

## **Part 1**

### **Nature of Business Operation**

<b>1. Policy and Nature of Business Operation</b>
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The Company's production facilities are located at Map Ta Phut in Rayong Province. They include two PVC plants (emulsion and suspension resins), one Vinyl Chloride Monomer (VCM) plant, one Ethylene Dichloride (EDC) plant, and one Chlor-Alkali (MCA) plant. The purpose of the latter three units is to integrate upstream production of PVC, so that the Company can rely as much as possible on locally-purchased raw materials and utilities, including ethylene from PTT Global Chemical Public Company Limited, salt from Pimai Salt Company Limited (PSC), and electricity from Glow Energy Public Company Limited (Glow Group). Also with the objective of ensuring availability of raw materials, the Company holds a minority shareholding in PSC.

In addition to chlorine, which is utilized in downstream production processes, the Company's Chlor-Alkali plant produces significant quantities of Caustic Soda as well as Hydrogen and Sodium Hypochlorite. These products are sold in the domestic market. The Company's facilities are also equipped to import EDC and VCM as the need arises.

#### **Advanced Biochemical (Thailand) Co., Ltd.**

The Company manufactures and sells EPICHLOROHYDRIN, a chemical substance mainly used in the Epoxy Resin production. It operates a plant located at Map Ta Phut in Rayong Province, on the site of its parent company (Vinythai). The Company uses a new production technology based on the Epicerol<sup>®</sup> process, developed and patented by Solvay S.A. The main raw materials of this process are Glycerin, Hydrochloric Acid and Caustic Soda. The Glycerin is supplied from import and domestic suppliers, Hydrochloric Acid and Caustic Soda are supplied from the parent company (Vinythai). The management decided to use the Epicerol<sup>®</sup> process name as a brand name for its bio-based epichlorohydrin product as a differentiating factor on the market.

#### **Solvay Biochemicals (Taixing) Limited**

The Company is required to manufacture and sell EPICHLOROHYDRIN, the same product as Advanced Biochemical (Thailand) Co., Ltd. The only Shareholder of the Company is Vinythai Holding Pte. Limited, which is incorporated in Singapore. It will operate a plant located in Taixing Economic Development Zone, Jiangsu province, People's Republic of China. The main raw materials of this process are Glycerin which will be supplied from import and domestic suppliers Hydrochloric Acid and Caustic Soda which will be supplied from a domestic supplier, located within the same area.

#### **Advanced Biochemical Europe**

Advanced Biochemical Europe (ABE) is a registered company in Brussels, Belgium with registered capital of EUR 20,000. ABE is a subsidiary company of Advanced

Biochemical (Thailand) Ltd that holds 100 % of the ordinary shares of ABE. It is established to engage in the distribution of the products in Europe.

## 1.1 Vision, Mission, and Values

### Vinythai's Vision

**THE INNOVATIVE, COMPETITIVE AND TRUSTED PARTNER IN SUSTAINABLE CHLORO-VINYLS AND BIOCHEMICALS**

### Vinythai's Mission

Vinythai supplies customers in Thailand and Asia with Polyvinyl Chloride resins, Caustic Soda, and Epichlorohydrin backed by world-class technology while creating ever-increasing value to its stakeholders.

### Vinythai's Values

#### Our Management Model



## Our People Model



## Competitive advantages

Currently positioned at the forefront of Thailand's petrochemical industry, Vinythai, as a leading integrated PVC producer, is proud to present to its customers:

- Leading Integrated PVC producer
- Proven up-to-date standards
- World-class product quality
- Outstanding services
- Commitment to Total Quality Management (TQM)

### Leading integrated PVC producer

PVC, or polyvinylchloride, is one of the most dynamic and versatile production materials to have been developed in the 20th century. With significant projected annual growth rates in Thailand and the region, PVC is expected to see still greater opportunities for development.

As a leading integrated PVC producer, the company enjoys a significant advantage in having a secure supply of locally produced ethylene from PTT Global Chemical Public Company Limited, and salt from Pimai Salt Co., Ltd.

### Proven up-to-date standards

Vinythai enjoys technical support from the Solvay global group of companies, headquartered in Belgium. Vinythai runs its plant at full capacity while continuously improving its production operations. In addition, Vinythai has entered into a service agreement with Solvay, SA for worldwide PVC business intelligence and on export markets, as well as to transfer of technical support and assistance in increasing production process efficiency. This support also includes a focus on reducing production costs, improving product quality, new product development, as well as legal services, procurement and personnel training.

**World-class product quality**

The Company devotes considerable resources to assuring customers that its products fully comply with both Thai and international standards. Under Vinythai's in-house quality control system, every stage of production is carefully and systematically monitored.

Like all products developed at Solvay production facilities throughout the world, Vinythai's PVC resins are cross-checked periodically, ensuring the company's compliance with standards.

**Outstanding services**

In addition to Vinythai's commitment to delivering products of world-class quality standards, the company provides a professional PVC Customer Technical Services team. With extensive experience in the PVC industry, they offer special technical assistance to the company's clients via:

PVC process support: The team can help adjust clients' PVC formulations, assist in solving production problems, and cooperate with customers to develop new applications.

Vinythai's Customer Technical Services Laboratory: This is the first PVC technical service laboratory in Thailand to offer these services to its customers.

**Commitment to Total Quality Management**

The Company is committed to Total Quality Management (TQM), to the management system standards of ISO 9001, ISO 14001, OHSAS 18001, ISO/IEC 17025, ISO 26000 and CSRDIW26000 and to the product standards of TIS for PVC resin (K 66), TIS for caustic soda, FDA for caustic soda as food additive, and HALAL for caustic soda

**1.2 Significant Changes and Developments**

Significant changes and developments of Vinythai in the last five years:

February 2012

- Board of Directors Meeting of the Company no. 1/2012 held on 21 February 2012, resolved for the Company to accept technical support for the year 2012 from Solvay S.A., a connected person of the Company, in the amount of Baht 34,000,000.
- The subsidiary of the Company has produced Epichlorohydrin on its new production unit of 100Ktpa capacity for sales on Asian markets. The production is based on renewable raw materials.

## May 2012

- Board of Directors Meeting of the Company no. 2/2012 held on 24 May 2012, acknowledged the resignation as a director of the Company of Dr. Christian De Sloover, effective on 24 May 2012 and resolved for the appointment of Mr. Gilles Madjarian as a new director in replacement of Dr. Christian De Sloover, effective on 25 May 2012 and the authorized directors who can sign to bind the Company shall be amended to read as follows:  
"Mr. Jacques van Rijckevorsel or Mr. Gilles Madjarian or Mr. Vincenzo Morici or Mr. Dominique Dussard or Mr. Roger Lester Kearns or Mr. Andrew Leonard Cumming or Mr. Bruno van der Wielen, one out of these seven persons can sign jointly with Mr. Veerasak Kositpaisal or Mrs. Puntip Oungpasuk or Mr. Dhanes Charoensupaya, totaling two persons, with the Company's seal affixed", effective on 25 May 2012."
- Resolved for the appointment of Associate Professor Dr. Danuja Kunpanitchakit as an Independent Director and Audit Committee Member in replacement of Dr. Santisuk Sanguanruang, effective on 25 May 2012.

## July 2012

- The Extraordinary General Meeting of Shareholders of the Company No. 1/2555 held on 24 July 2012 resolved to approve for the appointment of Mrs. Vallapa Assakul as a new Independent Director, effective on 1 August 2012 onwards.
- Approved the Company's investment in the project of production and sale of Epichlorohydrin (ECH) in China
- Approved the entering into an agreement for the purchase of 100% equity interest of Solvay Biochemicals(Taixing) Limited from Solvay Chemicals and Plastics Holding B.V.
- Approved the entering into the Patent License Agreement, the Technology License Agreement and the Technical Assistance Services Agreement with Solvay S.A.
- Approved the incorporation of the Company's Subsidiary in Singapore.

## August 2012

- Board of Directors Meeting of the Company no.3/2012 held on 24 August 2012, acknowledged the resignation as a director of the Company of Mr. Veerasak Kositpaisal, effective on 23 August 2012 and resolved for the appointment of Mr. Anon Sirisaengtaksin as a new director in replacement, effective on 24 August 2012 and the authorized directors who can sign to bind the Company shall be amended to read as follows:

"Mr. Jacques van Rijckevorsel or Mr. Gilles Madjarian or Mr. Vincenzo Morici or Mr. Dominique Dussard or Mr. Roger Lester Kearns or Mr. Andrew Leonard Cumming or Mr. Bruno van der Wielen, one out of these seven persons can sign jointly with Mr. Anon Sirisaengtaksin or Mrs. Puntip Oungpasuk or Mr. Dhanes Charoensupaya, totaling two persons, with the Company's seal affixed", effective on 24 August 2012."

#### February 2013

- Board of Directors Meeting of the Company no. 1/2013 held on 21 February 2013, resolved for the Company to accept technical support for the year 2013 from Solvay S.A., a connected person of the Company, is the amount of Baht 36,000,000
- Acknowledged the resignation as a director of the Company of Mr. Dominique Dussard, effective on 22 February 2013 and the authorized directors who can sign to bind the Company shall be amended to read as follows:  

"Mr. Jacques van Rijckevorsel or Mr. Gilles Madjarian or Mr. Vincenzo Morici or Mr. Andrew Leonard Cumming or Mr. Roger Lester Kearns or Mr. Bruno Marie Joseph Van der Wielen, one out of these six persons can sign jointly with Mr. Anon Sirisaengtaksin or Mrs. Puntip Oungpasuk or Mr. Dhanes Charoensupaya, totaling two persons, with the Company's seal affixed", effective on 22 February 2013"
- Resolved to propose the Annual Ordinary General Meeting of Shareholders to consider and approve the Balance Sheet and Profit and Loss Statement of the Company for the fiscal year ended December 31, 2012 which was audited by the auditor.

