Stock Code:4739

Coremax Corporation and Subsidiaries

Consolidated Financial Statements

With Independent Auditors’ Report
For the Years Ended December 31, 2019 and 2018

The independent auditors’ report and the accompanying consolidated financial statements are the English translation of the Chinese version prepared and used in the Republic of China. If there is any conflict between, or any difference in the interpretation of the English and Chinese language independent auditors’ report and consolidated financial statements, the Chinese version shall prevail.

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Representation Letter

The entities that are required to be included in the combined financial statements of Coremax Corporation as of and for the year ended December 31, 2019 under "the Criteria Governing the Preparation of Affiliation Reports, Consolidated Business Reports, and Consolidated Financial Statements" of Affiliated Enterprises are the same as those included in the consolidated financial statements prepared in conformity with International Financial Reporting Standards No. 10 endorsed by the Financial Supervisory Commission, "Consolidated Financial Statements." In addition, the information required to be disclosed in the combined financial statements is included in the above-mentioned consolidated financial statements. Consequently, Coremax Corporation and Subsidiaries do not prepare a separate set of combined financial statements.

Company name: Coremax Corporation
Chairman: Chi-Cheng Ho
Date: March 18, 2020

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Independent Auditors' Report

To the Board of Directors
Coremax Corporation:

Opinion

We have audited the consolidated financial statements of Coremax Corporation ("the Company") and its subsidiaries ("the Group"), which comprise the consolidated balance sheets as of December 31, 2019 and 2018, and the consolidated statements of comprehensive income, changes in equity and cash flows for the years then ended and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as of December 31, 2019 and 2018, and its consolidated financial performance and its consolidated cash flows for the years then ended in accordance with the Regulations Governing the Preparation of Financial Reports by Securities Issuers and with the International Financial Reporting Standards ("IFRSs"), International Accounting Standards ("IASs"), interpretations as well as related guidance endorsed and issued into effect by the Financial Supervisory Commission of the Republic of China.

Basis for Opinion

We conducted our audits in accordance with the Regulations Governing Auditing and Certification of Financial Statements by Certified Public Accountants and the auditing standards generally accepted in the Republic of China. Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Consolidated Financial Statements section of our report. We are independent of the Group in accordance with the Certified Public Accountants Code of Professional Ethics in the Republic of China ("the Code"), and we have fulfilled our other ethical responsibilities in accordance with the Code. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis of our opinion.

Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements for the year ended December 31, 2019. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters. Based on our judgment, the key audit matters should be reflected in our report are as follow:

1. Loss allowance assessment of Receivables

   Please refer to Note 4(7) "Financial instruments" for the accounting policies of loss allowance assessment of receivables, Note 5 " for the relevant accounting estimation, and major sources of assumption uncertainty" ; and Note 6(4) "Notes and accounts receivable, net" to the consolidated financial statements for the details of relevant disclosures.

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Description of key audit matters:

The Group has a worldwide customer base. As such, the Group may encounter difficulty in obtaining financial information of the customers due to the rapid changes in the business environment which included the industry, technology, market, and economic, as well as legal matters. When assessing the expected credit loss of its receivables during its lifetime, the receivables are measured based on the factors such as aging analysis of accounts receivable, customers' financial status, historical collection experience, current market conditions, and consideration of forward-looking information. The assessment of allowance for loss on accounts receivables involved subjective judgment of management, which has been identified as one of our key audit matters.

How the matter was addressed in our audit:

Our main audit procedures included: Obtaining and checking the accuracy of the impairment loss calculation from the management of the accounts receivable ; Checking the completeness of the aging analysis of the receivables and accuracy of the aging bracket by sampling, and analyzing the receivables aging and historical receivables collection record and customer credit risk concentration in measuring the appropriateness of the expected credit loss rate in order to evaluate the reasonableness of the porvision amount of the account receivable loss allowance of the Group, and evaluating the adequacy of the Group' s disclosures in the accounts.

2. Valuation of Inventories

Please refer to Note 4(8) "Inventories" for the accounting policies of inventories valuation, Note 5 "for the relevant accounting estimation, and major sources of assumption uncertainty", and Note 6(5) "Inventories" to the consolidated financial statements for the details of relevant disclosures.

Description of key audit matters:

The Group's inventories are measured at the lower of cost and net realizable value. The Group will exercise judgment in estimating the net realizable value of its inventories as at reporting date. Estimation of net realizable value might subject to significant changes due to the fluctuations of the market and rapid changes in technology. Therefore, estimation of devaluation loss that reduce inventory to market value is one of our key audit matters.

How the matter was addressed in our audit:

Our principal audit procedures included: Understanding and evaluating the assessment performed by the management in calculating the net realizable value, as well as vouching to relevant documents for samples selected; evaluating the adequacy of the provisions policy ; assessing whether the valuation of inventories did follow such policy; and considering the adequacy of the Group's disclosures in the accounts.

Other Matter

The Company has prepared its parent-company-only financial statements as of and for the years ended December 31, 2019 and 2018, on which we have issued an unmodified opinion.

Responsibilities of Management and Those Charged with Governance for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with the Regulations Governing the Preparation of Financial Reports by Securities Issuers and with the IFRSs, IASs, interpretations as well as related guidance endorsed by the Financial Supervisory Commission of the Republic of China, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

Those charged with governance (including members of the Audit Committee) are responsible for overseeing the Group's financial reporting process.

Auditors' Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with the auditing standards generally accepted in the Republic of China will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with auditing standards generally accepted in the Republic of China, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

1. Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

2. Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.

3. Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.

4. Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditors' report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditors' report. However, future events or conditions may cause the Group to cease to continue as a going concern.

5. Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

6. Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditors' report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

The engagement partners on the audit resulting in this independent auditors' report are Wan-Yuan Yu and Chi-Lung Yu.

KPMG

Taipei, Taiwan (Republic of China)
March 18, 2020

Notes to Readers

The accompanying consolidated financial statements are intended only to present the consolidated financial position, financial performance and cash flows in accordance with the accounting principles and practices generally accepted in the Republic of China and not those of any other jurisdictions. The standards, procedures and practices to audit such consolidated financial statements are those generally accepted and applied in the Republic of China.

The independent auditors' report and the accompanying consolidated financial statements are the English translation of the Chinese version prepared and used in the Republic of China. If there is any conflict between, or any difference in the interpretation of the English and Chinese language independent auditors' report and consolidated financial statements, the Chinese version shall prevail.

(English Translation of Consolidated Financial Statements Originally Issued in Chinese)

Coremax Corporation and subsidiaries

Consolidated Balance Sheets

December 31, 2019 and 2018

(Expressed in Thousands of New Taiwan Dollars)

Assets	December 31, 2019 Amount	%	December 31, 2018 Amount	%
Current assets:				
Cash and cash equivalents (note 6(1))	$ 767,193	11	534,209	7
Financial assets at fair value through profit or loss－current (note 6(2))	-	-	18	-
Notes receivable, net (note 6(4))	38,876	1	62,741	1
Accounts receivable, net (note 6(4))	483,304	7	645,888	9
Accounts receivable from related parties (notes 6(4) and 7)	152	-	39	-
Other receivables－related parties (note 7)	14	-	18	-
Inventories (note 6(5))	1,415,401	20	1,670,664	23
Other financial assets－current	12,965	-	9,762	-
Other current assets (note 6(8))	218,430	3	590,462	8
	2,936,335	42	3,513,801	48
Non-current assets:				
Financial assets at fair value through other comprehensive income－non-current (note 6(3))	49,297	1	53,224	2
Other financial assets－non-current (note 8)	3,340	-	1,840	-
Property, plant and equipment (notes 6(9) and 8)	3,842,821	55	3,585,346	49
Right-of-use assets (note 6(10))	45,145	1	-	-
Deferred tax assets (note 6(17))	41,041	-	26,640	-
Net defined benefit asset－non-current (note 6(16))	10,132	-	8,075	-
Other non-current assets (note 6(8))	40,745	1	94,679	1
	4,032,521	58	3,769,804	52
Total assets	**$ 6,968,856**	**100**	**7,283,605**	**100**

Liabilities and Equity	December 31, 2019 Amount	%	December 31, 2018 Amount	%
Current liabilities:				
Short-term notes and bills payable (note 6(11))	$ 230,000	3	80,000	1
Short-term borrowings (note 6(12))	1,025,468	15	1,403,035	19
Notes payable	72,153	1	114,768	2
Accounts payable	123,203	2	55,433	1
Salary and bonus payable	79,497	1	77,053	1
Payable on machinery and equipment	132,420	2	48,269	1
Current lease liabilities (note 6(14))	5,081	-	-	-
Long-term liabilities－current portion (notes 6(12) and (13))	133,333	2	338,440	5
Other current liabilities	90,133	1	96,762	1
	1,891,288	27	2,213,760	31
Non-current liabilities:				
Long-term borrowings (note 6(12))	707,312	10	609,733	8
Deferred tax liabilities (notes 6(9) and (17))	297,930	5	296,152	4
Net defined benefit liability－non-current (note 6(16))	3,580	-	3,878	-
Deposits received	1,307	-	1,777	-
Non-current lease liabilities (note 6(14))	14,500	-	-	-
	1,024,629	15	911,540	12
Total liabilities	2,915,917	42	3,125,300	43
Equity (notes 6(6), (13) and (18)):				
Equity attributable to parent company shareholders:				
Ordinary share capital	930,293	13	929,417	12
Capital surplus	1,599,457	23	1,581,736	22
Retained earnings	825,786	12	1,011,905	14
Other equity interest	(20,128)	-	(4,909)	-
Treasury shares	(14,048)	-	(14,066)	-
	3,321,360	48	3,504,083	48
Non-controlling interests (notes 6(6) and (7))	731,579	10	654,222	9
Total equity	4,052,939	58	4,158,305	57
Total liabilities and equity	**$ 6,968,856**	**100**	**7,283,605**	**100**

See accompanying notes to consolidated financial statements.

(English Translation of Consolidated Financial Statements Originally Issued in Chinese)

Coremax Corporation and subsidiaries

Consolidated Statements of Comprehensive Income

For the years ended December 31, 2019 and 2018

(Expressed in Thousands of New Taiwan Dollars , except for earnings per share)

	2019		2018	
	Amount	%	Amount	%
Net operating revenue (notes 6(20) and 7)	$ 6,369,520	100	6,310,637	100
Operating costs (notes 6(5), (14), (15), (16), (21) and 7)	5,879,580	92	5,529,827	88
Gross profit	489,940	8	780,810	12
Operating expenses (notes 6(14), (15), (16), (21) and 7)**:**				
Selling expenses	86,192	1	86,422	1
General administrative expenses	138,402	3	116,689	2
Research and development expenses	26,415	-	22,059	-
Expected credit loss (gain)	(1,687)	-	-	-
Total operating expenses	249,322	4	225,170	3
Net operating income	240,618	4	555,640	9
Non-operating income and expenses:				
Other income (notes 6(22) and 7)	34,271	-	29,045	1
Other gains and losses, net (note 6(22))	(6,189)	-	(4,993)	-
Finance costs (note 6(22))	(40,055)	(1)	(45,362)	(1)
Foreign exchange gains (loss) (note 6(23))	(602)	-	3,593	-
	(12,575)	(1)	(17,717)	-
Income before income tax	228,043	3	537,923	9
Income tax expenses (note 6(17))	74,976	1	108,493	2
Net income	153,067	2	429,430	7
Other comprehensive income:				
Items that will not be reclassified subsequently to profit or loss:				
Remeasurements of defined benefit plans (note 6(16))	287	-	612	-
Unrealized gains (losses) of financial assets measured at fair value through other comprehensive income	(3,927)	-	972	-
Income tax related to items that will not be reclassified to profit or loss	-	-	-	-
	(3,640)	-	1,584	-
Items that may be reclassified subsequently to profit or loss				
Exchange differences on translation of foreign financial statements	(15,024)	-	(6,735)	-
Income tax relating to item that may be reclassified subsequently (note 6(17))	(3,018)	-	(1,484)	-
Total items that may be reclassified subsequently to profit or loss	(12,006)	-	(5,251)	-
Other comprehensive income	(15,646)	-	(3,667)	-
Total comprehensive income	**$ 137,421**	**2**	**425,763**	**7**
Net income attributable to:				
Shareholders of the parent	$ 128,016	2	393,022	6
Non-controlling interests	25,051	-	36,408	1
	$ 153,067	**2**	**429,430**	**7**
Total comprehensive income attributable to:				
Shareholders of the parent	$ 112,997	2	388,176	6
Non-controlling interests	24,424	-	37,587	1
	$ 137,421	**2**	**425,763**	**7**
Earnings per share (New Taiwan Dollars) (note 6(19))**:**				
Basic earnings per share	**$**	**1.40**		**4.63**
Diluted earnings per share	**$**	**1.40**		**4.61**

See accompanying notes to consolidated financial statements.

(English Translation of Consolidated Financial Statements Originally Issued in Chinese)
Coremax Corporation and subsidiaries
Consolidated Statements of Changes in Equity
For the years ended December 31, 2019 and 2018
(Expressed in Thousands of New Taiwan Dollars)

	Share capital				Retained earnings				Other equity interest						
	Ordinary share capital	Advance receipts for share capital	Total share capital	Capital surplus	Legal reserve	Special reserve	Unappropriated retained earnings	Total	Exchange differences on translation of foreign financial statements	Unrealized gains (losses) on financial assets measured at fair value through other comprehensive income	Total other equity interest	Treasury shares	Subtotal of equity attributable to the shareholders of the parent	Non-controlling interests	Total equity
Balance at January 1, 2018	$ 861,234	3,503	864,737	1,138,226	128,998	17,200	733,730	879,928	(1,192)	1,149	(43)	(18,755)	2,864,093	429,271	3,293,364
Net income for the period	-	-	-	-	-	-	393,022	393,022	-	-	-	-	393,022	36,408	429,430
Other comprehensive income (loss) for the period	-	-	-	-	-	-	20	20	(4,496)	(370)	(4,866)	-	(4,846)	1,179	(3,667)
Total comprehensive income (loss) for the period	-	-	-	-	-	-	393,042	393,042	(4,496)	(370)	(4,866)	-	388,176	37,587	425,763
Appropriation and distribution of retained earnings:															
Appropriated legal reserve	-	-	-	-	41,153	-	(41,153)	-	-	-	-	-	-	-	-
Cash dividends of ordinary share	-	-	-	-	-	-	(261,065)	(261,065)	-	-	-	-	(261,065)	-	(261,065)
Issue of new shares for cash	60,000	-	60,000	390,000	-	-	-	-	-	-	-	-	450,000	-	450,000
Adjustment to capital surplus due to cash dividends distributed to subsidiary	-	-	-	9,070	-	-	-	-	-	-	-	-	9,070	-	9,070
Cash dividends distributed by subsidiaries	-	-	-	-	-	-	-	-	-	-	-	-	-	(42,496)	(42,496)
Issuance of new shares for cash by subsidiaries	-	-	-	-	-	-	-	-	-	-	-	-	-	260,000	260,000
Adjustment to capital surplus due to non-proportional investment in subsidiary's increase in capital	-	-	-	25,451	-	-	-	-	-	-	-	4,689	30,140	(30,140)	-
Conversion of convertible bonds	7,218	(2,538)	4,680	18,989	-	-	-	-	-	-	-	-	23,669	-	23,669
Balance at December 31, 2018	928,452	965	929,417	1,581,736	170,151	17,200	824,554	1,011,905	(5,688)	779	(4,909)	(14,066)	3,504,083	654,222	4,158,305
Net income for the period	-	-	-	-	-	-	128,016	128,016	-	-	-	-	128,016	25,051	153,067
Other comprehensive income (loss) for the period	-	-	-	-	-	-	200	200	(12,070)	(3,149)	(15,219)	-	(15,019)	(627)	(15,646)
Total comprehensive income (loss) for the period	-	-	-	-	-	-	128,216	128,216	(12,070)	(3,149)	(15,219)	-	112,997	24,424	137,421
Appropriation and distribution of retained earnings:															
Appropriated legal reserve	-	-	-	-	39,302	-	(39,302)	-	-	-	-	-	-	-	-
Cash dividends of ordinary share	-	-	-	-	-	-	(297,694)	(297,694)	-	-	-	-	(297,694)	-	(297,694)
Issuance of new shares for cash by subsidiaries	-	-	-	-	-	-	-	-	-	-	-	-	-	105,168	105,168
Cash dividends distributed by subsidiaries	-	-	-	-	-	-	-	-	-	-	-	-	-	(36,618)	(36,618)
Adjustment to capital surplus due to non－proportional investment in subsidiary's increase in capital	-	-	-	13,025	-	-	(16,641)	(16,641)	-	-	-	18	(3,598)	3,598	-
Adjustment to capital surplus due to cash dividends distributed to subsidiary	-	-	-	9,643	-	-	-	-	-	-	-	-	9,643	-	9,643
Differences between consideration and carrying amounts of subsidiaries shareholding acquired or disposed of	-	-	-	(8,471)	-	-	-	-	-	-	-	-	(8,471)	(19,215)	(27,686)
Conversion of convertible bonds	1,841	(965)	876	3,524	-	-	-	-	-	-	-	-	4,400	-	4,400
Balance at December 31, 2019	**$ 930,293**	**-**	**930,293**	**1,599,457**	**209,453**	**17,200**	**599,133**	**825,786**	**(17,758)**	**(2,370)**	**(20,128)**	**(14,048)**	**3,321,360**	**731,579**	**4,052,939**

See accompanying notes to consolidated financial statements.

