Note: Key data/information in this page is hidden, while that in the report is not.

4 Capacity of PHA in China

Currently in China, most PHA products are sold abroad and the domestic market has developed slowly. In the last few years, there was no new added capacity in the PHA industry and some manufacturers have never upgraded their products.

In 2015, Jilin Province prohibited the use of non-degradable plastics, presenting a great opportunity for degradable plastics.

. . .

Shandong Lukang Pharmaceutical Co., Ltd.'s PHA project is under construction and it is expected to be put into commercial production in the next few years.

Table 4-1 PHA capacity in major Chinese companies in 2015

No.	Company	Abbreviation	Location	Ownership	Status'15	Capacity, t/a	Composition	Brand
1	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
2	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
3	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
4	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX

Note: Tianjin GreenBio Materials Co., Ltd. is a subsidiary of Lvsu Group which is a division of Fortrusts Group

Source: CCM

Table 4-2 Potential capacity of PHA in China, 2015

No	Company	Abbreviation	Location (Province)	Ownership	Status'15	Capacity, t/a	Composition	Brand
1	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
2	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX

Note: Lvsu Bio-degradable Materials Co.,Ltd. is a subsidiary of Lvsu Group which is a division of Fortrusts Group

Source: CCM



5 Application of PHA

5.1 Major applications: degradable plastics in daily life

PHA is widely used in daily life. It can replace many traditional plastics and performs well. Up to now, it has been applied to different kinds of fields such as film blowing, bottle blowing and foaming.

Figure 5.1-1 PHA degradable plastics in daily life



Source: CCM

5.1.1 Development of degradable plastics in China

Almost all of degradable plastics are export-oriented in China for the following two reasons: Firstly, high cost makes it difficult for them to be accepted by Chinese consumers. In China, prices of degradable plastics (such as PHA, PLA, PBS, etc.) are 3-10 times of traditional plastics (such as PE, PVC, PP, etc.).

. . .

In China, the degradable plastic market hasn't formed a complete industry chain yet. Most Chinese PHA manufacturers are small scale while core technologies are controlled by large foreign companies. OEM is the general operation mode in China, production is to order and export-oriented. Production relies heavily on foreign markets.

China contributes xxxx of the global degradable plastics with a CAGR of about xxxx in the last few years. Companies such as Kingfa (PBS) and Zhejiang Hisun Biomaterials Co., Ltd. (PLA) have been launching new capacities since 2010. Although market shares of global degradable plastics have only reached less than xxxx of that of traditional plastics in 2014,

. . .



Table 5.1.1-1 Polices & regulations about plastics in China, 2014-2015

Publish date	Execution date	Area	Polices & regulations	Content
XXXX	xxxx	XXXX	XXXX	XXXX
XXXX	xxxx	XXXX	XXXX	XXXX
XXXX	xxxx	XXXX	XXXX	XXXX
XXXX	xxxx	XXXX	XXXX	XXXX
XXXX	xxxx	XXXX	XXXX	XXXX
XXXX	xxxx	XXXX	XXXX	XXXX

Source: People's Government of JiLin Province & National Development and Reform Commission & The Sate Council & People's Government of Weifang City & Jiangsu Provincial People's Congress

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7.4 Jiangsu Nantian Group

Address: Baipu Town, Rugao, Nantong City, Jiangsu Province, China

Tel.: +86-513-8571241 Fax: +86-513-8571224

- Company background

Jiangsu Nantian Group, restructured from Nantong Electronic Material Plant, was established in 1994.

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As a large-scale high-tech company in China, Jiangsu Nantian Group is mainly engaged in electronic materials, chemicals, pharmaceutical products, rubber and plastic products.

- Product list

Polyacrylamide (PAM)

. . .

Anionic polyacrylamide (APAM)

PHB

- PHA project

The company cooperated with Tsinghua University to produce PHB. Its capacity is about xxxx t/a.