#### April 2013

- Board of Directors Meeting of the Company no. 2/2013 held on 30 April 2013, acknowledged the resignation as Director, Chairman of the Board of Directors and Chairman of the Nomination and Remuneration Committee of Mr. Roger Lester Kearns, effective on 2 May 2013.
- Resolved for the appointment of Mr. Jacques van Rijckevorsel for the position of Chairman of the Board of Directors and Chairman of the Nomination and Remuneration Committee in replacement of Mr. Roger Lester Kearns, effective on 2 May 2013.
- Acknowledged the resignation as a director of Mr. Andrew Leonard Cumming, effective on 2 May 2013
- Resolved for the appointment of Mr. Michel YBERT and Mrs. Quitterie Dupontreue de Pelleport as the new directors in replacement of Mr. Andrew Leonard Cumming and Mr. Dominique Dussard, effective on 2 May 2013 and the authorized directors who can sign to bind the Company shall be amended to read as follows:

"Mr. Jacques van Rijckevorsel or Mr. Gilles Madjarian or Mr. Vincenzo Morici or Mr. Bruno Van der Wielen or Mr. Michel YBERT or Mrs. Quitterie Dupontreue de Pelleport or any of these six persons can jointly sign with Mr. Anon Sirisaengtaksin or Mrs. Puntip Oungpasuk or Mr. Dhanes Charoensupaya totalling two persons with the Company's Seal affixed"

#### August 2013

- Board of Directors Meeting of the Company no. 3/2013 held on 29 August 2013, resolved to appoint the "Business Advisory Committee" to supersede the Executive Committee and expand the advisory roles on Strategic and Risk Management. The members are as follows:

- |                             |   |             |
|-----------------------------|---|-------------|
| 1. Mrs. Puntip Oungpasuk    | - | Chairperson |
| 2. Mr. Vincenzo Morici      | - | Member      |
| 3. Mr. Bruno Van der Wielen | - | Member      |
| 4. Mrs. Vallapa Assakul     | - | Member      |

Term 3 years and effective from 29 August 2013

- Resolved to appoint the "Ad-hoc Committee" in order to ensure appropriate corporate governance practices within the Company and its subsidiaries. The members are as follows:

- |   |   |          |
|---|---|----------|
| 1. Mr. Pipop Pruecksamars                 | - | Chairman |
| 2. Mrs. Quitterie Dupontreue de Pelleport | - | Member   |
| 3. Mr. Dhanes Charoensupaya               | - | Member   |

Term 1 year and effective from 29 August 2013

- Resolved to extend the roles of the "Nomination and Remuneration Committee" to include the development of Senior Management Development (Vice President Level up), with no change of committee's members. The members are as follows:

- |                                 |   |          |
|---------------------------------|---|----------|
| 1. Mr. Jacques van Rijckevorsel | - | Chairman |
| 2. Mr. Anon Sirisaengtaksin     | - | Member   |
| 3. Mr. Pipop Pruecksamars       | - | Member   |

#### October 2013

- Board of Directors Meeting of the Company no. 4/2012 held on 3 October 2013, acknowledged the resignation as a director of the Company of Mr. Anon Sirisaengtaksin by effective on 30 September 2013.
- Acknowledged the resignation as a director of the Company of Mr. Gilles Madjarian, effective on 3 October 2013

- Resolved for the appointment of Mr. Bowon Vongsinudom as a new director in replacement of Mr. Anon Sirisaengtaksin, effective on 3 October 2013 and the authorized directors who can sign to bind the Company shall be amended to read as follows:
- "Mr. Jacques van Rijckevorsel or Mr. Vincenzo Morici or Mr. Bruno Van der Wielen or Mr. Michel YBERT or Mrs. Quitterie Dupontreue de Pelleport or any of these five persons can jointly sign with Mr. Bowon Vongsinudom or Mrs. Puntip Oungpasuk or Mr. Dhanes Charoensupaya totalling two persons with the Company's Seal affixed, effective on 3 October 2013"

#### February 2014

- Board of Directors Meeting of the Company no. 1/2014 held on 21 February 2014, resolved for the Company to accept technical support for the year 2014 from Solvay S.A., a connected person of the Company, is the amount of Baht 42,000,000
- Resolved to propose Annual Ordinary General Meeting of Shareholders No. 1/2557 to be held on 29 April 2014 to approve for the appointment of Mr. Vincent De Cuyper as a new director in replacement of Mr. Gilles Madjarian, effective on 29 April 2014 and the authorized directors who can sign to bind the Company shall be amended to read as follows:  
"Mr. Jacques van Rijckevorsel or Mr. Vincenzo Morici or Mr. Bruno Marie Joseph Van der Wielen or Mr. Michel Bernard Maurice YBERT or Mrs. Quitterie Florence Marie de Pelleport Burete Dupontreue or Mr. Vincent De Cuyper or any of these six persons can jointly sign with Mr. Bowon Vongsinudom or Mrs. Puntip Oungpasuk or Mr. Dhanes Charoensupaya totalling two persons with the Company's Seal affixed, effective on 29 April 2014"
- Shutted down the production of all units in the plant for maintenance, starting from 7 June 2014 to 21 June 2014.

#### July 2014

- Board of Directors Meeting of the Company no. 3/2014 held on 17 July 2014, resolved for the Company to grant the credit line for short term loan up to 6 months from the utilization date to Solvay Group Companies, the connected persons of the Company with the value of credit line not exceeding Baht 100,000,000
- Acknowledged the resignation as a director of the Company of Mr. Michel Bernard Maurice YBERT with effective on 16 July 2014.
- Acknowledged the resignation as a director of the Company of Mr. Dhanes Charoensupaya with effective on 1 June 2014.



- Resolved to amend the authorized directors who can sign to bind the Company which can be read as follows:

"Mr. Jacques van Rijckevorsel or Mr. Vincenzo Morici or Mr. Bruno Marie Joseph Van der Wielen or Mrs. Quitterie Florence Marie de Pelleport Burete Dupontreue or Mr. Vincent De Cuyper or any of these five persons can jointly sign with Mr. Bowon Vongsinudom or Mrs. Puntip Oungpasuk totalling two persons with the Company's Seal affixed, effective on 17 July 2014".

#### September 2014

- Board of Directors Meeting of the Company no. 4/2014 held on 16 September 2014, acknowledged the resignation as a director of the Company of Mrs. Quitterie Florence Marie de Pelleport Burete Dupontreue, effective on 15 September 2014.
- Acknowledged the resignation as Director, Chairman of the Board of Directors and Chairman of the Nomination and Remuneration Committee of Mr. Jacques van Rijckevorsel, effective on 19 September 2014.
- Resolved for the appointment of Mr. Vincent De Cuyper for the position of Chairman of the Board of Directors and Chairman of the Nomination and Remuneration Committee in replacement of Mr. Jacques van Rijckevorsel, effective on 20 September 2014
- Resolved for the appointment of Mr. Martin Laudenbach and Mr. Richard Marcel Auguste Verlaque as the new directors in replacement of Mr. Michel Bernard Maurice YBERT and Mrs. Quitterie Florence Marie de Pelleport Burete Dupontreue, effective on 16 September 2014
- Resolved to amend the authorized directors who can sign to bind the Company which can be read as follows:

"Mr. Vincenzo Morici or Mr. Bruno Marie Joseph Van der Wielen or Mr. Martin Laudenbach and Mr. Richard Marcel Auguste Verlaque or Mr. Vincent De Cuyper or any of these five persons can jointly sign with Mr. Bowon Vongsinudom or Mrs. Puntip Oungpasuk totalling two persons with the Company's Seal affixed, effective on 20 September 2014"

#### November 2014

- Board of Directors Meeting of the Company no. 5/2014 held on 27 November 2014, resolved that the Company accept technical support for the year 2015 from Solvay S.A., a connected person of the Company, is not exceeding of Baht 37,137,000
- Acknowledged the resignation as Director of Mr. Bowon Vongsinudom, effective on 15 November 2014

- Resolved for the appointment of Mr. Supattanapong Punmeechaow as the new director in replacement of Mr. Bowon Vongsinudom, effective on 27 November 2014.
- Resolved to amend the authorized directors who can sign to bind the Company which can be read as follows:  
 "Mr. Vincenzo Morici or Mr. Bruno Marie Joseph Van der Wielen or Mr. Martin Laudenbach and Mr. Richard Marcel Auguste Verlaque or Mr. Vincent De Cuyper or any of these five persons can jointly sign with Mr. Supattanapong Punmeechaow or Mrs. Puntip Oungpasuk totalling two persons with the Company's Seal affixed, effective on 27 November 2014"

#### February 2015

- Board of Directors Meeting of the Company no. 1/2015 held on 12 February 2015, acknowledged the resignation as a director of the Company of Mrs. Vallapa Assakul, effective on 13 February 2015.

#### March 2015

- There has been an accident in HCL treatment unit at the Company's plant.