(English Translation of Consolidated Financial Statements Originally Issued in Chinese)

Coremax Corporation and subsidiaries
Consolidated Statements of Cash Flows
For the years ended December 31, 2019 and 2018
(Expressed in Thousands of New Taiwan Dollars)

	2019	2018
Cash flows from operating activities:		
Income before income tax	$ 228,043	537,923
Adjustments:		
Adjustments to reconcile profit :		
Depreciation	236,927	214,334
Expected credit loss (gain)	(1,687)	-
Net loss on financial assets and liabilities at fair value through profit or loss	7	16
Interest expense	40,055	45,362
Interest income	(4,170)	(7,002)
Dividend income	(5,748)	(1,437)
Provision for inventory written down (reversal)	67,116	(132)
Losses on disposal of property, plant and equipment	1,895	78
Adjustment for other non-cash-related losses, net	8,494	5,677
Subtotal of gains or losses on non-cash activities	342,889	256,896
Changes in operating assets and liabilities:		
Notes receivable	23,865	94,881
Accounts receivable (including related parties)	164,158	(69,733)
Inventories	188,147	(487,014)
Other current assets	368,535	(337,580)
Notes payable	(42,615)	132
Accounts payable	67,770	(37,910)
Other current liabilities	29,052	29,334
Net defined benefit liability and asset	(2,068)	(9,805)
Total adjustments	1,139,733	(560,799)
Cash inflow (outflow) generated from operations	1,367,776	(22,876)
Interest paid	(40,344)	(45,005)
Income taxes paid	(117,514)	(106,181)
Net cash from (used in) operating activities	1,209,918	(174,062)
Cash flows from investing activities:		
Acquisition of property, plant and equipment	(371,797)	(783,487)
Proceeds from disposal of property, plant and equipment	2,382	6,660
Increase in other financial assets	(1,500)	(1,840)
Increase in other non-current assets	(29,709)	(57,328)
Interest received	4,170	7,002
Dividends received	5,748	1,437
Acquisition of non-controlling interests	(27,686)	-
Net cash used in investing activities	(418,392)	(827,556)
Cash flows from financing activities:		
Increase (decrease) in short-term borrowings	(377,469)	470,607
Increase in short-term notes and bills payable	150,000	80,000
Proceeds from long-term borrowings	400,000	400,000
Repayments of long-term borrowings (including current portion)	(503,133)	(300,555)
Decrease in guarantee deposits received	(470)	(1,106)
Payment of lease liabilities	(5,015)	-
Cash dividends paid	(288,051)	(251,995)
Cash dividends paid for non-controlling interests	(36,618)	(42,496)
Issuance of new shares for cash	-	450,000
Issuance of new shares for cash by subsidiaries	105,168	260,000
Net cash from (used in) financing activities	(555,588)	1,064,455
Effect of exchange rate changes on cash and cash equivalents	(2,954)	5,152
Net increase in cash and cash equivalents	232,984	67,989
Cash and cash equivalents at beginning of period	534,209	466,220
Cash and cash equivalents at end of period	$ **767,193**	**534,209**

See accompanying notes to consolidated financial statements.

(amounts expressed in Thousands of New Taiwan Dollars,
except for per share information and unless otherwise noted)

1. Company history

Coremax Corporation (the "Company") was incorporated in Hsinchu, Republic of China (R.O.C.), on June 16, 1992. The registered address of the Company's office is 11 Wenhua Road, Hsinchu Industrial Park, Hsinchu County 30352, Taiwan R.O.C. The Company's ordinary shares were publicly listed on the Taiwan Stock Exchange on September 8, 2017 and the trading of Taipei Exchange stock was officially terminated on the same date.

The Company and subsidiaries (together referred to as the "Group") are mainly involved in the manufacturing, sales, import and export of oxidation catalyst, battery materials, chemical fertilizers and specialty chemicals.

2. Approval date and procedures of the consolidated financial statements

The consolidated financial statements were authorized for issue by the Board of Directors on March 18, 2020.

3. New standards, amendments and interpretations adopted

(a) The impact of the International Financial Reporting Standards ("IFRSs") endorsed by the Financial Supervisory Commission, R.O.C. ("FSC") which have already been adopted.

The following new standards, interpretations and amendments have been endorsed by the FSC and are effective for annual periods beginning on or after January 1, 2019.

New, Revised or Amended Standards and Interpretations	Effective date per International Accounting Standards Board
IFRS 16 "Leases"	January 1, 2019
IFRIC 23 "Uncertainty over Income Tax Treatments"	January 1, 2019
Amendments to IFRS 9 "Prepayment features with negative compensation"	January 1, 2019
Amendments to IAS 19 "Plan Amendment, Curtailment or Settlement"	January 1, 2019
Amendments to IAS 28 "Long-term interests in associates and joint ventures"	January 1, 2019
Annual Improvements to IFRS Standards 2015–2017 Cycle	January 1, 2019

Except for the following items, the Group believes that the adoption of the above IFRSs would not have any material impact on its consolidated financial statements. The extent and impact of signification changes are as follows:

(i) IFRS 16“Leases”

IFRS 16 replaces the existing leases guidance, including IAS 17 Leases, IFRIC 4 Determining whether an Arrangement contains a Lease, SIC-15 Operating Leases – Incentives and SIC-27 Evaluating the Substance of Transactions Involving the Legal Form of a Lease.

The Group applied IFRS 16 using the modified retrospective approach, under which the cumulative effect of initial application is recognized in retained earnings on January 1, 2019. The details of the changes in accounting policies are disclosed below,

1) Definition of a lease

Previously, the Group determined at contract inception whether an arrangement is or contains a lease under IFRIC 4. Under IFRS 16, the Group assesses whether a contract is or contains a lease based on the definition of a lease, as explained in Note 4(10).

On transition to IFRS 16, the Group elected to apply the practical expedient to grandfather the assessment of which transactions are leases. The Group applied IFRS 16 only to contracts that were previously identified as leases. Contracts that were not identified as leases under IAS 17 and IFRIC 4 were not reassessed for whether there is a lease. Therefore, the definition of a lease under IFRS 16 was applied only to contracts entered into or changed on or after January 1, 2019.

2) As a lessee

As a lessee, the Group previously classified leases as operating or finance leases based on its assessment of whether the lease transferred significantly all of the risks and rewards incidental to ownership of the underlying asset to the Group. Under IFRS 16, the Group recognizes right-of-use assets and lease liabilities for most leases – i.e. these leases are on-balance sheet.

The Group decided to apply recognition exemptions to short-term and low-value leases of printers and leases of staff dormitory.

● Leases classified as operating leases under IAS 17

At transition, lease liabilities were measured at the present value of the remaining lease payments, discounted at the Group’s incremental borrowing rate as at January 1, 2019. Right-of-use assets are measured at an amount equal to the lease liability, adjusted by the amount of any prepaid or accrued lease payments.

In addition, the Group used the following practical expedients when applying IFRS 16 to leases.

— Applied a single discount rate to a portfolio of leases with similar characteristics.

- Adjusted the right-of-use assets by the amount of IAS 37 onerous contract provision immediately before the date of initial application, as an alternative to an impairment review.
- Applied the exemption not to recognize right-of-use assets and liabilities for leases with less than 12 months of lease term.
- Excluded initial direct costs from measuring the right-of-use asset at the date of initial application.
- Used hindsight when determining the lease term if the contract contains options to extend or terminate the lease.

3) Impacts on financial statements

On transition to IFRS 16, the Group recognized additional $46,404 right-of-use assets, including use right of lands $33,547, and $12,857 lease liabilities. When measuring lease liabilities, the Group discounted lease payments using its incremental borrowing rate at January 1, 2019. The weighted-average rate applied is 1.71%.

The explanation of differences between operating lease commitments disclosed at the end of the annual reporting period immediately preceding the date of initial application, and lease liabilities recognized in the statement of financial position at the date of initial application disclosed as follows:

	January 1, 2019
Operating lease commitment at December 31, 2018 as disclosed in the Group's consolidated financial statements	$ 18,623
Recognition exemption for:	
short-term leases and leases of low-value assets	(4,860)
	13,763
Discounted using the incremental borrowing rate at January 1, 2019	12,857
Finance lease liabilities recognized as at December 31, 2018	-
Lease liabilities recognized at January 1, 2019	**$ 12,857**

(ii) IFRIC 23 "Uncertainty over Income Tax Treatments"

In assessing whether and how an uncertain tax treatment affects the determination of taxable profit (tax loss), tax bases, unused tax losses, unused tax credits, as well as tax rates, an entity shall assume that a taxation authority will examine the amounts it has the right to examine and have a full knowledge on all related information when making those examinations.

If an entity concludes that it is probable that the taxation authority will accept an uncertain tax treatment, the entity shall determine the taxable profit (tax loss), tax bases, unused tax losses, unused tax credits, as well as tax rates consistently with the tax treatment used or planned to be used in its income tax filings. Otherwise, an entity shall reflect the effect of uncertainty for each uncertain tax treatment by using either the most likely amount or the expected value, depending on which method the entity expects to better predict the resolution of the uncertainty.

The Group assessed and concluded that the adoption of the new standard have no material impact.

(b) The impact of IFRS endorsed by FSC but not yet effective

The following new standards, interpretations and amendments have been endorsed by the FSC and are effective for annual periods beginning on or after January 1, 2020 in accordance with Rule No. 1080323028 issued by the FSC on July 29, 2019:

New, Revised or Amended Standards and Interpretations	Effective date per International Accounting Standards Board
Amendments to IFRS 3 “Definition of a Business”	January 1, 2020
Amendments to IFRS 9, IAS 39 and IFRS 7 “Interest Rate Benchmark Reform”	January 1, 2020
Amendments to IAS 1 and IAS 8 “Definition of Material”	January 1, 2020

The Group assesses that the adoption of the abovementioned standards would not have any material impact on its consolidated financial statements.

(c) The impact of IFRS issued by IASB but not yet endorsed by the FSC

As of the date, the following IFRSs that have been issued by the International Accounting Standards Board (IASB), but have yet to be endorsed by the FSC:

New, Revised or Amended Standards and Interpretations	Effective date per IASB
Amendments to IFRS 10 and IAS 28 “Sale or Contribution of Assets Between an Investor and Its Associate or Joint Venture”	Effective date to be determined by IASB
IFRS 17 “Insurance Contracts”	January 1, 2021
Amendments to IAS 1 “Classification of Liabilities as Current or Non-current”	January 1, 2022

The Group is evaluating the impact of its initial adoption of the abovementioned standards or interpretations on its consolidated financial position and consolidated financial performance. The results thereof will be disclosed when the Group completes its evaluation.

4. Summary of significant accounting policies

The significant accounting policies presented in the consolidated financial statements are summarized as follows. Except for those described individually, the significant accounting policies have been applied consistently to all the periods presented in the consolidated financial statements.

(1) Statement of compliance

The consolidated financial statements have been prepared in accordance with the "Regulations Governing the Preparation of Financial Reports by Securities Issuers" (hereinafter referred to as the Regulations) and the International Financial Reporting Standards, International Accounting Standards, IFRIC Interpretations, and SIC Interpretations endorsed by the FSC (hereinafter referred to as the IFRSs endorsed by the FSC).

(2) Basis of preparation

(i) Basis of measurement

The consolidated financial statements have been prepared on a historical cost basis except for the following material items in the consolidated balance sheets:

1) Financial assets at fair value through profit or loss are measured at fair value (include derivative instruments);

2) Financial assets at fair value through other comprehensive income are measured at fair value;

3) The defined benefit liabilities (assets) are measured fair value of the plan assets less the present value of the defined benefit obligation, limited as explained in note 4(14).

(ii) Functional and presentation currency

The functional currency of each Group entity is determined based on the primary economic environment in which the entity operates. The consolidated financial statements are presented in New Taiwan Dollars (TWD), which is the Company's functional currency. Unless otherwise noted, all financial information presented in TWD has been rounded to the nearest thousand.

(3) Basis of consolidation

(i) Principle of preparation of the consolidated financial statements

The consolidated financial statements comprise the Company and subsidiaries. Subsidiaries are entities controlled by the Company. The Company 'controls' an entity when it is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity.

The financial statements of the subsidiaries are included in the consolidated financial statements from the date on which control commences until the date on which control ceases. Losses attributable to the noncontrolling interests in a subsidiary are attributed to the noncontrolling interests even if doing so results in a deficit noncontrolling interests' balance.

The accounting policies in the subsidiary's financial statements has been adjusted properly to be consistent with the accounting policies used by the Group.

Changes in the Group's ownership interest in a subsidiary that do not result in a loss of control are accounted for as equity transactions. Any difference between the amount by which the non-controlling interests are adjusted and the fair value of the consideration paid or received will be recognized directly in equity, and the Group will attributable it to the owners of the Company.

Intra group balances and transactions, and any unrealized income and expenses arising from intra group transactions are eliminated in preparing the consolidated financial statements.

(ii) List of subsidiaries in the consolidated financial statements

The consolidated entities were as follows:

			Percentage of Ownership (%)	
Name of Investor	**Name of Subsidiary**	**Business Nature**	**December 31, 2019**	**December 31, 2018**
The Company	Coremax (BVI) Corporation	Investment company	100 %	100 %
The Company	Uranus Chemicals Co., Ltd. (Uranus Chemicals)	Manufacturing and sales of oxalic acid、organic and inorganic acid、rare earth compounds and related products	62.62 %	62.70 %
The Company	Hengi Chemical Co., Ltd. (Hengi)	Manufacturing and sales of chemical fertilizers, chemical raw materials, organic fertilizer and fertilizers with organic matter. Import and export of related business. Recycling and reproduce of solvent and pollutants.	80.18 %	80.18 %
Coremax (BVI) Corporation	Coremax Zhuhai Chemical Co., Ltd.	Production and sales of oxidation catalysts, sodium carbonate solutions, wastewater treatment solutions, exhaust gas absorbents and cobalt compound series products.	100 %	100 %
Coremax (BVI) Corporation	Coremax Ningbo Chemical Co., Ltd.	Manufacturing and processing of pure terephthalic acid oxidation catalyst, sodium carbonate solutions, wastewater treatment solutions, exhaust gas absorbent and cobalt compound series products.	100 %	100 %
Coremax (BVI) Corporation	Coremax (Thailand) Co., Ltd.	Manufacturing and processing of pure terephthalic acid oxidation catalyst, sodium carbonate solutions, wastewater treatment solutions, exhaust gas absorbent and cobalt compound series products.	100 %	100 %

Name of Investor	Name of Subsidiary	Business Nature	Percentage of Ownership (%) December 31, 2019	Percentage of Ownership (%) December 31, 2018
Coremax (BVI) Corporation	Coremax (Zhangzhou) Chemical Co., Ltd.	Manufacturing, processing and wholesale of pure terephthalic acid oxidation catalyst, sodium carbonate solutions, wastewater treatment solutions, waste gas absorbent and cobalt compound series products, and regeneration treatment of abort oxidation catalyst.	82.00 %	70.06 %
Uranus Chemicals Co., Ltd. (Uranus Chemicals)	Jiangxi Tianjiang Materials Co., Ltd.	Manufacturing and sales of oxalic acid、organic and inorganic acid、rare earth compounds and related products	100 %	100 %

The changing in the percentage of its ownership for subsidiaries, please refer to to Note 6(6).

