

## II-4 Production technology

Atrazine production in China adopts solvent route and water route. Atrazine producers in China mainly adopt solvent route developed by [REDACTED]. Only [REDACTED] adopts water route which was developed by it in 1997.

Table II-4.1-1 Comparison of solvent route and water route of atrazine production

Item	Route	
	Solvent route	Water route
Advantages	[REDACTED]	[REDACTED]
	[REDACTED]	[REDACTED]
	[REDACTED]	[REDACTED]
Disadvantages	[REDACTED]	[REDACTED]
	[REDACTED]	[REDACTED]
	[REDACTED]	[REDACTED]
Status	Widely used in China	[REDACTED]

Source: CCM International Ltd.

Solvent route is a proven technique, with the product purity reaching 97%.

The 2 routes use the same raw materials, including cyanuric chloride, monoethylamine, isopropylamine and sodium hydroxide. Chlorobenzene or toluene used in solvent route can be recycled. Triazine herbicides can be produced in the same production line with different raw material.

Table II-4.1-2 Raw material costs of atrazine production in China, Nov. 2008

No	Item	Unit consumption (t/t)	Price (USD/t)	Cost (USD/t)
1	Cyanuric chloride ([REDACTED])	[REDACTED]	[REDACTED]	[REDACTED]
2	Isopropylamine ([REDACTED])	[REDACTED]	[REDACTED]	[REDACTED]
3	Monoethylamine ([REDACTED])	[REDACTED]	[REDACTED]	[REDACTED]
4	Sodium hydroxide ([REDACTED])	[REDACTED]	[REDACTED]	[REDACTED]
5	Others			[REDACTED]
	<b>Total</b>			[REDACTED]

## II-5 Current production situation

Table II-5.1-1 Geographic distribution of atrazine production in China, by capacity, as of Nov. 2008

No.	Location	Capacity '08 (t/a)	Number of producers
1	Shandong	[REDACTED]	[REDACTED]
2	Anhui	[REDACTED]	[REDACTED]
3	Zhejiang	[REDACTED]	[REDACTED]

4	Liaoning			
5	Jilin			
Total				

Source: CCM International Ltd.

Table II-5.1-4 Capacity and output of atrazine technical producers in China, 2007~Oct. 2008

No.	Abbr.	Capa. '07 (t/a)	Capa. '08 (t/a)	Output '07 (t)	Output Jan.~ Oct. '08 (t)
1					
2					
3					
4		15,000			
5		5,000			
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
Total					

Source: CCM International Ltd.

## II-6 Brief introduction to key atrazine raw materials

Table II-6.1-1 Active cyanuric chloride producers in 2008

No.	Name	Content	Capa. '08, t/a	Output '07, t	Output Jan.~Oct.08, t	Factory price in Nov. 2008 (USD/t)
1		99.3%				
2		99.3%				
3		99.0%				
4		99.2%				
5		99.3%				
Total		-				

Source: CCM International Ltd.

Table II-6.1-3 New projects of cyanuric chloride under construction or planning

No.	Project	Designed capacity	Detail	Remarks	CCM's remarks
1	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	I [REDACTED]
2	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
.	.....	.....	.....	.....	.....
5	[REDACTED]	5,000t/a	[REDACTED]	[REDACTED]	X [REDACTED]

### III Trade of Atrazine in China

Table III-2.3-1 Export situation of atrazine technical in China, 2007~Oct. 2008, by month

Month	2007		2008	
	Quantity (kg)	Price (USD/kg)	Quantity (kg)	Price (USD/kg)
Jan				
Feb				
Mar				
Apr				
May				
Jun				
Jul		2.32		5.09
Aug		2.40		5.22
Sep		2.55		5.28
Oct		2.48		5.06
Nov		2.64		-
Dec		3.07		-
<b>Total</b>				

Source: CCM International Ltd.