#### November 2015

- The Board of Directors' Meeting of the Company No. 5/2015, held on 19 November 2015, resolved that Advanced Biochemical (Thailand) Company Limited, a wholly owned subsidiary of Vinythai, establishes Advanced Biochemical Europe in Belgium (as such ABE becomes a subsidiary of Vinythai) as the following detail:
  - o Established Name : Advanced Biochemical Europe
  - o Location : Brussels, Belgium
  - o Registered Capital : 20,000 (Twenty Thousand) Euro
  - o Established Purpose : Set up the company for the distribution of products in Europe
  - o Shareholding Ratio : 100% by Advanced Biochemical (Thailand) Company Limited
  - o Source of Capital : 100% of Advanced Biochemical (Thailand) Company Limited
- Resolved that Vinythai accept technical support for the year 2016 from Solvay S.A., a connected person of Vinythai, is not exceeding of Baht 25,020,000

#### February 2016

- Board of Directors Meeting of the Company no. 1/2016 held on 17 February 2016, acknowledged the resignation as a Director and Chairperson of the

Business Advisory Committee of the Company of Ms. Puntip Oungpasuk, effective on 1 February 2016

- Resolved for the appointment of Ms. Duangkamol Settanung as the new Director and Chairperson of the Business Advisory Committee in replacement of Ms. Puntip Oungpasuk, effective on 17 February 2016.
- Resolved to amend the authorized directors who can sign to bind the Company which can be read as follows:  
 "Mr. Vincenzo Morici or Mr. Bruno Marie Joseph Van der Wielen or Mr. Martin Laudenbach and Mr. Richard Marcel Auguste Verlaque or Mr. Vincent Paul Jean Marie De Cuyper or any of these five persons can jointly sign with Mr. Supattanapong Punmeechaow or Ms. Duangkamol Settanung totalling two persons with the Company's Seal affixed, effective on 17 February 2016"
- Resolved for Advanced Biochemical Europe (a subsidiary of Vinythai) to acquire the REACH Epichlorohydrin registration rights in the amount of THB 952,000.- and to receive the SAP project supporting in the amount of THB 4,000,000.- from Solvay Group Companies, that they are the connected transactions of Vinythai

July 2016

- Resolved the change of structure of the **"Business Advisory Committee"** as follows:

	Current	Proposed
Chairperson	•1 Director representing PTT Global Chemical Public Company Limited	•1 Director representing PTT Global Chemical Public Company Limited
Members	•1 Director representing Solvay •Managing Director • <b>Independent Director</b>	•1 Director representing Solvay •Managing Director
Secretary	•Vice President, Finance and Accounting	•Vice President, Finance and Accounting

The change of structure of Business Advisory Committee is effective from 14 July 2016

- Resolved the renewal of members of the **"Business Advisory Committee"** as follows:
 

1. Ms. Duangkamol Settanung	-	Chairperson
2. Mr. Vincenzo Morici	-	Member
3. Mr. Bruno Van der Wielen	-	Member

Their term is renewed for 3 years effective from 29 August 2016 to 28 August 2019

- Resolved the renewal of members of the “**Nomination and Remuneration Committee**” as follows:

1. Mr. Vincent De Cuyper	-	Chairman
2. Mr. Supattanapong Punmeechaow	-	Member
3. Mr. Pipop Pruecksamars	-	Member

Their term is renewed for 3 years effective from 29 August 2016 to 28 August 2019

#### September 2016

- Board of Directors Meeting of the Company no. 4/2016 held on 22 September 2016, resolved that Vinythai accepts to execute the Rental and Utilities Services Agreement for Bangkok Branch Office with Solvay Asia Pacific Co., Ltd, a connected person of Vinythai

#### October 2016

- On 23 October 2016, at 14:04 hrs., there was an accident in Chlorovinyls Unit at the Company’s plant located at Map Ta Phut Industrial Estate, Muang Rayong District, Rayong Province.

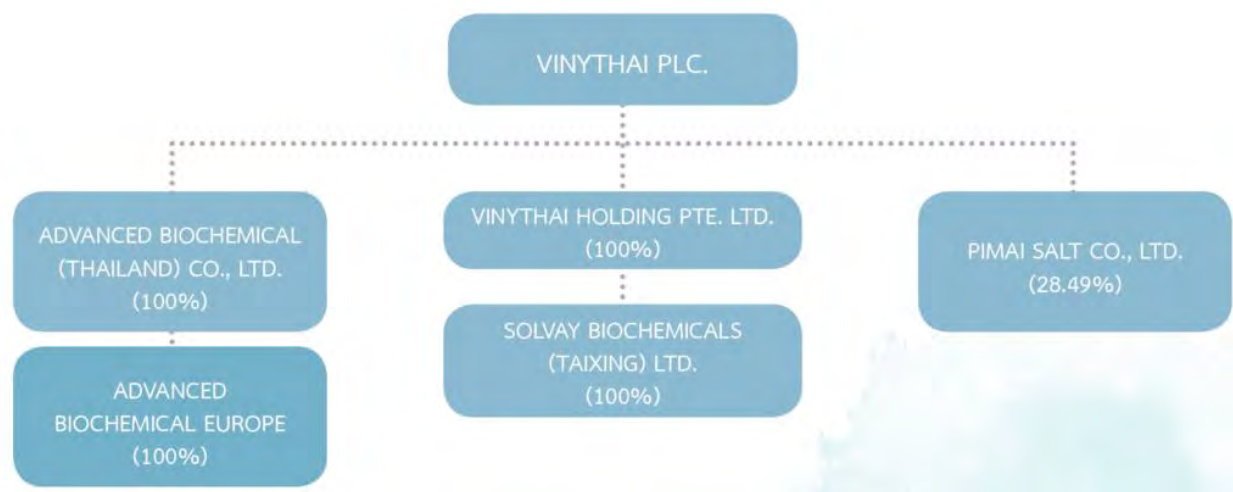
#### November 2016

- Board of Directors Meeting of the Company no. 5/2016 held on 30 November 2016, resolved that Vinythai accept technical support for the year 2017 from Solvay S.A., a connected person of Vinythai, is not exceeding of Baht 16,940,000
- Resolved that Vinythai provide technical services for the year 2017 to Solvay S.A. and its Subsidiaries, a connected person of Vinythai, is not exceeding of Baht 40,000,000

#### December 2016

- Vinythai PCL (the “Company”), would like to notify that, today, the Company has been informed by Solvay Group (“Solvay”) that Solvay and its group company, Solvay Vinyls Holding AG, the major shareholder of the Company (the “Seller”), have entered into a share sale agreement with Asahi Glass Co.,Ltd. (the “Purchaser”) in respect of the sale of 696,511,059 shares in the Company representing 58.77 per cent of the total issued shares in the Company at a price of 15 Baht per share (approx.. 10,448 million Baht in total).

### 1.3 Shareholding Structure



#### ***Advanced Biochemical (Thailand) Co., Ltd.***

Advanced Biochemical (Thailand) Limited [formerly known as “Solvay Biochemicals (Thailand) Limited”] is a subsidiary company of Vinythai, principally engaged in manufacturing and trading of chemical product. Vinythai holds 100% of the company’s total issued shares amounting to 15,000,000 ordinary shares at par value of BHT 100 each. Advanced Biochemical (Thailand) Limited’s plant and head office is located at: No. 2/1, I-3 Road, MapTa Phut Industrial Estate, Tambon Map Ta Phut, Amphoe Mueang, Rayong Province, Telephone No. 0-3892-5000, Fax No. 0-3868-3048. The Company’s business office is located at: Wave Place, 11th & 16th Floor, 55 Wireless Road, Lumpini, Pathumwan, Bangkok 10330, Telephone No. 0-2030-6800, Fax No. 0-2030-6801.

#### ***Vinythai Holding Pte. Ltd.***

Vinythai Holding Pte. Limited is a subsidiary company of Vinythai, registered in Singapore. It holds 100% of the ordinary shares of Solvay Biochemicals (Taixing) Limited with its registered share capital of RMB 287 million.

Vinythai Holding Pte. Limited office is located at: 10 Collyer Quay, #10-01 Ocean Financial Centre, Singapore.

#### ***Solvay Biochemicals (Taixing) Ltd.***

Solvay Biochemicals (Taixing) Limited is a subsidiary company of Vinythai Holding Pte. Ltd, registered in the People’s Republic of China, principally engaged in manufacturing and trading of chemical product. Vinythai Holding Pte. Ltd. holds 100% of the ordinary shares of Solvay Biochemicals (Taixing) Limited amounting to RMB 287 million.

Solvay Biochemicals (Taixing) Limited’s head office is located at: No. 1, Futai Road, Taixing Economic Development Zone, Jiangsu Province, the People’s Republic of China.

***Advanced Biochemical Europe***

Advanced Biochemical Europe (ABE) is a registered company in Brussels, Belgium with registered capital of EUR 20,000. ABE is a subsidiary company of Advanced Biochemical (Thailand) Co Ltd. It is established to engage in the distribution of the products in Europe. Advanced Biochemical (Thailand) Co.,Ltd. holds 100% of the ordinary shares of ABE.