(iii) List of subsidiaries which are not included in the consolidated financial statements: None.

(4) Foreign currency

(i) Foreign currency transactions

Transactions in foreign currencies are translated into the respective functional currencies of Group entities at the exchange rates at the dates of the transactions. At the end of each subsequent reporting period, monetary items denominated in foreign currencies are translated into the functional currencies using the exchange rate at that date.

Non-monetary items denominated in foreign currencies that are measured at fair value are translated into the functional currencies using the exchange rate at the date that the fair value was determined. Non-monetary items denominated in foreign currencies that are measured based on historical cost are translated using the exchange rate at the date of the transaction.

Exchange differences are generally recognized in profit or loss, except for those differences relating to the following, which are recognized in other comprehensive income:

1) an investment in equity securities designated as at fair value through other comprehensive income;

2) a financial liability designated as a hedge of the net investment in a foreign operation to the extent that the hedge is effective; or

3) qualifying cash flow hedges to the extent that the hedges are effective.

(ii) Foreign operations

The assets and liabilities of foreign operations are translated into the presentation currency at the exchange rates at the reporting date. The income and expenses of foreign operations are translated into the presentation currency at the average exchange rate. Exchange differences are recognized in other comprehensive income.

(5) Classification of current and non-current assets and liabilities

The Group classifies an asset as current when any one of the following requirements is met. Assets that are not classified as current are non-current assets.

(i) It expects to realize the asset, or intends to sell or consume it, in its normal operating cycle;

(ii) It holds the asset primarily for the purpose of trading;

(iii) It expects to realize the asset within twelve months after the reporting date; or

(iv) The asset is cash or cash equivalent except for the asset is restricted from being exchanged or used to settle a liability for at least twelve months after the reporting period.

The Group classifies a liability as current when any one of the following requirements is met. Liabilities that are not classified as current are non-current liabilities.

(i) It expects to settle the liability in its normal operating cycle;

(ii) It holds the liability primarily for the purpose of trading;

(iii) The liability is due to be settled within twelve months after the reporting date; or

(iv) The Group does not have an unconditional right to defer settlement of the liability for at least twelve months after the reporting period. Terms of a liability that could, at the option of the counterparty, result in its settlement by issuing equity instruments do not affect its classification.

(6) Cash and cash equivalents

Cash comprises cash on hand, demand deposits and checking deposits. Cash equivalents are short-term and highly liquid investments that are readily convertible to known amounts of cash and which are subject to an insignificant risk of changes in value. Time deposits which meet the above definition and held for the purpose of meeting short-term cash commitments rather than for investment or other purposes are classified as cash equivalents.

(7) Financial instruments

Trade receivables and debt securities issued are initially recognized when they are originated. All other financial assets and financial liabilities are initially recognized when the Group becomes a party to the contractual provisions of the instrument. A financial asset (unless it is a trade receivable without a significant financing component) or financial liability is initially measured at fair value plus, for an item not at fair value through profit or loss (FVTPL), transaction costs that are directly attributable to its acquisition or issue. A trade receivable without a significant financing component is initially measured at the transaction price.

(i) Financial assets

All regular way purchases or sales of financial assets are recognized and derecognized on a trade date basis.

On initial recognition, a financial asset is classified as measured at: amortized cost; Fair value through other comprehensive income (FVOCI) – equity investment; or FVTPL.

Financial assets are not reclassified subsequent to their initial recognition unless the Group changes its business model for managing financial assets, in which case all affected financial assets are reclassified on the first day of the first reporting period following the change in the business model.

1) Financial assets measured at amortized cost

A financial asset is measured at amortized cost if it meets both of the following conditions and is not designated as at FVTPL:

- it is held within a business model whose objective is to hold assets to collect contractual cash flows; and
- its contractual terms give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

These assets are subsequently measured at amortized cost, which is the amount at which the financial asset is measured at initial recognition, plus/minus, the cumulative amortization using the effective interest method, adjusted for any loss allowance. Interest income, foreign exchange gains and losses, as well as impairment, are recognized in profit or loss. Any gain or loss on derecognition is recognized in profit or loss.

2) Fair value through other comprehensive income (FVOCI)

On initial recognition of an equity investment that is not held for trading, the Group may irrevocably elect to present subsequent changes in the investment's fair value in other comprehensive income. This election is made on an instrument-by-instrument basis.

Equity investments at FVOCI are subsequently measured at fair value. Dividends are recognized as income in profit or loss unless the dividend clearly represents a recovery of part of the cost of the investment. Other net gains and losses are recognized in other comprehensive income and are never reclassified to profit or loss.

Dividend income is recognized in profit or loss on the date on which the Group's right to receive payment is established.

3) Fair value through profit or loss (FVTPL)

All financial assets not classified as amortized cost or FVOCI described as above are measured at FVTPL, including derivative financial asset. On initial recognition, the Group may irrevocably designate a financial asset, which meets the requirements to be measured at amortized cost or at FVOCI, as at FVTPL if doing so eliminates or significantly reduces an accounting mismatch that would otherwise arise.

These assets are subsequently measured at fair value. Net gains and losses, including any interest or dividend income, are recognized in profit or loss.

4) Impairment of financial assets

The Group recognizes loss allowances for expected credit losses (ECL) on financial assets measured at amortized cost (including cash and cash equivalents, notes and accounts receivable, other receivable and other financial assets).

The Group measures loss allowances at an amount equal to lifetime ECL, except for the following which are measured as 12-month ECL:

- debt securities that are determined to have low credit risk at the reporting date; and
- other debt securities and bank balances for which credit risk (i.e. the risk of default occurring over the expected life of the financial instrument) has not increased significantly since initial recognition.

Loss allowance for trade receivables are always measured at an amount equal to lifetime ECL.

When determining whether the credit risk of a financial asset has increased significantly since initial recognition and when estimating ECL, the Group considers reasonable and supportable information that is relevant and available without undue cost or effort. This includes both quantitative and qualitative information and analysis based on the Group's historical experience and informed credit assessment as well as forward-looking information.

The Group considers a debt security to have low credit risk when its credit risk rating is equivalent to the globally understood definition of ' investment grade' " which is considered to be BBB- or higher per Standard & Poor's, Baa3 or higher per Moody's or twA or higher per Taiwan Ratings".

The Group assumes that the credit risk on a financial asset has increased significantly if it is more than 90 days past due.

The Group considers a financial asset to be in default when the financial asset is more than 180 days past due or the debtor is unlikely to pay its credit obligations to the Group in full.

ECLs are a probability-weighted estimate of credit losses. Credit losses are measured as the present value of all cash shortfalls (i.e. the difference between the cash flows due to the Group in accordance with the contract and the cash flows that the Group expects to receive). ECLs are discounted at the effective interest rate of the financial asset.

At each reporting date, the Group assesses whether financial assets carried at amortized cost are credit-impaired. A financial asset is 'credit-impaired' when one or more events that have a detrimental impact on the estimated future cash flows of the financial asset have occurred.

Loss allowances for financial assets measured at amortized cost are deducted from the gross carrying amount of the assets.

The gross carrying amount of a financial asset is written off when the Group has no reasonable expectations of recovering a financial asset in its entirety or a portion thereof. For corporate customers, the Group individually makes an assessment with respect to the timing and amount of write-off based on whether there is a reasonable expectation of recovery. The Group expects no significant recovery from the amount written off. However, financial assets that are written off could still be subject to enforcement activities in order to comply with the Group's procedures for recovery of amounts due.

5) Derecognition of financial assets

The Group derecognizes a financial asset when the contractual rights to the cash flows from the financial asset expire, or it transfers the rights to receive the contractual cash flows in a transaction in which substantially all of the risks and rewards of ownership of the financial asset are transferred or in which the Group neither transfers nor retains substantially all of the risks and rewards of ownership and it does not retain control of the financial asset.

The Group enters into transactions whereby it transfers assets recognized in its statement of balance sheet, but retains either all or substantially all of the risks and rewards of the transferred assets. In these cases, the transferred assets are not derecognized.

(ii) Financial liabilities and equity instruments

1) Classification of debt or equity

Debt and equity instruments issued by the Company are classified as financial liabilities or equity in accordance with the substance of the contractual arrangements and the definitions of a financial liability and an equity instrument.

2) Equity instrument

An equity instrument is any contract that evidences residual interests in the assets of an entity after deducting all of its liabilities. Equity instruments issued are recognized as the amount of consideration received less the direct cost of issuing.

3) Compound financial instruments

Compound financial instruments issued by the Group comprise convertible bonds that can be converted to ordinary shares at the option of the holder, when the number of shares to be issued is fixed and does not vary with changes in fair value.

The liability component of a compound financial instrument is recognized initially at the fair value of a similar liability that does not have an equity conversion option. The equity component is recognized initially at the difference between the fair value of the compound financial instrument as a whole and the fair value of the liability component. Any directly attributable transaction costs are allocated to the liability and equity components in proportion to their initial carrying amounts.

Subsequent to initial recognition, the liability component of a compound financial instrument is measured at amortized cost using the effective interest method. The equity component of a compound financial instrument is not remeasured.

Interest related to the financial liability is recognized in gain or loss. On conversion, the financial liability is reclassified to equity, and no gain or loss is recognized.

4) Financial liabilities

Financial liabilities are classified as measured at amortized cost or FVTPL. A financial liability is classified as at FVTPL if it is classified as held-for-trading, it is a derivative or it is designated as such on initial recognition. Financial liabilities at FVTPL are measured at fair value and net gains and losses, including any interest expense, are recognized in profit or loss.

Other financial liabilities are subsequently measured at amortized cost using the effective interest method. Interest expense and foreign exchange gains and losses are recognized in profit or loss. Any gain or loss on derecognition is also recognized in profit or loss.

5) Derecognition of financial liabilities

The Group derecognizes a financial liability when its contractual obligations are discharged or cancelled, or expire. The Group also derecognizes a financial liability when its terms are modified and the cash flows of the modified liability are substantially different, in which case a new financial liability based on the modified terms is recognized at fair value.

On derecognition of a financial liability, the difference between the carrying amount of a financial liability extinguished and the consideration paid is recognized in profit or loss.

6) Offsetting of financial assets and liabilities

Financial assets and financial liabilities are offset and the net amount presented in the statement of balance sheet when, and only when, the Group currently has a legally enforceable right to set off the amounts and it intends either to settle them on a net basis or to realize the asset and settle the liability simultaneously.

(iii) Derivative financial instruments

Embedded derivatives are separated from the host contract and accounted for separately if the host contract is not a financial asset and certain criteria are met.

Derivatives are initially measured at fair value. Subsequent to initial recognition, derivatives are measured at fair value, and changes therein are generally recognized in profit or loss.

(8) Inventories

Inventories are measured at the lower of cost or net realizable value. The cost of inventories is based on the weighted-average method and includes expenditure and other costs incurred in bringing them to their existing location and condition. Net realizable value is the estimated selling price in the ordinary course of business, less the estimated costs of completion and selling expenses.

(9) Property, plant and equipment

(i) Recognition and measurement

Items of property, plant and equipment are measured at cost, which includes capitalized borrowing costs, less accumulated depreciation and any accumulated impairment losses.

If significant parts of an item of property, plant and equipment have different useful lives, they are accounted for as major components of property, plant and equipment.

Any gain or loss on disposal of an item of property, plant and equipment is recognized in profit or loss.

(ii) Subsequent expenditure

Subsequent expenditure is capitalized only if it is probable that the future economic benefits associated with the expenditure will flow to the Group.

(iii) Depreciation

Depreciation is calculated on the cost of an asset less its residual value and is recognized in profit or loss on a straight-line basis over the estimated useful lives of each component of an item of property, plant and equipment.

Land is not depreciated.

The estimated useful lives, for the current and comparative years, of significant items of property, plant and equipment are as follows:

1) Buildings: 4 to 60 years.

2) Machinery and equipment: 2 to 19 years.

3) Transportation Equipment: 4 to 7 years.

4) Other equipment: 3 to 11 years.

5) Buildings constitute mainly plant, buildings, mechanical and electrical power equipment, and related engineering, etc. Each constituent is depreciated based on its useful life, respectively.

Depreciation methods, useful lives and residual values are reviewed at each reporting date and adjusted if appropriate.

(10) Leases

Applicable from January 1, 2019

(i) Identifying a lease

At inception of a contract, the Group assesses whether a contract is, or contains, a lease. A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration. To assess whether a contract conveys the right to control the use of an identified asset, the Group assesses whether:

– the contract involves the use of an identified asset – this may be specified explicitly or implicitly, and should be physically distinct or represent substantially all of the capacity of a physically distinct asset. If the supplier has a substantive substitution right, then the asset is not identified; and

– the customer has the right to obtain substantially all of the economic benefits from use of the asset throughout the period of use; and

– the customer has the right to direct the use of the asset throughout the period of use only if either:

1) the customer has the right to direct how and for what purpose the asset is used throughout the period of use; or

2) the relevant decisions about how and for what purpose the asset is used are predetermined and:

   – the customer has the right to operate the asset throughout the period of use, without the supplier having the right to change those operating instructions; or

   – the customer designed the asset in a way that predetermines how and for what purpose it will be used throughout the period of use.

At inception or reassessment of a contract that contains a lease component, the Group allocates the consideration in the contract to each lease component on the basis of their relative stand-alone prices. However, for the leases of land and buildings in which it is a lessee, the Group has elected not to separate non-lease components and account for the lease and non-lease components as a single lease component.

(ii) As a leasee

The Group recognizes a right-of-use asset and a lease liability at the lease commencement date. The right-of-use asset is initially measured at cost, which comprises the initial amount of the lease liability adjusted for any lease payments made at or before the commencement date, plus any initial direct costs incurred and an estimate of costs to dismantle and remove the underlying asset or to restore the underlying asset or the site on which it is located, less any lease incentives received.

The right-of-use asset is subsequently depreciated using the straight-line method from the commencement date to the earlier of the end of the useful life of the right-of-use asset or the end of the lease term. In addition, the right-of-use asset is periodically reduced by impairment losses, if any, and adjusted for certain remeasurements of the lease liability.

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date, discounted using the interest rate implicit in the lease or, if that rate cannot be reliably determined, the Group's incremental borrowing rate. Generally, the Group uses its incremental borrowing rate as the discount rate.

Lease payments included in the measurement of the lease liability comprise the following:

– fixed payments, including in-substance fixed payments;

– variable lease payments that depend on an index or a rate, initially measured using the index or rate as at the commencement date;

– amounts expected to be payable under a residual value guarantee; and

– payments for purchase or termination options that are reasonably certain to be exercised.

The lease liability is measured at amortized cost using the effective interest method. It is remeasured when:

– there is a change in future lease payments arising from the change in an index or rate; or

– there is a change in the Group's estimate of the amount expected to be payable under a residual value guarantee; or

– there is a change in the lease term resulting from a change of its assessment on whether it will exercise an option to purchase the underlying asset, or

– there is a change of its assessment on whether it will exercise a extension or termination option; or

– there is any lease modifications

When the lease liability is remeasured, other than lease modifications, a corresponding adjustment is made to the carrying amount of the right-of-use asset, or in profit and loss if the carrying amount of the right-of-use asset has been reduced to zero.

