings

The long-term credit rating of the main body of the Joint Credit Union is divided into three grades and nine grades, with the symbols as follows: AAA, AA, A, BBB, BB, B, CCC, CC, C. Except for the grades of AAA and CCC (inclusive), each credit rating can be fine-tuned by the symbols "+" and "-" to indicate that it is slightly higher or lower than the present grade. Except for grades of AAA and CCC (or below), each credit rating can be fine-tuned with "+" and "-" symbols to indicate that it is slightly higher or lower than this grade.

Each credit rating symbol represents the level and relative ranking of the probability of default of the rated object, and the credit rating from high to low reflects the gradual increase in the probability of default of the rated object, but does not exclude the possibility of default of the rated object with a high credit rating.

The specific grade settings and meanings are shown in the table below.

credit level	hidden meaning
AAA	Extremely strong ability to service debt, largely unaffected by unfavourable economic environment, very low probability of default
AA	Strong ability to service debt, little impact from unfavourable economic environment, low probability of default
A	Stronger debt repayment capacity, more vulnerable to unfavourable economic environment, lower probability of default
BBB	Average debt repayment capacity, high exposure to unfavourable economic environment, average default probability
BB	Weak debt servicing capacity, highly affected by unfavourable economic environment and high probability of default
B	The ability to service debt is more dependent on a favourable economic environment and the probability of default is high
CCC	The medium and long-term bond credit ratings of Union Trust are set and have the same meaning as the main body credit ratings, and the probability of default is extremely high
CC	Less protection in case of insolvency or reorganisation, with little guarantee of repayment of debts
C	Inability to pay debts

## Annex 4-3 Rating Outlook Setting and Meaning

A rating outlook is an evaluation of the direction and likelihood of a change in a credit rating over the next year or so. Rating outlooks are usually classified into four categories: positive, negative, stable, and watch.

Rating outlook	hidden meaning
positive	More favourable factors exist and future credit rating upgrades are more likely to