***Pimai Salt Co., Ltd.***

Pimai Salt, an associated company of Vinythai, is a producer of pure refined salt. The company was established under a joint venture agreement between Thasco Chemical Co., Ltd., Thai Refined Salt Co., Ltd. and Vinythai, to produce and supply pure refined salt. Vinythai holds 552,331 ordinary shares in Pimai Salt, equivalent to 28.49% of the company's total issued shares, amounting to 1,938,915 ordinary shares at par value of Baht 100 each.

Pimai Salt's plant is located in Amphoe Pimai, Nakhon Ratchasima Province, Thailand. Pimai Salt's Head Office is located at: 2nd Floor, Srifuengfung Building, 1016 Rama IV Road, Silom, Khet Bangrak, Bangkok 10500, Telephone No. 0-2633-9380-6, Fax No. 0-2633-9390.

***Relation between the Company and its major shareholders***

Vinythai's major shareholders are Solvay Vinyls Holding AG holding 58.77% of shares and PTT Global Chemical Public Company Limited (PTTGC) holding 24.98% of shares (information as of 8 December 2016). Vinythai Public Company Limited is a manufacturer and distributor of Polyvinyl Chloride (PVC) and Caustic Soda which are important chemical products. In the production process of PVC, technology and technical assistance is supported by Solvay S.A., an indirect ultimate shareholders of Solvay Vinyls Holding AG, a major shareholder. Ethylene, one of the main raw materials, is purchased from PTT Global Chemical Public Company Limited (PTTGC), the largest producer of ethylene in Thailand and the company's second major shareholder. The company entered into a long term purchase agreements in order to secure the supply of such raw material. The said mentioned agreements have been approved by the Board of Directors. The company has also complied with all related rules/regulations for the transactions.

## 2. Business Operation

### Income Structure

Vinythai obtains the major part of its income from the manufacture and distribution of PVC resins, under the “SIAMVIC” trademark, VCM and from Caustic Soda. The income structures of Vinythai and its associated company is as follows:

The income structures of Vinythai and its associated company is as follows:

Sales Revenues	2016		2015		2014	
	MTHB	%	MTHB	%	MTHB	%
<b>Sales in Thailand</b>						
1. PVC Resins	5,874	42.4	4,955	35.2	5,347	35.8
2. Caustic Soda	2,459	17.8	3,009	21.4	2,935	19.7
3. VCM	1,516	11.0	1,983	14.1	2,760	18.5
4. Others	511	3.7	498	3.5	540	3.6
<b>Total Sales in Thailand</b>	<b>10,361</b>	<b>74.8</b>	<b>10,445</b>	<b>74.2</b>	<b>11,582</b>	<b>77.6</b>
<b>Sales Abroad</b>						
1. PVC Resins	3,484	25.2	3,544	25.2	3,164	21.2
2. Caustic Soda	0	0.0	79	0.6	107	0.7
3. VCM	0	0.0	0	0.0	76	0.5
<b>Total Sales Abroad</b>	<b>3,484</b>	<b>25.2</b>	<b>3,624</b>	<b>25.8</b>	<b>3,347</b>	<b>22.4</b>
<b>Sales in Thailand and Abroad</b>						
1. PVC Resins	9,358	67.6	8,499	60.4	8,510	57.0
2. Caustic Soda	2,459	17.8	3,088	22.0	3,042	20.4
3. VCM	1,516	11.0	1,983	14.1	2,836	19.0
4. Others	511	3.7	498	3.5	540	3.6
<b>Total Sales in Thailand and Abroad</b>	<b>13,845</b>	<b>100</b>	<b>14,069</b>	<b>100</b>	<b>14,929</b>	<b>100</b>

### Income Structure of Subsidiary Company

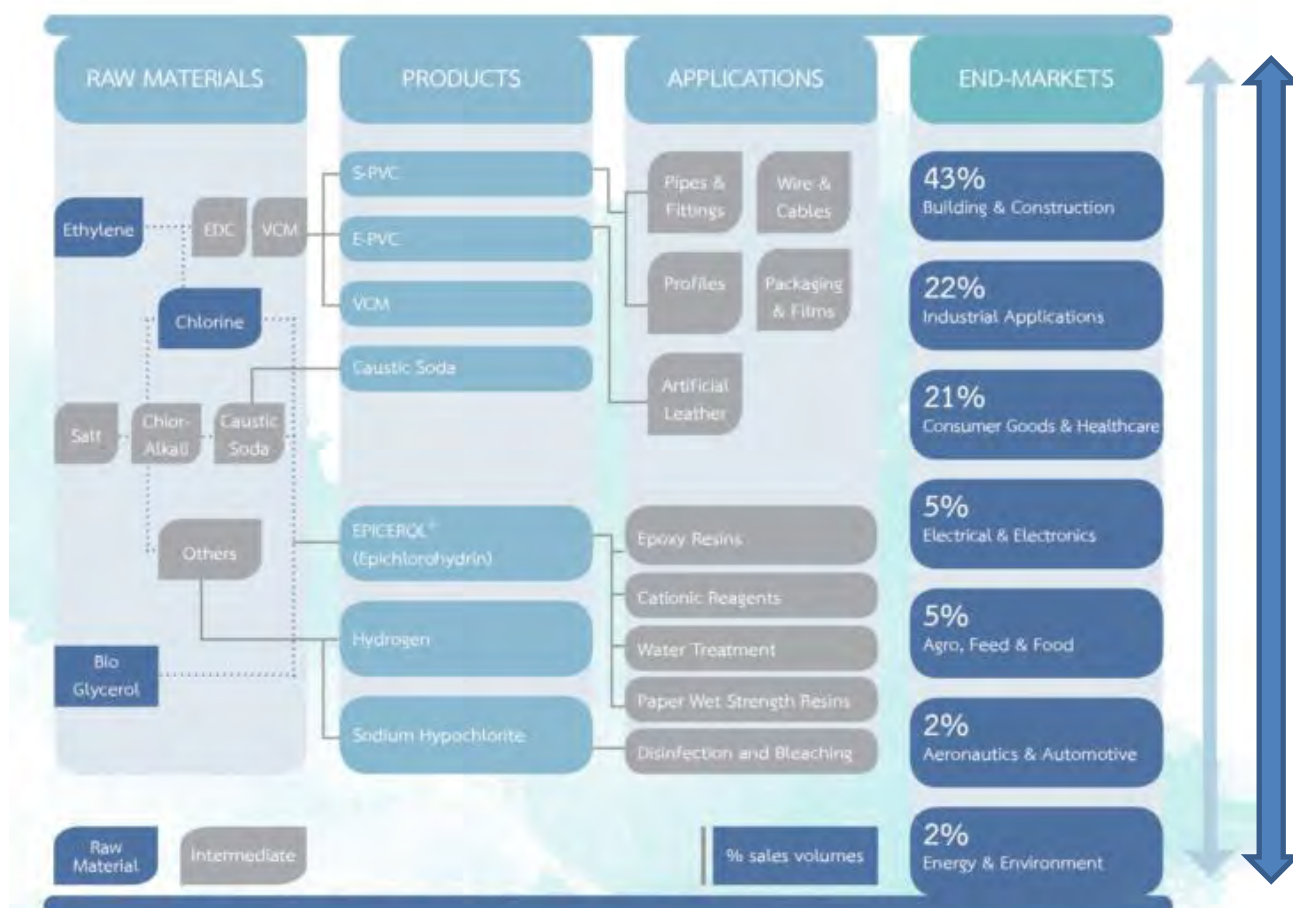
Product / Service	2016		2015		2014	
	Income (MTHB)	%	Income (MTHB)	%	Income (MTHB)	%
<b>Advance Biochemical (Thailand) Co., Ltd.</b>						
Produce & Supply Epichlorohydrin	2,488	95.8	3,169	97.0	3,455	97.5
Others	108	4.2	99	3.0	87	2.5
<b>% Shareholding by Vinythai</b>		<b>100</b>		<b>100</b>		<b>100</b>

**Income Structure of Associated Company**

Product / Service	2016		2015		2014	
	Income (MTHB)	%	Income (MTHB)	%	Income (MTHB)	%
<b>Pimai Salt Co., Ltd.</b>						
Produce & Supply Pure Refined Salt	1,679		1,736		1,675	
% Shareholding by Vinythai		28.49		28.49		28.49

**2.1 Nature of Products, Marketing and Competition**

Vinythai and its subsidiary Advanced Biochemical (Thailand) produce and supply chlorinated derivatives and Caustic Soda to a wide range of industries and markets, mostly in Asia.

**PORTFOLIO OUTLINE**



- **PVC or polyvinylchloride resins under the trademark Siamvic®**

High-quality range of suspension and paste PVC resins serving a variety of industries including automotive, building & construction, electricals & electronics, consumer goods, packaging, healthcare.