When the lease liability is remeasured to reflect the partial or full termination of the lease for lease modifications that decrease the scope of the lease, the Group accounts for the remeasurement of the lease liability by decreasing the carrying amount of the right-of-use asset to reflect the partial or full termination of the lease, and recognize in profit or loss any gain or loss relating to the partial or full termination of the lease.

The Group presents right-of-use assets that do not meet the definition of investment and lease liabilities as a separate line item respectively in the statement of financial position.

The Group has elected not to recognize right-of-use assets and lease liabilities for short-term leases and leases of low-value assets, including printer and staff dormitory. The Group recognizes the lease payments associated with these leases as an expense on a straight-line basis over the lease term.

(iii) As a lessor

When the Group acts as a lessor, it determines at lease commencement whether each lease is a finance lease or an operating lease. To classify each lease, the Group makes an overall assessment of whether the lease transfers to the lessee substantially all of the risks and rewards of ownership incidental to ownership of the underlying asset. If this is the case, then the lease is a finance lease; if not, then the lease is an operating lease. As part of this assessment, the Group considers certain indicators such as whether the lease is for the major part of the economic life of the asset.

Applicable before January 1, 2019.

Lease classified as operating lease is recognized as income or expenses at a straight-line basis over the lease term by Lessor and Lessee.

(11) Intangible assets

(i) Recognition and measurement

Expenditure on research activities is recognized in profit or loss as incurred.

Development expenditure is capitalized only if the expenditure can be measured reliably, the product or process is technically and commercially feasible, future economic benefits are probable and the Group intends to, and has sufficient resources to, complete development and to use or sell the asset. Otherwise, it is recognized in profit or loss as incurred. Subsequent to initial recognition, development expenditure is measured at cost, less accumulated amortization and any accumulated impairment losses.

(ii) Subsequent expenditure

Subsequent expenditure is capitalized only when it increases the future economic benefits embodied in the specific asset to which it relates. All other expenditure, including expenditure on internally generated goodwill and brands, is recognized in profit or loss as incurred.

(12) Impairment of non-financial assets

At each reporting date, the Group reviews the carrying amounts of its non-financial assets (other than inventories and deferred tax assets) to determine whether there is any indication of impairment. If any such indication exists, then the asset’s recoverable amount is estimated.

For impairment testing, assets are grouped together into the smallest group of assets that generates cash inflows from continuing use that are largely independent of the cash inflows of other assets or Cash Generating Units (CGUs).

The recoverable amount of an asset or CGU is the greater of its value in use and its fair value less costs to sell. Value in use is based on the estimated future cash flows, discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset or CGU.

An impairment loss is recognized if the carrying amount of an asset or CGU exceeds its recoverable amount.

Impairment losses are recognized in profit or loss. They are allocated first to reduce the carrying amount of any goodwill allocated to the CGU, and then to reduce the carrying amounts of the other assets in the CGU on a pro rata basis.

An impairment loss in respect of goodwill is not reversed. For other assets, an impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortization, if no impairment loss had been recognized.

The recoverable amount of an asset or CGU is the greater of its value in use and its fair value less costs to sell. Value in use is based on the estimated future cash flows, discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset or CGU.

An impairment loss is recognized if the carrying amount of an asset or CGU exceeds its recoverable amount.

Impairment losses are recognized in profit or loss. They are allocated first to reduce the carrying amount of any goodwill allocated to the CGU, and then to reduce the carrying amounts of the other assets in the CGU on a pro rata basis.

For other non-financial assets (excluding goodwill), an impairment loss is reversed only to the extent that the asset' s carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortization, if no impairment loss had been recognized.

(13) Revenue from contracts with customers

Revenue is measured based on the consideration to which the Group expects to be entitled in exchange for transferring goods or services to a customer. The Group recognizes revenue when it satisfies a performance obligation by transferring control of a good or a service to a customer. The accounting policies for the Group's main types of revenue are explained below.

(i) Sale of goods

The Group researches, develops, produces, manufactures and sells various chemical catalyst products, cobalt compound products, oxalic acid products and electronic components, as well as batteries. The Group recognizes revenue when control of the products has transferred, being when the products are delivered to the customer, the customer has full discretion over the channel and price to sell the products, and there is no unfulfilled obligation that could affect the customer' s acceptance of the products. Delivery occurs when the products have been shipped to the specific location, the risks of obsolescence and loss have been transferred to the customer, and either the customer has accepted the products in accordance with the sales contract, the acceptance provisions have lapsed, or the Group has objective evidence that all criteria for acceptance have been satisfied.

A receivable is recognized when the goods are delivered as this is the point in time that the Group has a right to an amount of consideration that is unconditional.

(ii) Financing components

The Group does not expect to have any contracts where the period between the transfer of the promised goods or services to the customer and payment by the customer exceeds one year. As a consequence, the Group does not adjust any of the transaction prices for the time value of money.

(14) Employee benefits

(i) Defined contribution plans

Obligations for contributions to defined contribution plans are expensed as the related service is provided. Prepaid contributions are recognized as an asset to the extent that a cash refund or a reduction in future payments is available.

(ii) Defined benefit plans

The Group's net obligation in respect of defined benefit plans is calculated separately for each the plan by estimating the amount of future benefit that employees have earned in the current and prior periods, discounting that amount and deducting the fair value of any plan assets.

The calculation of defined benefit obligations is performed annually by a qualified actuary using the projected unit credit method. When the calculation results in a potential asset for the Group, the recognized asset is limited to the present value of economic benefits available in the form of any future refunds from the plan or reductions in future contributions to the plan. To calculate the present value of economic benefits, consideration is given to any applicable minimum funding requirements.

Remeasurements of the net defined benefit liability, which comprise actuarial gains and losses, the return on plan assets (excluding interest) and the effect of the asset ceiling (if any, excluding interest), are recognized immediately in other comprehensive income, and accumulated in retained earnings. The Group determines the net interest expense (income) on the net defined benefit liability (asset) for the period by applying the discount rate used to measure the defined benefit obligation at the beginning of the annual period to the then-net defined benefit liability (asset). Net interest expense and other expenses related to defined benefit plans are recognized in profit or loss.

When the benefits of a plan are changed or when a plan is curtailed, the resulting change in benefit that relates to past service or the gain or loss on curtailment is recognized immediately in profit or loss. The Group recognizes gains and losses on the settlement of a defined benefit plan when the settlement occurs.

(iii) Short-term employee benefits

Short-term employee benefit obligations are measured on an undiscounted basis and are expensed as the related service is provided. A liability is recognized for the amount expected to be paid if the Group has a present legal or constructive obligation to pay this amount as a result of past service provided by the employee, and the obligation can be estimated reliably.

(15) Share based payment

The grant-date fair value of equity-settled share-based payment arrangements granted to employees is generally recognized as an expense, with a corresponding increase in equity, over the vesting period of the awards. The amount recognized as an expense is adjusted to reflect the number of awards for which the related service and non-market performance conditions are expected to be met, such that the amount ultimately recognized is based on the number of awards that meet the related service and non-market performance conditions at the vesting date.

For share-based payment awards with non-vesting conditions, the grant-date fair value of the share-based payment is measured to reflect such conditions and there is no true-up for differences between expected and actual outcomes.

(16) Income tax

Income taxes comprise current taxes and deferred taxes. Except for expenses related to business combinations or recognized directly in equity or other comprehensive income, all current and deferred taxes shall be recognized in profit or loss.

Current taxes comprise the expected tax payables or receivables on the taxable profits (losses) for the year and any adjustment to the tax payable or receivable in respect of previous years. The amount of current tax payables or receivables are the best estimate of the tax amount expected to be paid or received that reflects uncertainty related to income taxes, if any. It is measured using tax rates enacted or substantively enacted at the reporting date.

Deferred taxes arise due to temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and their respective tax bases.

Deferred taxes are measured at tax rates that are expected to be applied to temporary differences when they reserve, using tax rates enacted or substantively enacted at the reporting date.

Deferred tax assets and liabilities are offset if the following criteria are met:

(i) the Group has a legally enforceable right to set off current tax assets against current tax liabilities; and

(ii) the deferred tax assets and the deferred tax liabilities relate to income taxes levied by the same taxation authority on either:

1) the same taxable entity; or

2) different taxable entities which intend to settle current tax assets and liabilities on a net basis, or to realize the assets and liabilities simultaneously, in each future period in which significant amounts of deferred tax liabilities or assets are expected to be settled or recovered.

Deferred tax assets are recognized for the deductible temporary differences to the extent that it is probable that future taxable profits will be available against which they can be utilized. Deferred tax assets are reviewed at each reporting date and are reduced to the extent that it is no longer probable that the related tax benefits will be realized; such reductions are reversed when the probability of future taxable profits improves.

(17) Earnings per share

The Group discloses the Company's basic and diluted earnings per share attributable to ordinary shareholders of the Company. The calculation of basic earnings per share is based on the profit attributable to the ordinary shareholders of the Company divided by the weighted average number of ordinary shares outstanding. The calculation of diluted earnings per share is based on the profit attributable to ordinary shareholders of the Company, divided by the weighted average number of ordinary shares outstanding after adjustment for the effects of all dilutive potential ordinary shares, such as convertible bonds payable and employee remuneration that could be distributed in share.

(18) Operating segment information

An operating segment is a component of the Group that engages in business activities from which it may earn revenues and incur expenses (including revenues and expenses relating to transactions with other components of the Group). Operating results of the operating segment are regularly reviewed by the Group's chief operating decision maker to make decisions about resources to be allocated to the segment and to assess its performance. Each operating segment consists of standalone financial information.

5. Significant accounting judgments, assumptions, and major sources of estimation uncertainty

The preparation of the consolidated financial statements in conformity with the Regulations and the IFRSs endorsed by the FSC requires management to make judgments, estimations and assumptions that affect the application of the accounting policies and the reported amount of assets, liabilities, income and expenses. Actual results may differ from these estimations.

Management continues to monitor the accounting estimations and assumptions. Management recognizes any changes in the accounting estimations during the period in which the estimates are revised and in any future periods affected.

Information about critical judgments in applying accounting policies that have the most significant effect on the amounts recognized in the consolidated financial statements is included in the following:

(1) The loss allowance of notes and accounts receivables

The Group has estimated the loss allowance of notes and accounts receivable that is based on the risk of a default occurring and the rate of expected credit loss. The Group has considered historical experience, current economic conditions and forward-looking information at the reporting date to determine the assumptions to be used in calculating the impairments and the selected inputs. Please refer to note 6(4) for the impairment evaluation of receivables.

(2) Valuation of Inventories

Inventories are stated at the lower of cost or net realizable value, and the Group uses judgments and estimates to determine the net realizable value of inventory for obsolescence and unmarketable items at the reporting date. It also writes down the cost of inventories to net realizable value. The net realizable value of the inventory is mainly determined based on the assumptions of the estimated demands of the products within a specific time horizon in the future, therefore, the above estimation may have a significant change. Please refer to note 6(5) for further description of the valuation of inventories.

Accounting policies and disclosures of the Group include the fair value measurement for financial or non-financial assets and liabilities. The Group determines the fair value using the independent data sources which reflect the current market condition and confirming the data available are independent, reliable, in consistent with other sources and represent the exercisable price. The Group also periodically assesses the evaluation model, performs retrospective tests, and updates inputs with any other necessary fair value adjustment for the evaluation model in order to ensure the reasonableness of the valuation.

The Group evaluates its assets and liabilities using the observable market inputs. The hierarchy of the fair value depends on the valuation techniques used, and the different levels have been defined as follows:

Level 1: quoted prices (unadjusted) in active markets for identical assets or liabilities.

Level 2: inputs (other than quoted prices included within Level 1) that are observable for the assets or liabilities, either directly (i.e., as prices) or indirectly (i.e., derived from prices).

Level 3: inputs for assets or liabilities that are not based on observable market data (unobservable inputs).

When there is a transfer between levels of the fair value hierarchy, the Group recognizes the transfer at the reporting date. For the assumptions used in fair value measurement, please refer to Note 6(23) of the financial instruments.

6. Explanation of significant accounts

(1) Cash and cash equivalents

	December 31, 2019	December 31, 2018
Cash on hand	$ 384	655
Demand deposits and checking accounts	564,757	531,318
Time deposits	202,052	2,236
	$ 767,193	**534,209**

Please refer to note 6(23) for the disclosure of currency risk of the financial assets and liabilities.

(2) Financial assets measured at fair value through profit or loss

	December 31, 2019	December 31, 2018
Financial assets－current:		
Puttable option－convertible bonds payable	**$ -**	**18**

(3) Financial assets at fair value through other comprehensive income－non-current

	December 31, 2019	December 31, 2018
Domestic unlisted stocks	**$ 49,297**	**53,224**

The purpose of these equity instruments is for long-term strategic investments and is not held for trading. As such, these instruments have been designated to be measured at fair value through other comprehensive income.

During the years of 2019 and 2018, the Group did not dispose any of its investment, thus, there were no transfer of accumulated profit and loss within the equity.

(4) Notes and accounts receivable, net

(i) Notes receivable, net:

	December 31, 2019	December 31, 2018	January 1, 2018
Notes receivable from operating activities	**$ 38,876**	**62,741**	**157,622**

(ii) Accounts receivable, net:

	December 31, 2019	December 31, 2018	January 1, 2018
Accounts receivable	$ 489,285	653,556	583,796
Less: loss allowance	(5,981)	(7,668)	(7,668)
	$ 483,304	**645,888**	**576,128**

The Group applies the simplified approach to provide for its loss allowance used for ECL, which permit the use of lifetime expected loss provision for all receivables. To measure the ECL, trade receivables have been grouped based on shared credit risk characteristics and the days past due, as well as incorporated forward looking information, including macroeconomic and relevant industry information. The loss allowance provision was determined as follows:

	December 31, 2019		
	Gross carrying amount	**Weighted-average loss rate**	**Loss allowance provision**
Current	$ 522,332	0%	-
1 to 90 days past due	-	5%	-
91 to 180 days past due	-	20%	-
More than 181 days past due	-	100%	-
	$ 522,332		**-**

	December 31, 2018		
	Gross carrying amount	**Weighted-average loss rate**	**Loss allowance provision**
Current	$ 704,668	0%	-
1 to 90 days past due	3,847	5%	-
91 to 180 days past due	153	20%	-
More than 181 days past due	-	100%	-
	$ **708,668**		**-**

Note: As of December 31, 2019 and 2018, The accounts receivable $5,981 and $7,668 respectively from Wintek Corporation have been fully provided with impairment losses.

Other receivables – related parties are not included in the above receivables, please refer to note 7 for details.

The movement in the loss allowance for notes and accounts receivable was as follows:

	December 31, 2019	**December 31, 2018**
Balance on January 1, 2019 and 2018	$ 7,668	7,668
Impairment losses recognized (reversal)	(1,687)	-
Balance on December 31, 2019 and 2018	$ **5,981**	**7,668**

(5) Inventories

	December 31, 2019	**December 31, 2018**
Raw materials	$ 627,666	838,977
Work in process	465,308	501,152
Finished goods	322,427	330,535
	$ **1,415,401**	**1,670,664**

The components of operating costs were as follows:

	2019	**2018**
Cost of goods sold	$ 5,813,803	5,532,018
Inventory devaluation loss (reversal gain)	67,116	(132)
Gain from sale of scrap	(1,339)	(2,059)
	$ **5,879,580**	**5,529,827**

As of December 31, 2019 and 2018, the Group's inventories were not pledged as collaterals.

