

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

1 Glyphosate upstream industry

1.1 Introduction to key raw materials & intermediates of glyphosate

As glyphosate is produced by both AEA pathway and IDA pathway in China, the raw materials are diverse. Yellow phosphorus is a common raw material needed by both AEA pathway and IDA pathway, and the supply situation of yellow phosphorus will largely influence the production of glyphosate.

1.1.1 Glycine

China's glycine is mainly consumed in domestic glyphosate industry. According to the production process and product purity, glycine can be divided into four categories, namely pharmaceutical grade, food grade, feed grade and industrial grade, and only the industrial grade is applied in glyphosate industry for its lower price over other grades. Unit consumption of industrial grade glycine is ■■■ t/t in glyphosate production now.

Table 1.1.1-2 Producers of industrial grade glycine in China, 2007-2011

No.	Company	Abbreviation	Capacity '11, t/a	Output, t				
				2007	2008	2009	2010	2011
1	Hebei Donghua Chemical Group	Hebei Donghua	■■■	■■■	■■■	■■■	■■■	■■■
2	Linyi Hongtai Chemical Co., Ltd.	Linyi Hongtai	■■■	■■■	■■■	■■■	■■■	■■■
3	Hubei Xingfa Chemicals Group Co., Ltd.	Hubei Xingfa	■■■	■■■	■■■	■■■	■■■	■■■
4	Jiangxi Electrochemicals Zhongda Chemical Co., Ltd.	Jiangxi Zhongda	■■■	■■■	■■■	■■■	■■■	■■■
5	Taizhou Xinzhi Chemical Co., Ltd.	Taizhou Xinzhi	■■■	■■■	■■■	■■■	■■■	■■■
...	■■■	■■■	■■■	■■■	■■■	■■■
16	Jizhou Huayang Chemicals Co., Ltd.	Jizhou Huayang	■■■	■■■	■■■	■■■	■■■	■■■
	Others		■■■	■■■	■■■	■■■	■■■	■■■
	Total		■■■	■■■	■■■	■■■	■■■	■■■

Source: CCM International

Major end-use segments of glycine are glyphosate, feed, food and pharmaceuticals in China, and about █% of industrial grade glycine is applied in domestic glyphosate industry. In 2011, glyphosate industry consumes █ tonnes of industrial grade glycine.

Table 1.1.1-4 Consumption of glycine in glyphosate production in China, 2001-2011

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Output of glyphosate tech. (AEA pathway), t	█	█	█	█	█	█	█	█	█	█	█
Consumption of glycine, t	█	█	█	█	█	█	█	█	█	█	█

Source: CCM International

Chinese producers adopt AEA pathway, DEA route and IDAN route to produce glyphosate. AEA pathway is an important and dominating production method, and the output of glyphosate by AEA pathway accounts for █% of the total glyphosate output in 2011.

Table 1.1.1-5 Main domestic glyphosate producers and their glycine suppliers, 2011

No.	Glyphosate producer	Supplier
1	Zhejiang Wynca (█t/a)	Hebei Donghua, Taizhou Gaowei, Yuanshi Hongsheng, Jiangxi Ansun, etc.
2	Zhejiang Jinfanda & Hubei Xingfa (█t/a)	Hebei Donghua, Jiangxi Ansun, Hubei Xingfa, etc.
3	Nantong Jiangshan (█t/a)	Nantong Dongchang, etc.
4	Sichuan Fuhua (█t/a)	Hebei Donghua, Yuanshi Hongsheng, etc.
5	Zhejiang Linghua (█t/a)	Hebei Donghua, etc.

Note: Only the capacity of AEA pathway is given.

Source: CCM International