- **Caustic Soda, or sodium hydroxide**

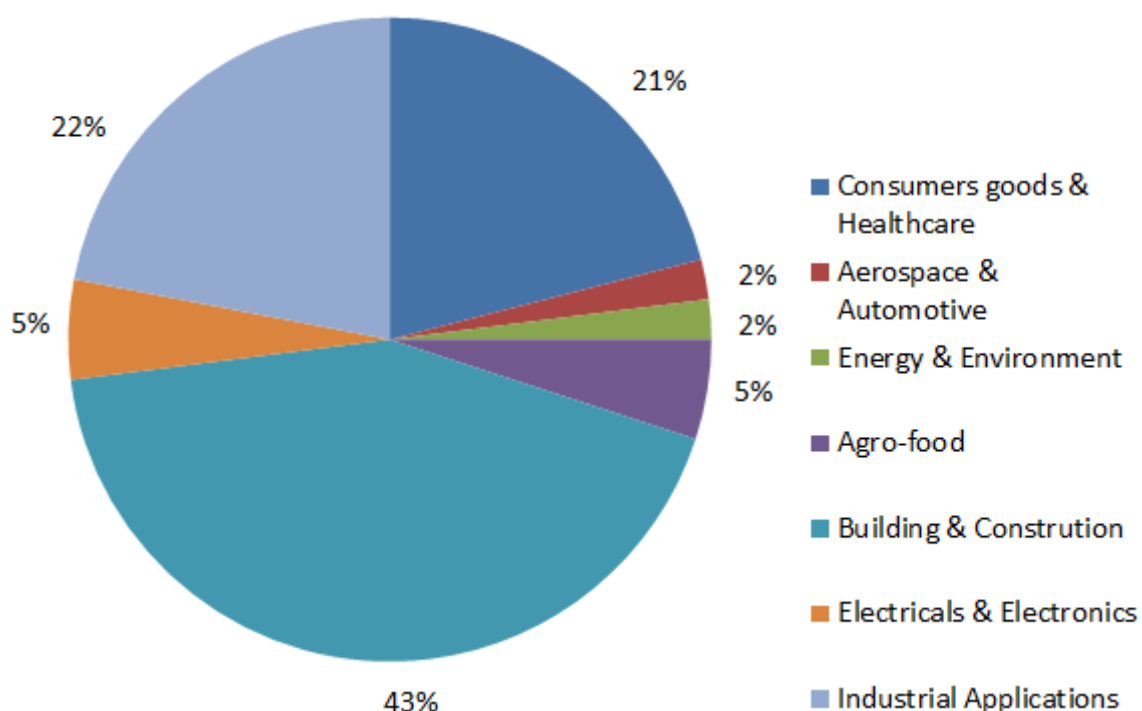
Strong base soluble in water. It is used in various applications which are part of our daily life, such as pulp and paper, aluminum, detergents, fibers, food & feed among others. Kosher, Halal and HACCP certificates are available on request.

- **Epicerol® - Bio-based Epichlorohydrin**

Epicerol® is the 100% bio-based epichlorohydrin (ECH) produced by an innovative technology from Solvay. Based on renewable glycerine, Epicerol® is the most sustainable ECH in terms of CO<sub>2</sub> emissions and process environmental performance. It is a chemical intermediate for a wide range of industries, including epoxy resins for coatings and composites.

Epicerol® production is certified by the Roundtable on Sustainable Biomaterials (RSB), which demonstrates that Advanced Biochemical (Thailand) delivers socially and environmentally responsible ECH.

A Diversified Market Offering (Distribution of 2016 Net Sales)



*This figure includes sales of spvc, epvc, vcm, caustic soda and Epicerol®*

### A Competitive Leader on Its Core Markets and an Emerging Biochemical Player

Several factors contribute to the success of the Company as a competitive player in S.E.A.:

- Integrated Manufacturing: well integrated industrial site in Map Ta Phut
- Secured Raw Materials: Ethylene secured with the Company's shareholder (PTTGC), Salt secured with the Company's stake in Pimai Salt, Glycerin of vegetable origins from diversified sources.
- Successful Excellence Programs: our employees relentlessly strive to outperform manufacturing, commercial and supply chain excellence programs.
- Research & Innovation: focusing on improvement of technologies.

The Company, as opposed to its main competitors, sells its products on the merchant market only and is recognized by its customers as a reliable and competitive partner to accompany their growth. This allows the Company to reach a leadership position on its core markets.

### PVC as Sustainable and Versatile Solution for the Society

Our teams jointly work to further develop and secure sustainable use of PVC in the Industry, in collaboration with our customers, with authorities and associations.

Vinythai notably mentors young architects on the energy saving benefits of using PVC in buildings and construction but also joins efforts of the Industry to certify PVC for Green Label in Thailand.

#### PVC : Commitment to Sustainability

We believe striving for PVC sustainability will not only support our leading position in PVC industry but also will effectively contribute to the market growth.

We have worked closely with associations, authorities, academics and customers as a responsible society member. Several projects have been worked out especially for PVC Green Label for pipe and fitting, PVC in Building and Construction.

#### Epicerol® Brand Promotion Intensifies and Delivers

2016 has been a productive year for Epicerol® brand promotion, which continues to pay off through several projects. Our partnership with AkzoNobel on sustainable coatings is pulling additional demand from epoxy resins producers, and generating new customers.

In other industries, Epicerol® has been selected by several downstream users committed to sustainable development. These include a leading Japanese car manufacturer which is using Epicerol®-based rubber components. Epicerol® also attracted a new customer in the personal care industry who valorizes it to increase bio-based content, while also reducing the carbon footprint of its products.

Epicerol®'s unique story is also now available to watch! The video was filmed at an oil palm plantation and a mill in Krabi Province. It shows the source material of our 100% bio-based ECH, as well as the sustainability of the manufacturing process used by Advanced Biochemical (Thailand). The video also features our Japanese customer Mitsui Chemicals Inc., which uses Epicerol® in high-end lens monomers for eyewear. This demonstrates the complete Epicerol® story to our customers and the downstream end-users.

Vinythai is emerging as a truly leading biochemical partner, widely recognized throughout the value chain.

## Progressively Improving Business Perspectives Throughout 2016

China is enforcing stricter environmental standards and rationalizing its PVC industry

Operations have been reduced at carbide PVC plants in China. As much as 6 million tons of capacity has disappeared since 2014, representing 20% of total Chinese PVC capacity. Throughout H2 2016, PVC and caustic soda availability was constrained for export and prices surged in Asia because of rising coal prices in China from mine closures and stricter environmental regulations enforced by authorities.

Volatile Ethylene price disconnected from PVC and crude oil price

Despite low crude oil prices, the price of ethylene remained volatile throughout 2016 due to unexpected cracker shutdowns. Supply has been progressively easing during the second semester.

Low ECH price / market oversupply

ECH prices in Asia remained under pressure as a consequence of market oversupply. Fortunately, glycerine prices (our raw material for Epicerol®) remained low thanks to poor demand and the increasing mandates of biodiesel in the ASEAN region (Indonesia, Malaysia).

Vinythai Group proved to be further improving its resilience, efficiency and agility thanks to the joint benefits of its supply chain, manufacturing, and commercial excellence programs.

With capacity creeping developed through the Manufacturing Excellence Programs, despite unexpected production incidents in July and August, Vinythai successfully increased S-PVC and Paste-PVC sales volumes on both domestic and export markets and broke yearly production records once again.

This contributed significantly to improving PVC business performance on top of the PVC market price surge during H2.

Advanced Biochemical (Thailand) has demonstrated its ability to remain competitive despite fierce competition and low crude oil prices. It is now widely recognized as a reliable and sustainable biochemical player with its Epicerol® business.

Epicerol®'s increased success in segments which valorize its bio-based raw materials and CO2 savings, as well as the development of sales in Europe and USA, contribute to the reinforcement of the business.

## Summary and Outline for 2017

Vinythai Group performed well throughout 2016 under the combined positive effects of sustainable marketing strategies, innovative excellence programs, and positive PVC market development.

The outlook for 2017 looks positive for PVC and caustic soda, with rising demand and limited availability, while Vinythai expects the Epicerol® business to keep growing progressively in traditional segments and also in more rewarding niche markets.

**2.2 Privilege from Investment Promotion**

By virtue of the provisions of the Industrial Investment Promotion Act B.E. 2520, the Group has been granted privileges by the Board of Investment relating to various operations which included:

	The Company					A subsidiary in Thailand
1. Promotional certificate No.	1579/2541	1166(2)/2548	1164(2)/2550	9010(2)/2553	2012(2)/2553	1694(2)/2551
2. Operations for which the privileges have been granted	Manufacture of additional volumes of PVC and VCM, and caustic soda	Manufacture of additional volume of VCM and caustic soda	Manufacture of additional volume of PVC	Manufacture of additional volumes of PVC, VCM and caustic soda, and chlorine gas	Manufacture of additional volumes of caustic soda, and hydrogen gas	Manufacture of Epichlorohydrin
3. The privileges granted include:						
3.1 exemption from payment of income tax from the date on which the income is first derived from such operations	8 years	8 years	8 years	8 years	8 years	8 years
3.2 A 50% reduction in the normal income tax rate on the net profit derived from certain operations for a period of 5 years, commencing from the expiry date in 3.1	Granted	Granted	Granted	Not granted	Granted	Granted
3.3 Permission to double deduct the amount expended on transportation, electricity and water for a period of 10 years from the date on which the income is first derived from such operations.	Granted	Granted	Granted	Not granted	Granted	Granted
4. Date on which the income is first derived from operations	1 June 2002	1 January 2007	1 August 2008	1 January 2011	1 July 2012	7 February 2012

As a promoted company, the Group must comply with certain terms and conditions prescribed in the promotional certificates.

## **2.3 Production and Procurement**

### **(a) Procurement**

#### ☆ Production, Number of Plants and Production Policy

The production complex consists of:-

- Chlor-Alkali or Electrolysis plant :  
produces chlorine, for using as a raw material in VCM production, and also produces significant quantities of Caustic Soda as well as certain quantities of by-products; Hydrogen and Sodium Hypochlorite. All these by-products are also sold on the markets.
- EDC and VCM Plant:  
produces VCM as a raw material for PVC production. VCM product is also sold on the market.
- PVC Plant:  
produces PVC Suspension and PVC Emulsion for distribution.