(6) Changes in the Company's ownership interest in a subsidiary

(i) Acquisitions of Non-controlling interests (NCI)

In the third and fourth quarters of 2019, the Company acquired additional stocks from those employees that resigned from Uranus Chemicals for $2,933 and $55 in cash, respectively, resulting change in its ownership. In addition, COREMAX(BVI) CORPORATION acquired additional stocks in Coremax (Zhangzhou) Chemical Co., Ltd. for $24,698 in cash, increasing its ownership from 70.06% to 82% in September 2019.

The effects of the changes in shareholdings were as follows:

	2019
Carrying amount of NCI on acquisition	$ 19,215
Consideration paid to NCI	(27,686)
Capital surplus differences between consideration and carrying amounts of subsidiaries shareholding acquired	**$ (8,471)**

(ii) Issuance of new shares for cash by subsidiaries, not subscribed to proportionately, did not lose control.

In 2019 and 2018, the Company did not purchase the new shares of Uranus Chemicals proportionately, resulting change in its ownership.

The effects of the changes in shareholdings were as follows:

	2019	2018
The carrying amount of the subsidiary's net assets calculated based on the relative change in equity which should be transferred from NCI	$ (3,598)	30,140
Treasury shares	(18)	(4,689)
Equity transaction variance	**$ (3,616)**	**25,451**
Accounts adjusted for equity transaction variance		
Capital surplus-adjustment due to non-proportional investment in subsidiary's increase in capital	**$ 13,025**	**25,451**
Unappropriated retained earnings-adjustment due to non-proportional investment in subsidiary's increase in capital	**$ (16,641)**	**-**

(iii) Due to the above mentioned transactions, the Company's ownership of Uranus Chemicals was changed. As of December 31, 2019 and 2018, and January 1, 2018, its shareholding were 62.62%, 62.7%, and 83.6%, respectively.

(7) Material NCI of subsidiaries

The material NCI of subsidiaries were as follows:

Subsidiaries	Main operation place	Percentage of non-controlling interests December 31, 2019	Percentage of non-controlling interests December 31, 2018
Uranus Chemicals	Taiwan	37.38 %	37.30 %

The following information of the aforementioned subsidiaries have been prepared in accordance with the Regulations. Included in this information is the fair value adjustment made during the acquisition and relevant difference in accounting principles between the Group as at the acquisition date. Intragroup transactions were not eliminated in this information.

Uranus Chemicals' summarized financial information:

	December 31, 2019	December 31, 2018
Current assets	$ 298,786	339,896
Non-current assets	1,366,838	1,211,172
Current liabilities	(127,429)	(102,709)
Non-current liabilities	(324,497)	(460,013)
Net assets	**$ 1,213,698**	**988,346**
NCI	**$ 464,433**	**368,653**

	2019	2018
Sales revenue	**$ 219,311**	**241,590**
Net income	$ (26,629)	47,102
Other comprehensive income	(650)	(1,799)
Comprehensive income	**$ (27,279)**	**45,303**
Profit, attributable to NCI	**$ 5,825**	**13,494**
Comprehensive income, attributable to NCI	**$ (171)**	**(515)**
Net cash flows from operating activities	$ 42,004	33,673
Net cash flows used in investing activities	(116,283)	(600,480)
Net cash flows from financing activities	32,939	572,027
Net increase (decrease) in cash and cash equivalents	**$ (41,340)**	**5,220**
Pay to Uranus Chemicals' dividend	**$ 9,643**	**9,070**

(8) Other current assets/ non-current assets

Other current assets

	December 31, 2019	December 31, 2018
Prepayment for purchases	$ 157,571	524,708
Refundable and overpaid business tax	51,848	38,794
Other	9,011	26,960
	$ 218,430	**590,462**

Other non-current assets

	December 31, 2019	December 31, 2018
Land-use-right	$ -	33,547
Prepayment for purchase equipment	21,221	40,843
Refundable deposits and other	19,524	20,289
	$ 40,745	**94,679**

(9) Property, plant and equipment

	Land	Building	Machinery and equipment	Transportation equipment	Other equipment	Prepaid Equipment and Construction in progress	Total
Cost:							
Balance at January 1, 2019	$ 1,663,199	1,050,455	1,873,199	31,985	296,244	104,427	5,019,509
Additions	-	85,192	80,424	7,286	21,160	261,886	455,948
Disposals and scrap	-	(11,486)	(33,132)	(1,698)	(21,606)	-	(67,922)
Reclassification	-	34,608	19,106	-	4,806	(16,917)	41,603
Effect of exchange rate changes	374	(4,380)	(6,130)	2,555	128	(688)	(8,141)
Balance at December 31, 2019	**$ 1,663,573**	**1,154,389**	**1,933,467**	**40,128**	**300,732**	**348,708**	**5,440,997**
Balance at January 1, 2018	$ 1,120,172	940,584	1,851,519	31,083	278,757	81,769	4,303,884
Additions	542,792	79,957	52,089	5,354	19,925	82,116	782,233
Disposals and scrap	-	(3,609)	(53,427)	(1,311)	(6,426)	-	(64,773)
Reclassification	-	35,961	21,634	(686)	4,805	(56,604)	5,110
Effect of exchange rate changes	235	(2,438)	1,384	(2,455)	(817)	(2,854)	(6,945)
Balance at December 31, 2018	**$ 1,663,199**	**1,050,455**	**1,873,199**	**31,985**	**296,244**	**104,427**	**5,019,509**

	Land	Building	Machinery and equipment	Transportation equipment	Other equipment	Prepaid Equipment and Construction in progress	Total
Depreciation:							
Balance at January 1, 2019	$ -	391,270	871,459	18,578	152,856	-	1,434,163
Depreciation for the period	-	76,276	129,222	3,909	21,420	-	230,827
Disposals and scrap	-	(11,465)	(30,814)	(2,310)	(19,056)	-	(63,645)
Effect of exchange rate changes	-	(1,708)	(3,229)	1,511	257	-	(3,169)
Balance at December 31, 2019	**$ -**	**454,373**	**966,638**	**21,688**	**155,477**	**-**	**1,598,176**
Balance at January 1, 2018	$ -	325,022	798,147	18,476	140,633	-	1,282,278
Depreciation for the period	-	70,468	121,975	2,958	18,933	-	214,334
Disposals and scrap	-	(3,558)	(48,658)	(600)	(5,215)	-	(58,031)
Reclassification	-	(1)	(1)	-	-	-	(2)
Effect of exchange rate changes	-	(661)	(4)	(2,256)	(1,495)	-	(4,416)
Balance at December 31, 2018	**$ -**	**391,270**	**871,459**	**18,578**	**152,856**	**-**	**1,434,163**
Carrying amounts:							
Balance at December 31, 2019	**$ 1,663,573**	**700,016**	**966,829**	**18,440**	**145,255**	**348,708**	**3,842,821**
Balance at December 31, 2018	**$ 1,663,199**	**659,185**	**1,001,740**	**13,407**	**143,388**	**104,427**	**3,585,346**
Balance at January 1, 2018	**$ 1,120,172**	**615,562**	**1,053,372**	**12,607**	**138,124**	**81,769**	**3,021,606**

Hengi Chemical conducted asset revaluation in years 1975, 1981 and 2001, and provided a land value appreciation reserve of $207,483 (accounted for deferred income tax liabilities). Uranus Chemicals conducted an asset revaluation in 2007 and the Company conducted land revaluation when it obtained Uranus Chemicals control in November 2014, and provided a land value appreciation reserve of $70,856 (accounted for deferred income tax liabilities).

The property, plant and equipment of the Group pledged as collateral, please refer to note 8.

(10) Right-of-use assets

The Group leases many assets including land, buildings and transportation equipment. Information about leases for which the Group as a lessee was presented below:

	Land use right	Buildings	Transportation equipment and others	Total
Cost:				
Balance at January 1, 2019	$ -	-	-	-
Effects of retrospective application of IFRS 16	33,547	-	12,857	46,404
Additions	7,229	1,066	3,742	12,037
Effect of exchange rate changes and others	(3,052)	-	-	(3,052)
Balance at December 31, 2019	**$ 37,724**	**1,066**	**16,599**	**55,389**

	Land	Buildings	Machinery and equipment	Total
Accumulated depreciation and impairment losses:				
Balance at January 1, 2019	$ -	-	-	-
Depreciation for the year	1,397	325	4,378	6,100
Effect of exchange rate changes and others	4,144	-	-	4,144
Balance at December 31, 2019	**$ 5,541**	**325**	**4,378**	**10,244**
Carrying amount:				
Balance at January 1, 2019	**$ -**	**-**	**-**	**-**
Balance at December 31, 2019	**$ 32,183**	**741**	**12,221**	**45,145**

(11) Short-term notes and bills payable

	December 31, 2019	December 31, 2018
Commercial paper payable	**$ 230,000**	**80,000**

As of December 31, 2019 and 2018, the interest rate is 1.108% / 1.315% and 1.078%, respectively, and a maturity date of March, 2020 and January 2019, respectively.

(12) Long-term/Short-term borrowings

(i) Short-term borrowings:

	December 31, 2019	December 31, 2018
Secured bank loans	$ 210,000	109,563
Unsecured bank loans	815,468	1,293,472
	$ 1,025,468	**1,403,035**
Unused short-term credit lines	**$ 2,695,046**	**2,112,110**
Range of interest rates	**1.07%~ 4.25%**	**1.085%~ 4.250%**

For the collateral for short-term borrowings, please refer to note 8.

Please refer to note 6(23) for the disclosure of interest risk, currency risk and liquidity risk.

(ii) Long-term borrowings:

Lender	Use	Maturity year and Repayment	December 31, 2019	December 31, 2018
Chang Hwa Commercial Bank	Working capital	Effective from 2015, repayable quarterly in 20 equal instalments.	$ 150,000	250,000
O-Bank	Working capital	From 2016 to 2020, with grace period of 24 month; first instalment is repayable upon the end of first grace period, and subsequent instalments are repayable quarterly, with a principal sum repayable in a total of 9 equal instalments.	33,333	77,778
O-Bank	Working capital	From 2017 to 2020; first instalment is repayable 6 months after the first withdrawal date, with subsequent instalment due every 6 months thereafter. Due to a year extension of repayment of loan, the principal sum is repayable in 3 instalments starting from the end of year 2018.	-	150,000
O-Bank	Working capital	From 2017 to 2020, repayable quarterly in 5 equal instalments beginning in 2019.	-	66,000
O-Bank	Working capital	From 2018 to 2033, first instalment is repayable 24 months after the first withdrawal date, with subsequent instalments in monthly basis, at a total of 157 equal instalments.	257,312	400,000
O-Bank	Working capital	From 2019 to 2026, repayable monthly in 49 equal instalments beginning in 2022.	150,000	-
Mega Bank	Working capital	From 2019 to 2026, repayable monthly in 49 equal instalments beginning in 2022.	250,000	-
Less: Current portion of long-term borrowings			(133,333)	(334,045)
			$ **707,312**	**609,733**
Unused long-term credit lines			**559,355**	**422,222**
Range of interest rates at year end			**0.3%~1.5%**	**1.2%~1.5%**

The Company and Uranus Chemicals signed a loan agreement with O-Bank and agreed with the covenants related to maintaining certain financial ratios. As of December 31, 2019 and 2018, both the Company and Uranus Chemicals were in compliance with the loan covenants.

The collateral of long-term borrowings, please refer to note 8.

(13) Convertible bonds

The Company issued the second domestic guaranteed convertible bond on June 24, 2015, guaranteed by Chang Hwa Commercial Bank Co., Ltd., by pledging the ordinary shares of Hengi Chemical, with an amount of $200,416. In addition, the bond holder may request the Company to buy back the bond at par value, plus, interest compensation cost, with the date three years after the issuance of the bond. The relevant information of the Company's convertible corporate bonds is as follows:

	December 31, 2019	December 31, 2018
Total proceeds from convertible corporate bonds issued	$ 600,000	600,000
Less: Unamortized corporate bonds discount	-	(605)
Less: Cumulative converted amount	(600,000)	(595,000)
Corporate bonds payable balance at year-end	**$ -**	**4,395**
Embedded derivative – call and put options, included in financial assets at FVTPL	**$ -**	**18**

	2019	2018
Embedded derivative – call and put options revaluation gain (loss), included in valuation gain (loss) of financial assets and liabilities at FVTPL	**$ (7)**	**(16)**
Interest expense	**$ 15**	**248**

As of December 31,2019, the second domestic guaranteed convertible bond has been fully converted.

The conversion price was set at $51.8 on December 31, 2018.

The Company has separately recognized its rights and liabilities of the above-mentioned convertible bonds upon issuance. The details are as follows:

Item	Amount
Total convertible corporate bonds issued	$ 600,000
Fair value of embedded non-equity derivatives upon issued	(6,420)
Issuing cost	(5,000)
Fair value of corporate bonds upon issued	(553,518)
Equity component-stock options (reported in capital surplus-stock options)	**$ 35,062**

Excluded the above embedded derivatives, the effective interest rate of the Company's second guaranteed convertible corporate bonds is 1.63%.

The detail of the conversion to ordinary shares of Company's second guaranteed convertible corporate bonds on December 31, 2019 and 2018, please refer to Note 6(18).

(14) Lease liabilities

The Group's lease liabilities were as follow:

	December 31, 2019
Current	$ 5,081
Non-current	$ 14,500

For the maturity analysis, please refer to note 6(23).

The amounts recognized in profit or loss was as follows:

	2019
Interest on lease liabilities	$ 268
Expenses relating to short-term leases and leases of low-value assets	$ 1,472
Total cash outflow for leases	$ 6,755

(i) Land and buildings leases

As of December 31, 2019, the Group leases land and buildings for a period of 4 to 45 years. Some leases include an option to renew the lease for an additional period of the same duration after the end of the contract term.

(ii) Other leases

The Group leases vehicles and others, with lease terms of one to six years. In some cases, the Group has options to purchase the assets at the end of the contract term.

The Group also leases printers and staff dormitory with contract terms of 1 to 2 years. These leases are short-term and leases of low-value items. The Group has elected not to recognize right-of-use assets and lease liabilities for these leases.

(15) Operating lease

Leases as lessee

As of December 31, 2018, Non-cancellable operating lease rentals payable were as follows:

	December 31, 2018
Less than 1 year	$ 2,611
Between 1~ 5 years	5,660
More than 5 years	10,352
	$ 18,623

(16) Employee benefits

(i) Defined benefit plans

The present value of the defined benefit obligation and the fair value adjustments of the plan assets for the Company and domestic subsidiaries were as follow:

	December 31, 2019	December 31, 2018
Present value of the defined benefit obligation	$ 55,194	60,483
Fair value of plan assets	(61,746)	(64,680)
	$ (6,552)	**(4,197)**
Net defined benefit assets	**$ 10,132**	**8,075**
Net defined benefit obligations	**$ 3,580**	**3,878**

The Company and domestic subsidiaries established defined benefit plans by contributed to the pension fund account at Bank of Taiwan that provides pensions for employees upon retirement. The plans (covered by the Labor Standards Law) entitle a retired employee to receive an annual payment based on years of service and average salary for the six months prior to retirement.

1) Composition of plan assets

The Company and domestic subsidiaries allocate pension funds in accordance with the Regulations for Revenues, Expenditures, Safeguard and Utilization of the Labor Retirement Fund, and such funds are managed by the Bureau of Labor Fund, Ministry of Labor. Minimum earnings shall be no less than the earnings attainable from two-year time deposits with interest rates offered by local banks.

The Company and domestic subsidiaries' Bank of Taiwan labor pension reserve account balance amounting to $61,746 at December 31, 2019. For information on the utilization of the labor pension fund assets including the asset allocation and yield of the fund, please refer to the website of the Bureau of Labor Fund.

