

I-3.3 Summary of AC, by Product Forms

Table I-3.3-1 Production by forms of AC, '03 (MTs)

	Total	Wet AC (on dry base)	Powder form	Granular form	Indefinite granular	Spherical	Cylindrical
Wood base AC, production	██████	██████	██████	██████	██████	██████	██████
Wood base AC, No. of producers	██	█	██	██	██	█	█
Nutshell base AC, production	██████	█	██	██████	██████	█	██
Nutshell base AC, No. of producers	██	█	█	██	██	█	█
Total production	██████	██████	██████	██████	██████	██████	██████
Total producers	██	█	██	██	██	█	█

I-3.4 Summary of AC, by Production

I-3.4.1 Situation of Wood Base AC

Table I-3.4.1-1 Summary of wood base AC production in China

No.	Location	Number of producers	Total Cap (MTs/a)	Total Prod. '03 (MTs)	Prod. By ZnCl ₂ pathway, '03 (MTs)	Prod. By phosphoric acid pathway, '03 (MTs)	Prod by physical method '03 (MTs)
1	Fujian	██	██████	██████	██████	██████	██████
2	Zhejiang	██	██████	██████	██████	██████	██████
3	Jiangxi	██	██████	██████	██████	██████	██████
4	Anhui	██	██████	██████	██████	██████	██████
5	Jiangsu	█	██████	██████	██████	██████	██████
6	Shandong	██	██████	██████	██████	██████	██████
7	Henan	█	██████	██████	██████	██████	██████
8	Hebei	6	3,800	██████	██████	██████	██████
9	Sichuan	4	5,400	██████	██████	██████	██████
10	Hunan	5	3,800	██████	██████	██████	██████
11	Liaoning	3	2,000	██████	██████	██████	██████

12	Jilin	2	3,600				
13	Chongqing	1	3,000				
14	Tianjin	3	950				
15	Guangdong	2	1,100				
16	Yunnan	1	400				
17	Shaanxi	1	400				
18	Shanxi	1	500				
19	Beijing		-				
20	Gansu		-				
21	Guangxi		-				
22	Hainan		-				
23	Inner Mongolia		2,000				
24	Ningxia		-				
25	Shanghai		-				
	Total						

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I-3.5 Summary of AC, by Product Species & Application

The application of wood base AC and nutshell base AC is made on base of the claims from the Chinese manufacturers, for the product species generally indicates its applications.

In the following discussion, we describe the application situation from the following categories:

- Food industry
- Pharmaceutical industry
- Industrial applications
- Unidentifiable industries

Each of the above categories contains further several sub categories. E.g., food industry consists of sugar, sugar alcohols, sweeteners, acidifiers, SMG, other food ingredients,

The following summary of the AC consumption is based on the claims from the Chinese manufacturers. For details of the product application of each manufacturer, please refer to the Excel file.

Table I-3.5-1 Product species & application of wood base AC and nutshell base AC in China

Industries	Total	% to total	Wood base AC	% to wood base AC	Nutshell base AC	% to nutshell base AC
Food industry						

Pharmaceuticals						
Industrials						
Unidentifiable Industries						
Total						

From the above table it is shown that the Chinese wood base AC is mainly used in food industry and industrial areas whereas the nutshell base in mainly used in the industrial areas.

Table I-3.5-2 Comparison of application between wood base AC and nutshell base AC by some major sections

Industries	Sub sections	Total	%	Wood base AC	%	Nutshell base AC	%
Food industry							
	Sugar						
	Starch Sugar (by fermentation)						
	Sweeteners						
	Acidifier/Preservatives						
	SMG						
	Other food ingredients						
	Some Foods						
	Other food area						
	Amino Acids						
Pharmaceuticals							
	Antibiotics						
	Antipyretics (paracetamol, etc.)						
	Injections						
	Ordinary pharmaceuticals						
	Vitamins						
	Other Pharmaceuticals						
Industrials							
	Water Treatment						
	Gold Extraction						
	Catalytic Carrier						
	Petrochemicals						
	Galvanization						
	Agrochemicals						
	Dyestuffs						
	Air Purification						
	Automobile						

	Fertilizer desulfurization						
	Chemical decolorization						
	Other Industrial Areas						
Unidentifiable Industries							
	Total						

From the above table we found that Chinese wood base AC is mainly used for the following sections:

- starch sugar
- SMG
- Injection
- Pharmaceuticals
- Water treatment

While the nutshell base AC is mainly used for the following sections:

- Water treatment
- Gold extraction
- SMG
- Catalytic carrier

Table I-3.5-3 Comparison of application of wood base AC and nutshell base AC in some major substances

Food industry	Items	Total	% to total	Wood base AC	% to wood base AC	Nutshell base AC	% to nutshell base AC
	Sugar						
	Glucose						
	Sorbitol						
	Maltose						
	Saccharin						
	Cyclamate						
	Xylose/Xylitol						
	Stevioside						
	Citric acid						

	Sorbic acid /Potassium sorbate	██████████	██████████	██████████	██████████	██████████
	SMG	██████████	██████████	██████████	██████████	██████████
	Glucosamine	██████████	██████████	██████████	██████████	██████████
	Alcoholics	██████████	██████████	██████████	██████████	██████████
	Beverage (fruit juice, cola, etc.)	██████████	██████████	██████████	██████████	██████████
	Cystine	██████████	██████████	██████████	██████████	██████████
Pharmaceut icals	Vitamin C	██████████	██████████	██████████	██████████	██████████
Industrials	Tap water purification	██████████	██████████	██████████	██████████	██████████
	Life sewage disposal	██████████	██████████	██████████	██████████	██████████
	Industrial water disposal	██████████	██████████	██████████	██████████	██████████
	Vinyon catalytic carrier	██████████	██████████	██████████	██████████	██████████
Production in Total		██████████	██████████	██████████	██████████	██████████

From the above table we found that Chinese wood base AC is mainly used for the following substances:

- SMG
- glucose
- Beverage
- sugar (mainly for export)
- Tap water purification
- Industrial water disposal
- citric acid
- xylose/xylitol
- Alcoholics

While Chinese nutshell base AC is mainly used for the following substances:

- Tap water purification
- SMG
- Industrial water disposal

- Beverage
- Vinylon catalytic carrier

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