The plant still maintained high operating rates in all the Chlor-Alkali, VCM and PVC plants. The continuous improvement, efficient maintenance/ production collaboration through the deployment of failure analysis, preventive maintenance program including Manufacturing Excellence which allows the plant to further increase its Overall Equipment Effectiveness, are factors to increase its annual production capacity.

#### **Total Production Capacity**

	2012	2013	2014	2015	2016
Capacity (tons)					
1. PVC	280,000	280,000	280,000	280,000	280,000
2. VCM	400,000	400,000	400,000	400,000	400,000
3. Caustic Soda	266,000	266,000	366,000	366,000	366,000

The Company continued to effectively control the fixed and variable costs of the plant through streamlining and consolidation of the organization and by maintaining its overall productivity performance. Meanwhile, variable production costs decreased in 2016, in line with lower in ethylene market prices (1,017 USD/ton, -8% compare to 2014 Avg. market Price).

### ☆ The Supply of Raw Materials and Number of Suppliers

Vinythai's production process is a fully integrated PVC production and the main raw materials and utilities can be sourced locally. In addition to its own sources, the site also has the capability of importing either EDC or VCM to boost its PVC production when needed, or to take advantage of low priced EDC or VCM in the international market, when such situation arises.

The supply of main raw materials, which are salt, electricity, and ethylene are as follows:

#### **Salt Procurement**

Salt is an essential raw material for chlorine production. For purified salt procurement, Vinythai has jointly invested with others in Pimai Salt Co., Ltd. (PSC). Vinythai entered into Salt Supplies Agreement to ensure salt supplies for its production and the company has the right to offtake salt in proportion to its shareholding in PSC.

According to PSC Offtake Agreement, salt price will be equal to variable costs plus fixed costs shared proportionally to the percentage of its right to offtake PSC products.

#### **Electricity Procurement**

In chlorine production, besides salt, electricity is another main raw material. The Company entered into Power Supply Agreement with Glow Energy Public Company Limited (formerly Glow SPP Public Company Limited) for an initial period of fifteen years from 1996 in order to procure electricity supply for Electrolysis Plant. In 2009, The Company has amended this contract by extending the contract period for fifteen years.

The agreement covers the sales and purchase for electric energy and the payments for Capacity, Energy, Reactive Energy, and Fuel Transfer are linked to the Provincial Electricity Authority (PEA) TOU Tariffs as determined by the formula in the Power Supply Agreement.

#### **Ethylene Procurement**

As well as Chlorine, Ethylene is another essential raw material for VCM production. Vinythai buys ethylene from PTT Global Chemical Public Company Limited which is the major ethylene producer in the Country and currently is a major shareholder of the Company. Vinythai has entered into the long-term off-take contract, ended in 2021, with PTT Global Chemical PLC, in order to procure ethylene supply for the company's production. For the expansion projects, the Company has also entered into another long-term off-take contract, ended 2022.

### ☆ Problem on Raw Materials

Ethylene is the main raw material of the Company's production. Therefore, the ethylene price movement will highly affect the company's production cost.

Currently, Vinythai purchases ethylene from PTT Global Chemical Public Company Limited to use as an essential raw material in the VCM production. In the case where PTT Global Chemical Public Company Limited is unable to supply ethylene to Vinythai, Vinythai may purchase ethylene from other suppliers or import ethylene from abroad.

☆ **The Proportion of Raw Material Purchased**

In 2016, local purchasing accounted for 76 % of the total purchase of raw materials by the Company.

**(b) Environmental Impact**

With its strong commitment to environmental governance, the Company seriously implements its environmental management in accordance with stringent legal and regulatory requirements. Regular environmental assessments are thoroughly reviewed. Corrective and preventive measures are implemented to lessen environmental impacts and maximize the efficiency of environmental resources consumption

(see more details in item 10 : Corporate Social Responsibility, sub-item : Environment Responsibility)

**2.4 Pending Job**

-None-

### 3. Risk Issues

#### **Risk Management**

The Company realizes that with rapid change in business and industrial environment, the Company requires an appropriate tool in managing performance and sustainability of the business in short and long terms, Enterprise risk management is then placed as one of the key business activities.

Risk management is under supervision of the Board of Directors through the Business Advisory Committee and the Audit Committee reviews potential risk and their mitigations. In addition, Management-level committee has been set up to assess, manage and timely monitor risk exposures and mitigation measures to ensure that risk impacts can be prevented and mitigated at an acceptable level for business operations.

Risk Management Committee at the Management level (RMC) comprises the Managing Director, Business Director, Operation Director, Vice President Finance & Accounting, Plant Manager, Vice President Corporate Affairs & Communications, Business Managers for each product line, including Senior Strategic Marketing and Business Development, Assistant Vice President Supply Chain, HR and Administration Department Manager, and Business Performance Improvement Department Manager. Risk management policy and framework are defined and aligned with the Company's strategy and vision. The Committee actively develops risk management processes covering all identified & potential risks that pertain to its businesses, with each process closely linked to corporate strategy and opportunities for growth. All RMC members are responsible for management and mitigation of the risks that could potentially affect achievement of the Company's strategic goals.

Like all petrochemical industrial concerns, the Company faces a variety of risks which may be broadly classified into five types: industrial risks, financial risks, project risks, operational risks, and megatrend & green movement risks.

#### **Risk Issues and Mitigation**

##### **1. Industrial risks**

###### **1.1 Fluctuation of product and raw material prices in international markets**

- **Finished goods**

Prices of PVC resin, Caustic soda and Epichlorohydrin on international markets can fluctuate considerably. As such, Vinythai's revenues from both exports and domestic sales may rise or fall sharply, often due to circumstances beyond its control.

- **Raw materials**

Vinythai is vulnerable to international fluctuations in the price of



Ethylene and Glycerin, which are its pivotal inputs, alongside with Salt and Electricity. Ethylene and Glycerin respectively accounted for around 50% of the Company's total production costs in 2016.

**Mitigation:**

*Concerning fluctuations in its end product prices, Vinythai's marketing & sales teams closely monitor price evolution in order to proactively make adjustments to prevailing conditions. The Company's fully-integrated production processes help, to some extent, to shield it from Ethylene and Glycerin price volatility. To further reduce the impact of those cost factors, the Company negotiates with suppliers to ensure effective pricing management that best reflects Asian market conditions.*

*The Excellence programs launched since 2015 on manufacturing and maintenance sites, purchasing & supply chain, and marketing & sales already generated significant results in 2016 and largely enhance the Company business performances in term of the fixed & variable costs, productivity and price management.*

**1.2 Reliance on a limited number of suppliers**

Vinythai's integrated Vinyls production process is dependent upon Ethylene, Electricity and Salt as its principal raw materials. The Company has entered into agreements with individual suppliers accordingly. In the cases of Ethylene and Salt, in particular, the number of suppliers is limited. As such, Vinythai faces the risk of a key raw material shortage should any of its suppliers suddenly be unable to fulfill its commitment.

**Mitigation:**

*The Company has entered into long-term contracts with each of its suppliers to ensure that it is able to secure supplies continuously. It is also able to negotiate extensions to these agreements as they expire. In the event of short-term supply problems, the Company will source Ethylene from other suppliers, either local or from overseas. In the case of salt, the Company could import Ethylene Dichloride (EDC) as a substitute raw material for production.*

**1.3 Reliance on a Single Business Sector**

In 2016, over 40% of all PVC resin demand in Thailand came from the pipe and fitting sector, with consumption being closely aligned with the construction industry and government-initiated public infrastructure projects.

**Mitigation:**

*Vinythai has adopted a policy of diversification that focuses on expanding into different sectors, such as rigid profiles, films and sheets, wires &*

*cables, and artificial leather. The Company also endeavors to penetrate new export markets and diversify its exposure within existing export markets.*

*Additionally, the diversification into Epichlorohydrin production using “green technology”, reduced its sole reliance on, and sensitivity to, the PVC market. Epichlorohydrin is an essential feedstock for production of epoxy resins and is increasingly used in such applications as corrosion protection coatings as well as in the electronics, automotive, aerospace, and windmill power-generating industries.*

## 2. Financial risks

### 2.1 Repayment risk

- In 2010, the Company entered into a THB 4,500 million Long-Term Loan Agreement with local banks to finance the Epichlorohydrin production project in Thailand of its subsidiary, Advanced Biochemical (Thailand) Company Limited, which started commercial operation in Q1 2012. This loan was fully drawdown in mid of 2013.

The THB Long-Term Loan has a term of 10 years with a grace period of 3 years. The repayment schedule identifies fourteen equal, semi-annual installments, commencing 30 June 2013, with the final installment due December 2019. The Company is obligated to pay interest on its borrowings under the loan on a quarterly basis. The Company is also obligated to maintain certain financial ratios with respect to the loan.

The Company has prepayment in 2014, 2015, and 2016 amount THB 650 Million, THB 1000 Million and THB 1047.10 Million consequently. At the end of 2016, the company had no loan outstanding balance, after repayments and prepayment.

- In 2013, the Company entered into 2 RMB Long-Term Loan agreements totaling RMB 420 million with commercial banks in Thailand to finance the Epichlorohydrin production project in China of its subsidiary, Solvay Biochemicals (Taixing) Company Limited. At 2014 end, a RMB Long-Term Loan agreement was draw drawn 180 Million.