2) Movements in present value of defined benefit obligation

The movements in present value of the defined benefit obligation of the Company and domestic subsidiaries were as follows:

	2019	2018
Defined benefit obligation at January 1	$ 60,483	60,799
Current service cost and interest	962	966
Benefits paid from plan assets	(7,885)	(2,301)
Remeasurements of the net defined benefit liabilities	1,634	1,019
Defined benefit obligation as of December 31	**$ 55,194**	**60,483**

3) Movements in the fair value of the defined benefit plan assets

The movements in the fair value of the defined benefit plan assets of the Company and domestic subsidiaries were as follows:

	2019	2018
Fair value of plan assets at January 1	$ 64,680	55,170
Contributions made	2,324	9,546
Interest income	706	634
Benefits paid from plan assets	(7,885)	(2,301)
Remeasurements of the return on plan assets	1,921	1,631
Fair value of plan assets at December 31	**$ 61,746**	**64,680**

4) Expenses recognized in profit or loss

The expenses recognized in profit or losses for the Company and domestic subsidiaries were as follows:

	2019	2018
Current service cost	$ 334	327
Net interest on the net defined benefit liabilities	(81)	5
	$ 253	**332**

5) Remeasurements of the net defined benefit liabilities recognized in other comprehensive income

The Company and domestic subsidiaries' remeasurements of the net defined benefit liabilities recognized as accumulated in other comprehensive income were as follows:

		2019	2018
Cumulative amount at January 1	$	(6,892)	(7,504)
Recognized in profit (losses) for the period		287	612
Cumulative amount as of December 31	**$**	**(6,605)**	**(6,892)**

6) Actuarial assumptions

The following are the Company and domestic subsidiaries' significant actuarial assumptions regarding the present value of the defined benefit obligation at the reporting date:

	December 31, 2019	December 31, 2018
Discount rate	1.0%	1.0%~1.2%
Future salary increase rate	1.5%~3.5%	1.5%~3.5%

The Company and domestic subsidiaries are expecting a contribution of $1,720 to its defined benefit plans in the following year, beginning December 31, 2019.

The weighted average duration of the defined benefit plan is 7~13.8 years.

7) Sensitivity analysis

The carrying amount of the Company and domestic subsidiaries' net defined benefit assets was $6,552 as of 31 December 2019. When the employee's unpaid salary growth rate is changed by 1%, it is estimated that the accrued pension liabilities recognized by the Company and domestic subsidiaries would increase by $1,861 or decrease by $1,743, respectively.

(ii) Defined contribution plans

In accordance with the provisions of the Labor Pension Act, the Company and domestic subsidiaries should contribute 6% of its employees' monthly wages to their labor pension personal accounts of the Bureau of Labor Insurance, Ministry of Labor (hereinafter referred to as the Bureau of Labor Insurance). Under this defined contribution plan, the Company and domestic subsidiaries contribute a fixed amount to the Bureau of Labor Insurance without additional legal or constructive obligations.

The total pension costs of the Group's overseas subsidiaries under their respective defined contribution plan are recognized in accordance with their local regulations.

The Group's pension costs under the defined contribution plan were $11,003 and $9,937 for the years ended December 31, 2019 and 2018, respectively.

(17) Income tax

(i) Income tax expense

The Company applied for capital increase and extended the five-year tax exemption case. The Economic and Industrial Bureau issued a certificate of completion of the emerging important strategic industries. The Company's self-manufactured chemical materials products revenue meet the above requirements from January 1 2015 to December 31 2019, the income tax for profit-making business is exempted.

The amount of income tax expense (profit) to the Group were as follows:

	2019	2018
Current tax expense		
Current period	$ 63,233	89,567
Undistributed earnings additional tax	7,062	11,642
Adjustment for prior periods	14,286	(3,756)
	84,581	97,453
Deferred tax expense		
Origination and reversal of temporary differences	(9,605)	13,996
Effect of tax rate change	-	(2,956)
	(9,605)	11,040
Income tax expense	**$ 74,976**	**108,493**

The amount of income tax expense recognized in other comprehensive income were as follows:

	2019	2018
Exchange differences on translation of foreign financial statements	**$ (3,018)**	**(1,484)**

The reconciliation of income tax expenses and income before income tax were as follows:

	2019	2018
Income before income tax	$ 228,043	537,923
Income tax at the Company's domestic tax rate	45,609	107,585
Effect of different tax rates in foreign jurisdictions	12,373	31,001
Effect of tax rate change	-	(2,956)
Permanent difference and other	(1,063)	(28,209)
Undistributed earnings additional tax	7,062	11,642
Tax-exempt income	(4,056)	(8,644)
Change in provision in prior periods and other	15,051	(1,926)
Total	**$ 74,976**	**108,493**

B. Recognized deferred tax assets and liabilities

Deferred tax assets	January 1, 2018	Recognized in income statement	Recognized in other comprehensive income	December 31, 2018	Recognized in income statement	Recognized in other comprehensive income	December 31, 2019
Exchange differences on translation of foreign financial statements	$ 1,631	-	(1,484)	3,115	-	3,018	6,133
Allowance for inventory valuation	7,303	(974)	-	8,277	(13,422)	-	21,699
Pension not actually contributed	2,308	167	-	2,141	411	-	1,730
Impairment loss	9,954	1,098	-	8,856	270	-	8,586
Others	4,185	(66)	-	4,251	1,358	-	2,893
	$ 25,381	**225**	**(1,484)**	**26,640**	**(11,383)**	**3,018**	**41,041**

Deferred tax liabilities	January 1, 2018	Recognized in income statement	Recognized in other comprehensive income	December 31, 2018	Recognized in income statement	Recognized in other comprehensive income	December 31, 2019
Land Value Increment Tax	$ 278,339	-	-	278,339	-	-	278,339
Investment income recognized under equity method	6,175	9,907	-	16,082	2,570	-	18,652
Others	823	908	-	1,731	(792)	-	939
	$ 285,337	**10,815**	**-**	**296,152**	**1,778**	**-**	**297,930**

C. The Company's income tax returns for the years through 2017 were assessed by the tax authority.

(18) Capital and other equity

(i) Issuance and cancellation of ordinary shares

As of December 31, 2019 and 2018, the authorized capital of the Company amounted to $1,200,000; the issued capital amounted to $930,293 and $928,452, respectively. With par value at $10 per share.

Reconciliations of shares outstanding to the Company were as follows (in thousands of shares):

	Common Stock	
	2019	**2018**
Balance at January 1	92,845	86,123
New share issuance for cash	-	6,000
Conversion of convertible bonds	184	722
Balance at December 31	**93,029**	**92,845**

As of December 31, 2019 and 2018, the guaranteed convertible corporate bonds amounted to $4,500 and $ 24,600, respectively, were converted into 88 thousand shares and 468 thousand shares, of the Company's ordinary shere capital respectively. The net increase in capital surplus due to corporate bond conversion was $3,524 and $18,989 respectively.

For the year ended December 31, 2019, the statutory registration procedures for issuance of new shares due to the convertible bonds' holder exercised the rights were completed. In addition, among the new shares issued in 2018, the statutory registration procedures of 371 thousand shares were completed; and the remaining 97 thousand shares are still in the progress. As of December 31, 2018, the share amounting to $965 was recognized as advance receipts for share capital.

In the fourth quarter of 2018, the Company issued 6,000 new shares for cash, which was issued at a premium of $75 per share, totaling $450,000. The difference between the par value and the issue price was $390,000, and the capital surplus was recorded. The above-mentioned capital increase case had already completed the statutory registration procedures.

(ii) Capital surplus

	December 31, 2019	**December 31, 2018**
Additional paid-in capital	$ 1,244,383	1,240,595
Difference between consideration and carrying amount arising from acquisition or disposal of subsidiaries shareholdings	320,571	329,042
Other	34,503	12,099
	$ 1,599,457	**1,581,736**

According to the R.O.C. Company Act, capital surplus can only be used to offset a deficit, and only the realized capital surplus can be used to increase the ordinary share or be distributed as cash dividends. The aforementioned realized capital surplus includes capital surplus resulting from premium on issuance of capital share and earnings from donated assets received. According to the Regulations Governing the Offering and Issuance of Securities by Securities Issuers, capital increases by transferring capital surplus should not exceed 10% of the total ordinary share outstanding.

(iii) Retained earnings

1) Legal reserve

According to the R.O.C. Company Act, the Company must retain 10% of its after-tax annual earnings as legal reserve until such retention equals the amount of total capital. When a company incurs no loss, it may, pursuant to a resolution by a shareholders' meeting, distribute its legal reserve by issuing new shares or by distributing cash, and only the portion of legal reserve which exceeds 25% of capital may be distributed.

2) Special reserve

By choosing to apply exemptions granted under IFRS 1 during the Company's first-time adoption of the IFRSs endorsed by the FSC, cumulative translation adjustments under shareholders' equity shall be reclassified as retained earnings at the transition date. The increase in retained earnings occurring before the transition date due to the first-time adoption of the IFRSs endorsed by the FSC amounted to $20,277. The net increase in retained earnings resulting from the first application of IFRS1 on the transition date was $16,830. In accordance with Ruling No. 1010012865 issued by the FSC, a net increase in retained earnings due to the first-time adoption of the IFRSs endorsed by the FSC shall be reclassified as a special reserve during earnings distribution, and when the relevant asset is used, disposed of, or reclassified, this special reserve shall be reversed as distributable earnings proportionately.

In the years of 2019 and 2018, there was no reserve provided or reversed. In accordance with the guidelines of the above Ruling, a portion of current period earnings and undistributed prior period earnings shall be reclassified as a special reserve during earnings distribution. The amount to be reclassified should be equal to the difference between the total net current period reduction of special reserve resulting from the first-time adoption of the IFRSs endorsed by the FSC and the carrying amount of other shareholders' equity as stated above. Similarly, a portion of undistributed prior period earnings shall be reclassified as a special reserve (which does not qualify for earnings distribution) to account for cumulative changes to other shareholders' equity pertaining to prior periods due to the first-time adoption of the IFRSs endorsed by the FSC. Amounts of subsequent reversals pertaining to the net reduction of other shareholders' equity shall qualify for additional distributions.

3) Earnings distribution

According to the Company's articles of incorporation, in years of earnings, pay income tax, offset any accumulated deficit. Thereafter, a 10% appropriation of the remaining amount shall be set aside for legal reserve, unless the amount in the legal reserve is already equal to or greater than the total paid in capital. Thereafter, an amount shall be set aside or reversed as a special reserve in accordance with related laws, regulations, or provisions of the competent authorities. Distribution of the remaining earnings after setting aside the abovementioned amounts, together with the balance of the unappropriated retained earnings of the previous year, shall be proposed by the Board of Directors to be approved at the shareholders' meeting.

As the Company is still in its growth stage, capital is needed to expand its production lines and to increase its investment in the coming years. Recently, the Company has been developing steadily based on its capital expenditure, business expansion, and appropriate financial planning. The Company will allot more than 10% of its distributable earnings above as dividends to its shareholders. However, if the distributable earnings are less than 30% of the paid-in capital, then no dividend shall be distributed. If the Company simultaneously distributes stock dividends and cash dividends, the cash dividends should not be less than 20% of the total dividend payout to its shareholders.

The following are the appropriation of earnings in last two years which were proposed by the Board of Directors on March 18, 2020 and approved during the shareholders' meeting held on June 20, 2019, respectively:

	2019		2018	
	Amount per share (TWD)	**Total amount**	**Amount per share (TWD)**	**Total amount**
Dividends distributed to ordinary shareholders:				
Cash	**1.2**	**$ 111,635**	**3.202947**	**297,694**

The appropriation of retained earnings for 2018 is consistent with the resolutions approved by the Board of Directors. The appropriation of earnings distribution for 2019 will be presented for resolution in annual shareholders' meeting. The related information will be available on the Market Observation Post System on the website after the meeting.

(iv) Treasury stock

In accordance with the requirements of Securities and Exchange Act, treasury shares held by the Company should not be pledged, and do not hold any shareholder rights before the transfer. Shares of the Company held by its subsidiaries are accounted for as treasury shares, which are not allowed in participating in the Company's capital increase and without voting rights, except that, other right is the same as the general shareholders' rights.

Uranus Chemicals holds 3,013 thousand ordinary shares of the Company, with the acquisition price of $22,434. As of December 31, 2019 and 2018, the amount of deemed treasury shares the Company recognized was $14,048 and $14,066, respectively, which was determined based on the Company's shareholding in Uranus Chemicals of 62.62% and 62.7%, respectively.

(vi) Other

Uranus Chemicals issued 10,000 thousand of new shares for cash in 2019 and 2018, respectively, at a premium of $27 and $26, respectively. NCI subscribed an amount of $105,168 and $260,000 respectively in 2019 and 2018.

(19) Earnings per share

		2019	2018
Basic earnings per share:			
Net income attributable to ordinary shareholders	$	128,016	393,022
Weighted-average number of ordinary shares outstanding during the year (in thousands of shares)		91,126	84,865
Basic earnings per share (TWD)	$	1.40	4.63
Diluted earnings per share:			
Net income attributable to ordinary shareholders of the Company	$	128,016	393,022
Interest expense on convertible bonds, net of tax		12	199
	$	128,028	393,221
Weighted average number of ordinary shares outstanding (in thousands) (basic)		91,126	84,865
Effect of potential diluted ordinary shares:			
Effect of employee remuneration in share		120	98
Effect of conversion of convertible bonds		18	324
Weighted average number of ordinary shares outstanding (in thousands) (diluted)		91,264	85,287
Diluted earnings per share (TWD)	$	1.40	4.61

(20) Revenue from contracts with customers

Revenue from major markets region and products:

	2019					
	Oxidation catalyst department	**Battery material department**	**Chemical fertilizer department**	**Specialty chemical department**	**Other**	**Total**
Taiwan	$ 499,556	3,302,869	683,665	648,850	462,270	5,597,210
China and other	504,139	-	-	-	268,171	772,310
	$ 1,003,695	**3,302,869**	**683,665**	**648,850**	**730,441**	**6,369,520**

	2018					
	Oxidation catalyst department	**Battery material department**	**Chemical fertilizer department**	**Specialty chemical department**	**Other**	**Total**
Taiwan	$ 757,737	2,641,228	864,536	964,219	263,761	5,491,481
China and other	520,829	-	-	-	298,327	819,156
	$ 1,278,566	**2,641,228**	**864,536**	**964,219**	**562,088**	**6,310,637**

(21) Remuneration to employees, directors and supervisors

The Company’s articles of incorporation require that earnings shall first be offset against any deficit, then, a minimum of 1.5% will be distributed as employee remuneration, and a maximum of 5% will be allocated as remuneration to directors and supervisors. Employees who are entitled to receive the above-mentioned employee remuneration, in share or cash, include the employees of the Company’s subsidiaries who meet certain specific requirements.

For the years ended December 31, 2019 and 2018, the Company accrued and recognized its employee remuneration both amounting to $8,000. These amounts were calculated by using the Company’ s pre-tax net profit for the period before deducting the amounts of the remuneration to employees, multiplied by the distribution of ratio of the remuneration to employees based on the Company’s articles of incorporation, and expensed under operating costs or expenses. If there would be any changes after the reporting date, the changes shall be accounted for as changes in accounting estimates and recognized as profit or lost in the following year. If, however, the shareholders determine that the employee remuneration is to be distributed through share, the number of shares to be distributed shall be calculated using the stock price on the day before the shareholders' meeting.

For the year ended December 31, 2018, the remuneration to employees amounted to $8,000. However, no remuneration to directors were distributed for the year then ended. There were no differences between the estimated and the actual amounts of employee and directors' remuneration. Related information would be available at the Market Observation Post System website.

(22) Non-operating income and expenses

(i) Other gains and losses, net

	2019	2018
Rental income	$ 14,220	10,830
Interest income	4,170	7,002
Claim income	5,144	5,082
Dividend income	5,748	1,437
Other	4,989	4,694
	$ 34,271	**29,045**

(ii) Other gains and losses, net

	2019	2018
Loss on disposal of property, plant and equipment	$ (1,895)	(78)
Loss on valuation of financial assets and liabilities at FVTPL	(7)	(16)
Other	(4,287)	(4,899)
	$ (6,189)	**(4,993)**

(iii) Finance costs

	2019	2018
Interest expense – borrowings	$ 39,772	45,114
Interest expense – convertible bonds payable	15	248
Interest expense – lease liabilities	268	-
	$ 40,055	**45,362**

(23) Financial instruments

(i) Credit risk

1) Credit risk exposure

The carrying amount of financial assets and contract assets represent the maximum credit exposure.