The RMB Long-Term Loans have their term of 7 years with their grace period of 3 years. The principal repayments are set for semi-annual installments, commencing 1 August 2016, with the final installment due 1 August 2020. The Company is obligated to pay interest on its borrowings under the loans on a quarterly basis. The Company is also obligated to maintain certain financial ratios with respect to the loan.

Due to the Company has decided to suspend the Project in China, so the Company didn't withdraw another RMB Long-Term Loans amount RMB 240 million, and prepayment the RMB Long-Term Loans RMB 180 million, amount 40 million, and shorten the repayment schedule to be 1 August 2017. The loan's recorded outstanding as at 2016 is RMB 120 million, after prepayment and repayment.

**Mitigation:**

*The Company closely monitors its performances, including all its projects. Moreover, the Company adopts a conservative treasury policy and liquidity management while targeting a reasonable, low-level debt-to-equity ratio. The Company is not reluctant to utilize its cash generation for loan prepayment. As such, the Company is confident that it is unlikely to encounter any debt repayment or liquidity inadequacy problems.*

**2.2 Interest rate risk**

In view of current uncertainty surrounding economic conditions and financial market liquidity, the Company is exposed to interest rate volatility as the Company is engaged with a floating THB loan and floating RMB loans.

**Mitigation:**

*For a floating THB loan, the Company closely monitors movements on its deposit accounts with financial institutions and on its Long Term Loans in response to financial market conditions and responds appropriately. According to conditions at any given time, the Company may, as it deems necessary, enter into financial hedging arrangements in order to manage associated risks.*

*For a floating RMB loan, the Company has entered into a Cross Currency SWAP to fix the interest rate and to shorten the maturity date of Cross Currency SWAP to be 1 August 2017 in accordance with the shortening of the loan repayment schedule.*

**2.3 Foreign exchange rate risk**

The Company and Advanced Biochemical (Thailand) Company limited, its affiliate, are exposed to exchange rate volatility on their revenues from both domestic and export sales, all of which are mainly priced in US dollars. The Company is also exposed to risk on payments to its main feedstock, as they are priced in US dollars. The Company's other raw materials, machinery and equipment maintenance are also all denominated in foreign currencies, notably US dollars, Euro, Japanese yen.

Regarding the Company's long term loan in RMB currency to support the investment in an Epichlorohydrin plant in China via its holding company in Singapore, Vinythai Holding PTE, the Company is exposed to RMB foreign exchange movements against other currencies, especially THB.

**Mitigation:**

*Vinythai closely monitors foreign exchange rate movements as part of its day-to-day operations. The Company both manages its foreign exchange rate risk exposure with natural hedges and carefully applies available financial hedging tools, including forward contracts and others as necessary, so as to minimize its foreign exchange rate risk exposure at any given time.*

*To mitigate foreign exchange risk exposure associated with its Epichlorohydrin project in China, the Company has entered into a Cross Currency Swap from RMB to THB, and has shortened its repayment schedule in order to mitigate Exchange Rate risk of long term loan in RMB currency.*

**2.4 Liquidity Risk**

Due to uncertain market conditions ensuing from precarious US and EU conditions, liquidity risk has become another major concern for all businesses. Moreover, the risk is intensified for businesses with multiple operations. The Company considers this to be another important risk exposure that can potentially push its costs higher.

**Mitigation:**

*The Company closely monitors financial market liquidity via its day-to-day banking operations. Its policy is to work with a variety of banks (US, European, Japanese, Chinese and Thai). By spreading its funding sources to include a wide selection of short- and long-term alternatives, the Company mitigates its risk exposure to potential liquidity constraints. The Company also stresses efficient working capital management to ensure consistently smooth liquidity.*

**3. Project Risk**

The Company had invested in its subsidiary, Solvay Biochemicals (Taixing) Limited which is registered in the People's Republic of China. The Company held 100% of the ordinary shares of its subsidiary via Vinythai Holding Pte. Ltd. amounting to RMB 286 million. To finance this investment project, the Company has entered into a loan agreement with a local bank and the amount of RMB 140 million has been drawn down.

Currently the project is put on hold for some period due to the volatility of Epichlorohydrin pricing and supply in China that could increase the risk on the repayment of such intercompany loan to the Company.

**Mitigation:**

*The Company has closely monitored the market trend of the People's Republic of China in order to swiftly react to the market conditions. In the meantime, the impairment provision for this intercompany loan has been*

*recognized in the Company's financial statement to reflect its fair value.*

#### **4. Operation risks**

##### **4.1 Plant operation risk**

Certain unexpected occurrences, both internal and external, could potentially disrupt the Company's plant operations. Accidents, insufficient or undeliverable utilities, machinery failures, and operational failures such as to feedstock supply, as well as customer-related issues, can lead to interruptions to production, with significant potential impact on the Company's financial performance.

##### Mitigation:

*The Company has developed the safety excellence program framework and performed exercises designed to avert business emergencies and accidents, or at least minimize their impacts and losses, while also safeguarding personnel and the environment. The Company has also established preventive and predictive maintenance procedures to minimize machinery risks, including drawing up specific machinery maintenance procedures and composing manuals showing how to minimize errors, accidents and disruptions. Safety trainings are provided to whole employees and contractors, such as HSE culture and management system, transport & process safety, and the lifesaving rules. Moreover, the Company has an insurance policy to compensate for and minimize potential financial losses resulting from such occurrences.*

##### **4.2 Supply chain risk**

Nowadays customers carefully follow their cost structure, especially on their inventory and its management for raw materials/finished goods. Some applies on "zero inventory" policy.

Therefore as suppliers Vinythai has to ensure that all potential risks related to supply chain such as threats from terrorism, piracy, and fraud, or disturbances caused by natural disasters; are treated and managed properly.

##### Mitigation:

*The Company implemented according to a framework of ISO 28000 - security management systems for the supply chain. The relevant team has been nominated to assess all potential risks and implement necessary measures to prevent those risks and threats from adversely affecting the customer businesses.*

*As a result this increases the Company's ability to effectively implement supply chain mechanisms that address security vulnerabilities at operational levels, as well as to establish preventive actions.*

##### **4.3 Internal Control and Fraud risk**

Some business activities and transactions, such as goods purchasing, stock management, contacts with external parties, are one of the key business

processes that could lead to inefficient management.

**Mitigation:**

*The Company yearly assesses internal control system. By 2016, the management, with support of external experts, performed the relevant risk assessment over several business activities including the reassessment of current internal control system. Workshops have been provided to the operators and managers in order to insure good internal controls and optimum job performance according to clear operation guidelines.*

*Additionally, the Company applied the framework of the Private Sector Collective Action Coalition Against Corruption (CAC).*

**5. Megatrend - Green movement risks**

**5.1 Greenhouse gas emission**

Greenhouse gases could trap heat and make the planet warmer. The largest sources of greenhouse gas emissions are from burning fossils fuels for electricity, heat, and transportation. Nevertheless other sources would be from industry, commercial & residential, agriculture, and land use & forestry.

Holding a world-scale manufacturing plant, the Company realizes that it is one of the emission sources, and it should be a part of the solutions. Necessary actions taken would help the Company not only in term of emission reduction, but also in term of natural preservation.

**Mitigation**

*Vinythai participates and implements several measures to reduce emissions and to target the development of products that contribute to emission reductions. Those measures are taken with clear objectives in short term and long term, being aligned with our strategic targets relating to energy saving.*

*For examples, in Production & Support Processes, the managers roll out the following continuous improvement programs:*

- 3Rs For All - Reduce, Reuse, and Recycle*
- energy saving: by support from energy saving experts (Solwatt), energy saving committee,*
- production: carbon footprint reduction, manufacturing excellence program,*
- supply chain excellence program,*
- support functions: carbon reduction label for buildings (Laboratory building at plant), Green meeting.*

*Those programs led the Company to receive many recognition Awards over the past few years.*

## 5.2 Sustainable product portfolio management

Vinythai sees sustainability as crucial aspect of its strategy; the management of its product application portfolio is one of the areas where the Company puts efforts to enhance its sustainability. Without a properly managed product application portfolio, the Company takes the risk of significant impacts on its business performances in a long run.

### Mitigation

*The Company has adopted a tool, named “Sustainable Portfolio Management (SPM)” since 2011. Through this tool, developed by its main shareholder, the Company assesses the sustainability of its product applications into two dimensions: 1- environmental impact of manufacturing, and 2- degree to which the product in that application be in line with the consumers’ long term expectations. From this, it allows the Company to better understand the market trends and to position its developments & investments on the right strategic track.*

*Nowadays more than 90% of the product portfolio has been assessed and the Company also extended this assessment to all important R&D projects.*

<b>4. Assets used in Business Operation</b>
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**(4.1) Main Assets*****Value of the Main Assets***

Book value of office equipment, land, buildings and main machinery as at 31 December 2016 are as follows:

## Consolidated financial statements

Items	Useful Life (years)	Book value as of 31 December 2016 (thousand Baht)
1. Lease land improvement	50	327,375
2. Buildings and building improvement	10-50	1,401,072
3. Machinery and equipment	5-30	8,750,586
4. Furniture, fixtures and office equipment	3-30	25,005
5. Assets under construction and machinery under installation	-	449,243
Total		10,953,281

## Separate financial statements

Items	Useful Life (years)	Book value as of 31 December 2016 (thousand Baht)
1. Lease land improvement	50	327,375
2. Buildings and building improvement	10-50	948,825
3. Machinery and equipment	5-30	6,193,135
4. Furniture, fixtures and office equipment	3-30	24,974
5. Assets under construction and machinery under installation	-	151,440
Total		7,645,748



***Rights, Lease Agreement and Commitment***

The Business Office is located at Wave Place, 11th & 16th Floor, 55 Wireless Road, Lumpini, Pathumwan, Bangkok 10330 which is rented by Vinythai.

The Head Office, Plant and Warehouse of Vinythai which consists of PVC, VCM, chlorine and caustic soda plant and warehouse is located at 2, I-3 Road, Map Ta Phut Industrial Estate, Tambol Map Ta Phut, Amphoe Muang, Rayong Province 21150. The Company leased from the Industrial Estate Authority of Thailand in the area of 240 rai. The substances of this agreement are:

- lease term from 15 June 1989 to 14 June 2019 for 30 years with a renewal option of 20 years
- lease commitments in respect of land for its plant payable at present to the expiry date of the lease is Baht 33,396 per rai per year.

As of 31 December 2016, the outstanding of the commitments is approximately 20 MTHB.

**(2) Investment Policy in Subsidiary and Associated Companies**

The Company has invested in three below subsidiaries: -

- a) Advanced Biochemical (Thailand) Company Limited in which it manufactures and sells a chemical product named as EPICHLOROHYDRIN, in order to support the Company's business.
- b) Vinythai Holding Pte. Limited, incorporated in Singapore, as a holding company.
- c) Solvay Biochemicals (Taixing) Limited, incorporated in Republic of China. The subsidiary manufactures and sells a chemical product named as EPICHLOROHYDRIN, in order to support the Company's business.

Moreover, currently the only one associated company that Vinythai has invested is Pimai Salt Co., Ltd. (PSC), one of the main purified salt producers in Thailand. The investment in this company is to ensure the supply of one of the Company's main raw materials. With respect to the long-term contract, the Company has the right to purchase salt from PSC, at the volume sufficient to the need for PVC production. The salt price will be equal to variable cost plus fixed costs shared proportionally to the percentage of its right to offtake PSC products.

In addition, some of Vinythai's directors have participated in the board of the Subsidiary and Associated Company to jointly define the fair policies among the related companies. The name list of those directors is mentioned in the Appendix 1.

***Vinythai's Investment***

(31 December 2016)

	Product or nature of business	Paid-up capital	Percentage of voting shares held by Vinythai	Acquisition cost (MTHB)	Investment Value (MTHB)
<u>Subsidiary Company</u>					
Advanced Biochemical (Thailand) Co., Ltd.	Manufacturing and trading of chemical products	1,500 MTHB	Vinythai holds 100.00 percent of its shares and has common directors.	1,454.10	N/A
Vinythai Holding Pte. Limited (incorporated in Republic of China)	Holding company	287 RMB	Vinythai holds 100.00 percent of its shares and has common directors.	1,416.40	N/A
Solvay Biochemicals (Taixing) Limited (incorporated in Singapore)	Manufacturing and trading of chemical products	287 RMB	100% Held by Vinythai Holding Pte. Limited (a subsidiary of the Company)	N/A	N/A
<u>Associated Company</u>					
Pimai Salt Co., Ltd.	Manufacturing of salt	193.89 MTHB	Vinythai holds 28.49 percent of its shares and has common directors.	397.68	386.07

**(4.3) Assets Evaluation**

-none -

<b>5      Legal Disputes</b>
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The Civil Court has finally awarded a verdict ordering one of the debtors of the Company to pay the Company a past-due payment for goods of 523 Million Baht with an interest rate of 7.5% per annum. The Legal Execution Department has seized assets of such debtor for auction so that the proceeds derived from such auction can be made to the Company as payment for such debt. Nevertheless, another creditor has instituted a bankruptcy case against such debtor and the Bankruptcy Court has then issued an absolute receivership order against such debtor on 29 January 2015, thus obligating all creditors of such debtor, including the Company, to file a request for payment with the official receiver. The creditors will further have a meeting to consider any bankruptcy of such debtor. If it is a case, the official receiver will collect all assets of such debtor and will arrange for the auction, and will distribute the proceeds to the creditors based on priority of debts.

**6. General Information and other information**
**6.1 General Information**
**(1) Information of listed company**

Name of the listed company : **Vinythai Public Company Limited**  
 Address of Head Office  
 and Plant : No.2, I-3 Road, Map Ta Phut Industrial Estate,  
 Tambol Map Ta Phut, Amphur Muang, Rayong  
 Province 21150 Thailand  
 Telephone No. : +66-3868-3112, +66-3892-5000  
 Fax No. : +66-3868-3048  
  
 Address of Business Office : Wave Place, 11th and 16th Floor, 55 Wireless Road,  
 Lumpini, Pathumwan, Bangkok 10330, Thailand  
 Telephone No. : +66-2030 6800  
 Fax No. : +66-2030 6801  
  
 Type of Business : Production and supply of petrochemical products:  
 PVC resins, VCM, Caustic Soda and other products  
 from PVC production.  
  
 Company's registration no. : 0107536000846  
  
 Home Page : [www.vinythai.co.th](http://www.vinythai.co.th)  
 Registered Capital : 7,111,160,664 Baht  
 Number of Ordinary Shares : 1,185,193,444 Shares  
 Number of fully paid-up shares : 1,185,193,444 shares

**(2) Information concerning Juristic Person in which Vinythai holds at least 10 % of issued shares**
**(a) *Advanced Biochemical (Thailand) Company Limited***

Address of Head Office  
 and Plant : No. 2/1, I-3 Road, Map Ta Phut Industrial Estate,  
 Tambol Map Ta Phut, Amphur Muang, Rayong  
 Province 21150, Thailand  
 Telephone No. : +66-3868-3112, +66-3892-5000  
 Fax No. : +66-3868-3048  
  
 Address of Business Office : Wave Place, 11th and 16th Floor, 55 Wireless Road,  
 Lumpini, Pathumwan, Bangkok 10330, Thailand  
 Telephone No. : +66-2030 6800

Fax No. : +66-2030 6801

Type of Business : manufacturing and trading of chemical product.  
 Company's registration no. : 0105551033847  
 Home Page : -  
 Registered Capital : 1,500,000,000 Baht  
 Number of Ordinary Shares : 15,000,000 Shares  
 Number of fully paid-up shares : 15,000,000 shares

**(b) Vinythai Holding Pte. Ltd.**

Address of Business Office : No. 10 Collyer Quay #10-01 Ocean Financial Centre, Singapore (049315) Telephone No. : +65-6531 4187  
 Type of Business : Holding company  
 Company's registration no. : 201221341H  
 Home Page : -  
 Registered Capital : 286,690,007 RMB  
 Number of Ordinary Shares : 286,690,007 Shares  
 Number of fully paid-up shares : 286,690,007 Shares

**(c) Solvay Biochemicals (Taixing) Ltd.**

Address of Business Office : No.1, Futai Road, Taixing Economic Development Zone, Jiangsu province, the People's Republic of China  
 Type of Business : manufacturing and trading of chemical product.  
 Company's registration no. : 321200400016994  
 Home Page : -  
 Registered Capital : 286,599,387 RMB

**(d) Advanced Biochemical Europe**

Address of Business Office : 310, rue de Ransbeek, Brussels, 1120 Belgium  
 Type of Business : Distribution of products in Europe  
 Company's registration no. : 2016003  
 Home Page : -  
 Registered Capital : 20,000 EUR

**(e) Pimai Salt Co.,Ltd.**

Address of Business Office : 1st Floor Room A, Srifuengfung Building, 1016 Rama 4 Road, Silom Sub-district, Bangrak district, Bangkok 10500  
 Telephone no. +662-633-9380-3  
 Fax No. +662-633-9390

Type of Business : Manufacturing of salt

Company's registration no. : 0105537097221

Home Page : [www.psc.co.th](http://www.psc.co.th)

Registered Capital : 193,891,500 Baht

Number of Ordinary Shares : 1,938,915 Shares

Number of fully paid-up shares : 1,938,915 Shares

**(3) Other referenced information**

Ordinary Share Registrar : Thailand Securities Depository Co., Ltd.  
 93 Ratchadaphisek Road, Dindaeng,  
 Bangkok 10400, Thailand  
 Tel: +662-009 9000  
 Fax: +662-009 9991  
 TSD CALL CENTER : +662-009 9999  
 Website: <http://www.set.or.th/tsd>  
 E-mail: SETContactCenter@set.or.th

Auditor : Mr. Waiyawat Kosamarnchaiyakit and/or  
 Ms. Sureerat Thongarunsangand/or  
 Ms. Pornthip Rimdusit  
 KPMG Phoomchai Audit Limited  
 48th Floor, Empire Tower  
 195 South Sathorn Road  
 Bangkok 10120  
 Tel. +662 677 2000  
 Fax. +662 677 2222

Legal Counsel : Chandler and Thong-Ek Law Offices  
 7th Floor, Bubhajit Building  
 20 North Sathorn Road  
 Bangkok 10500  
 Tel. +66-2266-6485  
 Fax. +66-2266-6483-4

**6.2 Other important information**

-none-