2) Concentration of credit risk

The customers of the Group are concentrated on customer base of oxidation catalyst, power battery materials, chemical fertilizers and special chemicals. The Group limits its exposure to credit risk from accounts receivables by continuously evaluates the debt collectability and provides adequate reserves for loss allowance, if necessary. As of December 31, 2019 and 2018, there were 8 and 6 major customers, which represented 36% and 40% of the accounts receivable, respectively. Thus, credit risk is significantly concentrated.

3) Credit risk of receivables and debt securities

For credit risk exposure of note and trade receivables, please refer to note 6(4). Other financial assets at amortized cost include other receivables from related parties and other financial assets. There are no impairment losses recognized for the years ended December 31, 2019 and 2018.

All of these financial assets are considered to have low risk, and thus, the loss allowance recognized during the period was limited to 12 months expected losses. Regarding how the financial instruments are considered to have low credit risk, please refer to note 4(7).

(ii) Liquidity risk

The following are the contractual maturities of financial liabilities, (including interest payments):

	Carrying amount	Contractual cash flow	Within 6 months	6 to 12 months	1 to 2 years	Above 2 years
December 31, 2019						
Non-derivative financial liabilities						
Short-term notes and bills payable	$ 230,000	230,000	230,000	-	-	-
Short-term borrowings	1,025,468	1,028,050	1,018,000	10,050	-	-
Notes and accounts receivable	195,356	195,356	195,356	-	-	-
Payable on machinery and equipment	132,420	132,420	132,420	-	-	-
Long-term borrowing (including current portion of long-term borrowings)	840,645	884,894	76,040	64,400	55,459	688,995
Lease liabilities (including current and non-current)	19,581	20,653	2,934	2,410	4,206	11,103
	$ 2,443,470	**2,491,373**	**1,654,750**	**76,860**	**59,665**	**700,098**
December 31, 2018						
Non-derivative financial liabilities						
Short-term notes and bills payable	$ 80,000	80,000	80,000	-	-	-
Short-term borrowings	1,403,035	1,412,148	1,311,104	101,044	-	-
Notes and accounts receivable	170,201	170,201	170,201	-	-	-
Payable on machinery and equipment	48,269	48,269	48,269	-	-	-
Long-term borrowing (including current portion of long-term borrowings)	943,778	1,005,548	167,923	180,468	185,438	471,719
Convertible bonds payable	4,395	4,500	4,500	-	-	-
	$ 2,569,678	**2,640,666**	**1,701,997**	**281,512**	**185,438**	**471,719**

The Group does not expect that the cash flows included in the maturity analysis could occur significantly earlier or at significantly different amounts.

(iii) Currency risk

1) Exposure to currency risk

The Group’ s financial assets and liabilities exposed to exchange rate risk were as follows:

	December 31, 2019		
	Foreign currency	**Exchange rate**	**TWD**
Financial Assets			
Monetary items			
USD	$ 19,468	29.98	583,637
Financial Liabilities			
Monetary items			
USD	6,785	29.98	203,403

	December 31, 2018		
	Foreign currency	**Exchange rate**	**TWD**
Financial Assets			
Monetary items			
USD	$ 23,547	30.715	723,252
Financial Liabilities			
Monetary items			
USD	26,195	30.715	804,571

2) Sensitivity analysis

The Group's exposure to foreign current risk arises from the translation of cash and cash equivalents, receivables, short-term borrowing, accounts payable, and other payables, that are denominated in USD. Assuming all other variable factors remain constant, a strengthening (weakening) of $1 of the TWD against USD as of December 31, 2019 and 2018, would have increased (decreased) the net income $10,146 and $(2,118), respectively.

3) Exchange gains and losses of monetary items

Due to the variety of the functional currencies of the Group’ s entities, the Group’ s foreign exchange gains (losses) on monetary items amounted to $(602) and $3,593 for the years ended December 31, 2019 and 2018, respectively.

(iv) Interest rate analysis

The Group' s interest rate exposure regarding its financial assets and liabilities has been disclosed in the note of financial risk management.

The following sensitivity analysis is based on the exposure to interest rate risk of the derivative and non-derivative instruments on the reporting date. For variable rate instruments, the sensitivity analysis assumes the variable rate liabilities are outstanding for the whole year on the reporting date. The exposure to changes in interest rates (assuming all other variables remain constant) would have influenced the comprehensive income for the years ended December 31, 2019 and 2018, as illustrated below:

	Range of the fluctuations	2019	2018
Annual interest rate	Increase of 1%	$ (14,929)	(19,415)
	Decrease of 1%	$ 14,929	19,415

(vi) Fair value of financial instruments

1) Categories of financial instruments and fair value

The Company' s carrying amount and fair value of financial assets and liabilities (including information on the fair value hierarchy, but excluding financial instruments whose fair values approximate their carrying amounts and lease liabilities) were as follows:

	December 31, 2019				
		Fair Value			
	Carrying amount	Level 1	Level 2	Level 3	Total
Financial assets as FVOCI	$ 49,297	-	-	49,297	49,297

	December 31, 2018				
		Fair Value			
	Carrying amount	Level 1	Level 2	Level 3	Total
Derivative financial assets mandatorily measured at FVTPL	$ 18	-	18	-	18
Financial assets as FVOCI	$ 53,224	-	-	53,224	53,224
Convertible bonds payable	$ 4,395	8,145	-	-	8,145

2) Valuation techniques for financial instruments not measured at fair value

The Group estimates the financial instruments not measured at fair value using the following methods and assumptions:

Fair value measurement for financial liabilities measured at amortized cost based on the latest quoted price and agreed upon price if these prices are available in active markets. When market value is unavailable, the fair value of financial liabilities is evaluated based on the discounted cash flow of the financial liabilities.

3) Valuation techniques for financial instruments that are measured at fair value

The right-of-call or put option that embedded in derivative is measured by using the appropriate option pricing models.

There is no transfer between the levels for the years ended December 31, 2019 and 2018.

4) Quantitative information on significant unobservable inputs (Level 3) used in fair value measurement

The Group's financial instruments that use Level 3 inputs to measure fair value include financial assets at FVOCI (equity instrument investments). Quantitative information of significant unobservable inputs was as follows:

Item	**Valuation technique**	**Significant unobservable inputs**	**Inter-relationship between significant unobservable inputs and fair value measurement**
Financial assets at FVOCI (equity instrument investments without an active market)	Market approach	· Net worth ratio multiplier (December 31, 2019 and December 31,2108 was 1.22 and 1.15, respectively.) · Liquidity discount (December 31, 2019 and December 31,2108 was both 20%)	The higher the net worth ratio multiplier, the higher fair value. The higher of liquidity discount, the lower fair value.

5) Reconciliation of Level 3 fair values

		Equity instrument investment at FVOCI
January 1, 2019	$	53,224
Recognize through other comprehensive income		(3,927)
December 31, 2019	**$**	**49,297**
January 1, 2018	$	-
Effects of retrospective application		53,684
Recognize through other comprehensive income		(460)
December 31, 2018	**$**	**53,224**

The above-mentioned total gains or loss included "unrealized gains and losses from equity instrument investments measured at FVOCI gains and losses". As of December 31, 2019, the loss attributable to assets was $972.

(24) Financial risk management

This note presents information about the Group's exposure to each of the above risks, the Group's objectives, policies and process for measuring and managing risk. Further quantitative disclosures are included throughout these consolidated financial statements.

(i) Risk management framework

The Board of Directors has overall responsibility for the establishment and oversight of the risk management framework. The Board is responsible for developing and monitoring the Group’s risk management policies, and meets regularly for discussions.

The Group’s risk management policies are established to identify and analyze the risks faced by the Group, to set appropriate risk limits and controls, and to monitor risks and adherence to limits. Risk management policies and systems are reviewed regularly to reflect changes in market conditions and the Group’s activities. The Group through its training and management standards and procedures, aims to develop a disciplined and constructive control environment in which all employees understand their roles and obligations.

The Group’s Board of Directors oversees how management monitors compliance with the Group’s risk management policies and procedures and reviews the adequacy of the risk management framework in relation to the risks faced by the Group. The Board of Directors is assisted in its oversight role by internal audit. Internal audit undertakes both regular and ad hoc reviews of risk management controls and procedures, the results of which are reported to the board of directors.

(ii) Credit risk

Credit risk is the risk of financial loss to the Group if a customer or counterparty to a financial instrument fails to meet its contractual obligations. The Group deposits its cash and cash equivalents with reputable banks, thus, the credit risk is low.

The Group’s exposure to credit risk is influenced mainly by the individual characteristics of each customer. However, the management also considers the factors that may influence the credit risk of its customer base, including the default risk associated with the industry and country in which customers operate. The Group limits its exposure to credit risk by establishing a dedicated team that is responsible for customer’s credit assessment and approval, limit and monitoring procedures. This is to ensure that appropriate actions are taken for the recoverability of overdue receivables. In addition, the Group will review the recoverable amount of the receivables individually at each reporting date so that impairment losses are appropriately provided for those irrecoverable receivables.

The Group’s policy is to provide financial guarantees only to wholly owned subsidiaries. There is no endorsement guarantee to entity other than subsidiary on December 31, 2019 and 2018.

(iii) Liquidity risk

Liquidity risk is the risk that the Group will encounter difficulty in meeting the obligations associated with its financial liabilities that are settled by delivering cash or another financial asset. The Group's approach to managing liquidity is to ensure, as far as possible, that it always has sufficient liquidity to meet its liabilities when due, under both normal and stressed conditions, without incurring unacceptable losses or risking damage to the Group's reputation.

The Group manages and maintains sufficient cash and cash equivalents so as to cope with its operations and mitigate the effects of fluctuations in cash flows. The Group's management supervises the banking facilities and ensures compliance with the terms of loan agreements.

(iv) Market risk

Market risk is the risk that changes in market prices, such as foreign exchange rates, interest rates, and equity prices, will affect the Group's income or the value of its holdings of financial instruments. The objective of market risk management is to manage and control market risk exposures within acceptable parameters, while optimizing the return.

1) Currency risk

The Company is exposed to currency risk on sales, purchases and borrowings that are denominated in a currency other than the respective functional currencies of the Group's entities, primarily the USD.

Interest in borrowing is denominated with the same currency of borrowing principal. Generally, the denominated currency of borrowing is the same with the Group's cash flow generated from operation, primarily in TWD, but also USD. Under these circumstances, the natural economic hedge exists without using derivative instrument.

In respect of other monetary assets and liabilities denominated in foreign currencies, the Group ensures that its net exposure is kept to an acceptable level by buying or selling foreign currencies at spot rates when necessary to address short-term imbalances.

2) Interest rate risk

The Group's short-term and long-term borrowings are carried in variable interest rates. Therefore, the fluctuation of market rate will make the effective interest rate of short-term and long-term borrowings changed accordingly which resulted fluctuation in future cash flows.

(25) Capital management

The primary objective of the Group's capital management is to ensure that it maintains a strong credit rating and healthy capital ratios to support its business and maximize shareholder's value.

The Group's industry is volatile, capital and technology-intensive industries, and the Group's life cycle is in a stable growth stage of operation. The remaining dividend policy must be adopted at this stage with funds to retain the surplus in response to operational growth and investment needs. The cash dividend distributed by the shareholder bonus shall not be less than 20% of the total distribution.

The top management of the Group re-examines the capital structure every six months, and its review includes consideration of the cost of each category of capital and related risks. Based on the recommendations of the top management, the Group will balance its overall capital structure by paying dividends, issuing new shares, buying back shares and issuing new debts or repaying old debts.

As of December 31, 2019, the way in which the Group's capital management was managed has not changed.

The debt-to-equity ratio at the reporting date is as follows:

	December 31, 2019	December 31, 2018
Total liabilities	$ 2,915,917	3,125,300
Less: cash and cash equivalents	(767,193)	(534,209)
Net debt	$ 2,148,724	2,591,091
Total equity	$ 4,052,939	4,158,305
Debt-to-equity ratio	53.02%	62.31%

(26) Financing activities not affecting current cash flow

Reconciliation of liabilities arising from financing activities were as follows:

	January 1,2019	Effects of retrospective application	Cash flows	Non-cash changes: Foreign exchange movement and others	December 31, 2019
Short-term notes and bills payable	$ 80,000	-	150,000	-	230,000
Short-term borrowings	$ 1,403,035	-	(377,469)	(98)	1,025,468
Long-term borrowings (including current portion of long-term borrowings)	$ 943,778	-	(103,133)	-	840,645
Lease liabilities (including current and non-current)	$ -	12,857	(5,283)	12,007	19,581
Convertible bonds payable	$ 4,395	-	-	(4,395)	-

	January 1, 2018	Cash flows	Non-cash changes: Foreign exchange movement and others	December 31, 2018
Short-term notes and bills payable	$ -	80,000	-	80,000
Short-term borrowings	$ 928,306	470,607	4,122	1,403,035
Long-term borrowings (including current portion of long-term borrowings)	$ 844,333	99,445	-	943,778
Convertible bonds payable	$ 27,968	-	(23,573)	4,395

7. Related-party transactions

(1) Names and relationship with related parties

Name of related party	Relationship with the Company
ORGCHEM TECHNOLOGIES, INC.	The chairman of Hengi Chemical is the director of ORGCHEM.
ITOCHU CORPORATION	Director of the Company

(2) Significant related-party transactions

(i) Operating revenue

	2019	2018
Director of the Company	$ 4,821	6,200
Other related parties	636	641
	$ 5,457	6,841

The selling prices for sales to related parties and collection period were similar to those for unrelated customers.

As of December 31, 2019 and 2018, the Group's accounts receivable due from related parties as a result of sales amounted to $152 and $39, respectively.

(ii) Purchase

	2019	2018
Director of the Company	$ 6,957	-

(iii) Rental income

	December 31, 2019	December 31, 2018
Other related parties	$ 4,932	4,601

(iv) Other

For the years 2019 and 2018, expenses of the Group incurred due to the service provided by related parties amounted to $960 and $3,091, respectively.

As of December 31, 2019 and 2018, other receivables from related parties as a result of certain amounts paid on behalf of related parties under normal courses of business, amounted to $14 and $18, respectively.

(3) Transactions with key management personnel

Key management personnel remuneration comprised:

	2019	2018
Short-term employee benefits	$ 20,936	20,581
Post-employment benefits	274	253
	$ 21,210	20,834

8. Pledged assets

Except for note 6(13), the carrying amount of the Group's pledged assets are as follows:

Assets	Purpose of pledge	December 31, 2019	December 31, 2018
Land	Long- and short-term borrowings and obtaining credit limit for short-term borrowings	$ 1,340,105	1,361,049
Buildings	Long- and short-term borrowings and obtaining credit limit for short-term borrowings	111,504	167,211
Machinery and Equipment	Long- and short-term borrowings	458,889	555,498
Time deposits (recorded in other financial assets－non-current)	Long-term borrowings	1,840	340
Time deposits (recorded in other financial assets－non-current)	Guarantee deposit of natural gas	1,500	1,500
		$ 1,913,838	2,085,598

9. Commitments and contingencies

Except for the notes 6(12) and 6(15), the remaining statements were as follow:

(1) As of December 31, 2019 and 2018, the Group had acquired property, plant and equipment, with the remaining commitments of $144,794 and $178,170, respectively.

(2) As of December 31, 2019 and 2018, the outstanding letters of credit were USD534 and USD1,280, respectively. As of December 31, 2019 and 2018, the subsidiary, Coremax (BVI) Corporation, had applied for a borrowing facility with an amount of USD3,000 (equivalent to $89,940 and $92,145, respectively) from a bank, in which the Company holds the responsibility as its joint guarantor.

(3) As of December 31, 2019 and 2018, Uranus Chemical applied for a borrowing facility from a bank, with the Company holding the responsibility as the joint guarantor amounting to $0 and $100,000, respectively.

10. Losses due to major disasters: None

11. Subsequent events: None

12. Other

A summary of employee benefits, depreciation, and amortization, by function, is as follows:

By function / By item	2019			2018		
	Classified as operating cost	Classified as operating expenses	Total	Classified as operating cost	Classified as operating expenses	Total
Employee benefits						
Salaries	187,262	91,929	279,191	188,945	74,227	263,172
Labor and health insurance	19,226	8,528	27,754	17,823	7,572	25,395
Pension	7,402	3,854	11,256	6,953	3,316	10,269
Others	11,858	4,951	16,809	13,302	5,157	18,459
Depreciation	215,812	21,115	236,927	200,969	13,365	214,334

13. Other disclosures:

(a) Information on significant transactions:

The following is the information on significant transactions required by the “Regulations Governing the Preparation of Financial Reports by Securities Issuers” for the Group:

(i) Loans to other parties:

Number	Name of lender	Name of borrower	Account name	Related party	Highest balance of financing to other parties during the period	Ending balance	Actual usage amount during the period	Range of interest rates during the period (Note 4)	Purposes of fund financing for the borrower	Transaction amount for business between two parties	Reasons for short-term financing	Allowance for bad deb	Collateral		Individual funding loan limits (Note 2)	Maximum limit of fund financing (Note 1)
													Item	Value		
1	Coremax (BVI) Corporation	Coremax Ningbo Chemical Co., Ltd.	Other receivables	Yes	25,280	23,984	-	4%	2	-	Operating demand	-	None	-	86,574	129,861
1	Coremax (BVI) Corporation	Coremax (Thailand) Co., Ltd.	Other receivables	Yes	25,280	23,984	23,984	4%	2	-	Operating demand	-	None	-	86,574	129,861
1	Coremax (BVI) Corporation	Coremax (Zhangzhou) Chemical Co., Ltd.	Other receivables	Yes	31,600	29,980	29,980	4%	2	-	Operating demand	-	None	-	86,574	129,861
2	Coremax Ningbo Chemical Co., Ltd.	Coremax (Zhangzhou) Chemical Co., Ltd.	Other receivables	Yes	18,412	17,220	8,610	4%	2	-	Operating demand	-	None	-	32,098	48,147
3	Coremax Zhuhai Chemical Co., Ltd.	Coremax (Zhangzhou) Chemical Co., Ltd.	Other receivables	Yes	13,809	12,915	8,610	4%	2	-	Operating demand	-	None	-	19,302	28,953
4	Jiangxi Tianjiang Materials Co., Ltd.	Coremax (Zhangzhou) Chemical Co., Ltd.	Other receivables	Yes	10,845	10,763	10,763	4%	2	-	Operating demand	-	None	-	17,203 (Note 3)	21,504 (Note 3)

Note1: Limit of total financing amount shall not exceed 30% of latest financial statements of the lender’s capital.
Note2: Limit of financing amount for individual counter-party shall not exceed 20% of the latest financial statements of the lender’s capital.
Note3: Limit of total financing amount shall not exceed 100% of latest financial statements of the lender’s capital. Limit of financing amount for individual counter-party shall not exceed 80% of the latest financial statements of the lender’s capital.
Note4: (1) Parties which have business relationship with the Company
(2) The need for short-term financing

(ii) Guarantees and endorsements for other parties:

No.	Name of guarantor	Counter-party of guarantee and endorsement		Limitation on amount of guarantees and endorsements for a specific enterprise (Note 2)	Highest balance for guarantees and endorsements during the period	Balance of guarantees and endorsements as of reporting date	Actual usage amount during the period	Property pledged for guarantees and endorsements (Amount)	Ratio of accumulated amounts of guarantees and endorsements to net worth of the latest financial statements	Maximum amount for guarantees and endorsements (Note 1)	Parent company endorsements / guarantees to third parties on behalf of subsidiary	Subsidiary endorsements / guarantees to third parties on behalf of parent company	Endorsements / guarantees to third parties on behalf of companies in Mainland China
		Name	Relationship with the Company										
0	The company	Coremax (BVI) Corporation	100% owned subsidiary of the parent company	664,272	94,800	89,940	53,964	-	2.70 %	1,660,680	Y	N	N
0	The company	Uranus Chemicals	62.62% owned subsidiary of the parent company	664,272	100,000	-	-	-	- %	1,660,680	Y	N	N

Note 1: The total amount for guarantees and endorsements provided by the Company to other entities shall not exceed 50% of latest financial statements of the Company's net worth audited.

Note 2: The total amount for guarantees and endorsements provided by the Company to any individual entity shall not exceed 20% of latest financial statements of the Company's net worth audited.

(iii) Securities held as of December 31, 2019 (excluding investment in subsidiaries, associates and joint ventures):

Name of holder	Category and name of security	Relationship with company	Account title	Shares (thousands)	Ending balance			Highest percentage of ownership (%)	Note
					Carrying value	Percentage of ownership	Fair value		
Hengi Chemical	ORGCHEM TECHNOLOGIES, INC.	The chairman of Hengi Chemical is the director of ORGCHEM.	Total non-current financial assets at fair value through other comprehensive income	2,873	49,297	5.00 %	49,297	5.00 %	

(iv) Individual securities acquired or disposed of with accumulated amount exceeding the lower of NT$300 million or 20% of the capital stock: None.

(v) Acquisition of individual real estate with amount exceeding the lower of NT$300 million or 20% of the capital stock: None.

(vi) Disposal of individual real estate with amount exceeding the lower of NT$300 million or 20% of the capital stock: None.

(vii) Related-party transactions for purchases and sales with amounts exceeding the lower of NT$100 million or 20% of the capital stock:

Name of company	Related party	Nature of relationship	Transaction details				Transactions with terms different from others		Notes/Accounts receivable (payable)		Note
			Purchase/ Sale	Amount	Percentage of total purchases/sales	Payment terms	Unit price	Payment terms	Ending balance	Percentage of total notes/accounts receivable (payable)	
The Company	Coremax (Zhangzhou) Chemical Co., Ltd.	100% owned subsidiary of the parent company	Sales	130,402	2.80 %	Open Account 90 Days	-	Note	54,979	20.00 %	Note

Note: The relevant transactions and ending balance are eliminated in consolidated financial statement.

(viii) Receivables from related parties with amounts exceeding the lower of NT$100 million or 20% of the capital stock: None.

(ix) Trading in derivative instruments:None.

(x) Business relationships and significant intercompany transactions:

No.	Name of company	Name of counter-party	Nature of relationship	Intercompany transactions			
				Account name	Amount	Trading terms	Percentage of the consolidated net revenue or total assets
0	The Company	Coremax Ningbo Chemical Co., Ltd.	The parent company to the subsidiary.	Sales	90,526	Open Account 90 Days	1 %
0	The Company	Coremax (Zhangzhou) Chemical Co., Ltd.	The parent company to the subsidiary.	Sales	130,402	Open Account 90 Days	2 %
0	The Company	Coremax (Zhangzhou) Chemical Co., Ltd.	The parent company to the subsidiary.	Accounts receivable	54,979	Open Account 90 Days	1 %
0	The Company	Coremax Zhuhai Chemical Co., Ltd.	The parent company to the subsidiary.	Sales	94,842	Open Account 90 Days	1 %
0	The Company	Coremax Zhuhai Chemical Co., Ltd.	The parent company to the subsidiary.	Accounts receivable	40,808	Open Account 90 Days	1 %
0	The Company	Coremax (Thailand) Co., Ltd.	The parent company to the subsidiary.	Sales	53,378	Open Account 90 Days	1 %

(b) Information on investees:

The following is the information on investees of the Group for the year ended December 31,2019 (excluding information on investees in Mainland China):

Name of investor	Name of investee	Location	Main businesses and products	Original investment amount		Balance as of December 31, 2019			Highest percentage of ownership during the year (%)	Net income (losses) of investee	Share of profits/losses of investee	Note
				December 31, 2019	December 31, 2018	Shares (thousands)	Percentage of ownership	Carrying value				
The Company	Coremax (BVI) Corporation	British Virgin Islands	Investment company	302,406	277,708	9,658	100 %	432,869	100 %	12,850	12,850	Note
The Company	Hengi Chemical Co., Ltd.	Taiwan	Manufacturing and sales of chemical fertilizers, chemical raw materials, organic fertilizer and fertilizers with organic matter. Import and export of related business. Recycling and reproduce of solvent and pollutants.	823,294	823,294	31,913	80.18 %	1,172,118	80.18 %	90,386	72,639	Note
The Company	Uranus Chemicals Co., Ltd.	Taiwan	Manufacturing and sales of oxalic acid, organic and inorganic acid, rare earth compounds and related products	612,411	444,591	31,310	62.62 %	778,319	62.70 %	(26,629)	400	Note
Coremax (BVI) Corporation	Coremax (Thailand) Co., Ltd.	Thailand	Manufacturing and processing of pure terephthalic acid oxidation catalyst, sodium carbonate solutions, wastewater treatment solutions, exhaust gas absorbent and cobalt compound series products.	67,047	67,047	70	100 %	52,269	100 %	(1,087)	(1,087)	Note

Note: The relevant transactions and ending balance are eliminated in consolidated financial statement.

(c) Information on investment in Mainland China:

(i) The names of investees in Mainland China, the main businesses and products, and other information:

Name of investee	Main businesses and products	Total amount of paid-in capital	Method of investment	Accumulated outflow of investment from Taiwan as of January 1, 2018	Investment flows		Accumulated outflow of investment from Taiwan as of December 31, 2019	Net income (losses) of the investee	Percentage of ownership	Highest Percentage of ownership during the year	Investment income (losses) (Notes 3, 4)	Book value	Accumulated remittance of earnings in current period
					Outflow	Inflow							
Coremax Zhuhai Chemical Co., Ltd.	Production and sales of oxidation catalysts, sodium carbonate solutions, wastewater treatment solutions, exhaust gas absorbents and cobalt compound series products.	38,775 (USD1,150)	Investment in companies in Mainland China through investment companies in the third regions.	38,775 (USD1,150)	-	-	38,775 (USD1,150)	2,526	100.00%	100%	2,526 (USD83)	96,509	-
Coremax Ningbo Chemical Co., Ltd.	Manufacturing and processing of pure terephthalic acid oxidation catalyst, sodium carbonate solutions, wastewater treatment solutions, exhaust gas absorbent and cobalt compound series products.	98,482 (USD3,000)	Investment in companies in Mainland China through investment companies in the third regions.(note 1)	81,240 (USD2,470)	-	-	81,240 (USD2,470)	(3,129)	100.00%	100%	(3,129) (USD102)	160,490	-
Coremax (Zhangzhou) Chemical Co., Ltd.	Manufacturing, processing and wholesale of pure terephthalic acid oxidation catalyst, sodium carbonate solutions, wastewater treatment solutions, waste gas absorbent and cobalt compound series products, and regeneration treatment of abort oxidation catalyst.	185,654 (USD6,280)	Investment in companies in Mainland China through investment companies in the third regions.(note 2)	124,097 (USD4,200)	24,698 (USD788)	-	148,795 (USD4,200)	16,919	100.00%	100%	15,530 (USD508)	116,052	-
Jiangxi Tianjiang Materials Co., Ltd.	Manufacturing and sales of oxalic acid、organic and inorganic acid、rare earth compounds and related products	43,947 (USD1,350)	Uranus Chemical invest companies in Mainland China	43,947 (USD1,350)	-	-	43,947 (USD1,350)	(4,346)	100.00%	100%	(4,346)	21,504	-

(ii) Limitation on investment in Mainland China:

Cumulated Investment in Mainland China as of December 31, 2019	Investment Amounts Authorized by Investment Commission, MOEA	Upper Limit on Investment (Note 5)
312,757 (USD 9,958)	527,070 (USD 15,838)	1,992,816

Note 1: The paid up capital amount is NT $98,482 (USD 3,000), which included the cash remitted by the Company through its subsidiary, Coremax (BVI) Corporation amounting to NT $81,240 (USD 2,470) and surplus from Coremax (BVI) Corporation amounting to NT $17,242 (USD 530).

Note 2: The paid up capital amount is NT $188,654 (USD 6,280), which included the cash remitted by the Company through its subsidiary, Coremax (BVI) Corporation, amounting to NT $124,097 (USD 4,200), Coremax (BVI) Corporation acquired of shares from other external shareholders amounting to NT $24,698 (USD 788) in obtaining paid up capital of NT$ 20,720 (USD 700), Coremax Ningbo Chemical Co., Ltd. amounting to NT $12,892 (USD430), and surplus from Coremax (BVI) Corporation amounting to NT $6,055 (USD 200).

Note 3: Amount was recognized based on the audited financial statement.

Note 4: The relevant transactions and ending balance are eliminated in consolidated financial statement.

Note 5: The Company investment in Mainland China pursuant to "Principle of investment or Technical Cooperation in Mainland China" is not exceeding the investment amount or percentage limit.

(iii) Significant transactions:

The significant inter-company transactions with the subsidiaries in Mainland China, which were eliminated in the preparation of consolidated financial statements, are disclosed in “Information on significant transactions”.

14. Segment information

(1) General information and industrial information

The reportable segments are the Group's strategic divisions. They offer different products and services, and are managed separately because they require different technology and marketing strategies.

The Group did not allocate the head office management expenses, income tax expenses and non-recurring gains and losses to respective reportable segments. The amount presented is consistent with the report used by the chief operating decision maker. The accounting policies of the operating segments are consistent with the summary of the significant accounting policies described in note 4.

	2019						
	Oxidation catalyst department	Battery material department	Chemical fertilizer department	Specialty chemical department	Other	Reconciliation and elimination	Total
External revenue	$ 1,003,695	3,302,869	683,665	648,850	730,441	-	6,369,520
Inter-segment revenue	42,154	-	-	7,251	362,296	(411,701)	-
Segment revenue	**$ 1,045,849**	**3,302,869**	**683,665**	**656,101**	**1,092,737**	**(411,701)**	**6,369,520**
Segment operating income							**$ 496,699**

	2018						
	Oxidation catalyst department	Battery material department	Chemical fertilizer department	Specialty chemical department	Other	Reconciliation and elimination	Total
External revenue	$ 1,278,566	2,641,228	864,536	964,219	562,088	-	6,310,637
Inter-segment revenue	35,152	-	-	134	413,176	(448,462)	-
Segment revenue	**$ 1,313,718**	**2,641,228**	**864,536**	**964,353**	**975,264**	**(448,462)**	**6,310,637**
Segment operating income							**$ 780,810**

(2) Information by product and service

Revenue from external customers:

	2019	2018
Oxidation catalysts	$ 1,003,695	1,278,566
Battery materials	3,302,869	2,641,228
Chemical fertilizers	683,665	864,536
Specialty chemicals	648,850	964,219
Others	730,441	562,088
	$ 6,369,520	**6,310,637**

(3) Geographic information

In presenting information on the basis of geography, segment revenue is recognized based on the location of the customer and non-current assets are recognized based on the location of the asset.

A. Revenue from external customers:

Area		2019	2018
Taiwan	$	5,597,210	5,491,481
China and other		772,310	819,156
	$	**6,369,520**	**6,310,637**

B. Non-current assets (note):

Area		December 31, 2019	December 31, 2018
Taiwan	$	3,688,804	3,408,984
China and other		220,383	217,205
	$	**3,909,187**	**3,626,189**

Note: It includes property, plant and equipment, right-of-use assets, prepayment for purchase equipment and so on.

(4) Information on major customers:

For the years ended December 31, 2019 and 2018, the revenue generated from customers with 5% or more of the Group's revenue were $2,878,354 and $2,215,258, respectively.