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## TECHNICAL INFORMATION OF SACF PLANT

# SINO-ARAB CHEMICAL FERTILIZERS COMPANY LTD., HEBEI, CHINA

### INTRODUCTION

Sino-Arab Chemical Fertilizers Company Ltd (SACF), the largest compound fertilizer company in China, is a joint venture established in 1985 by the three national corporations of China, Kuwait and Tunisia. SACF is located in the eastern suburb of Qinhuangdao, Hebei Province. Mutual benefits have made SACF a model of South-South Co-operation among the developing countries.

### PROCESS AND PRODUCTION

In 1985, SACF introduced the AZF process from France in its compound fertilizer production, with a designed annual capacity of 480,000 tons of DAP or 600,000 tons of NPK (17:17:17). The product was welcomed by the Chinese farmers because of its good quality and convenience in application. Later on, the Chinese shareholder, CNCCC (China National Chemical Construction Company) took the decision to build a new NPK plant and an auxiliary unit in Qinhuangdao and at another site, to satisfy the growing market requirement. By the construction of a new plant, the annual capacity currently stands at 1,200,000 tons per year of NPK. This will be expanded to 2,500,000 tons per year in future. The production plant is close to the ice-free port, where a pipeline of 3.2 kilometers was installed for unloading the phosphoric acid directly from the ship to the plant. Further, the transportation of solid raw materials, intermediates and finished products is also very convenient. By its partnership with "Qinhuangdao Huaying Phosphoric Acid Co. Ltd" and nearby ammonia corporations, SACF has further increased its choice of raw materials.

Plant/facility	Process	Engineering	Capacity(t/d)	Remarks
NPK 1	Double pipe reactor	AZF France	2 000	
NPK 2	Single-pipe reactor	AZF France	2 000	More grades of NPK can be produced
H <sub>3</sub> PO <sub>4</sub>	Two-water process	Jacobs USA	266 100%P <sub>2</sub> O <sub>5</sub>	Joint-venture between China and Japan

NPK 1 unit: It began production in 1990, the design capacity is 480,000 tpa DAP or NPK. The engineering is AZF, France. All equipment was imported from Europe. It was constructed by Speichim,-France, as the general contractor. Actual production was 480,000 tons in 1996; 600,000 tons in 1997 and 720,000 tons in 1998. Currently, there are more than 20 grades of NPK's produced.

NPK 2 unit: It began production in 2001, the design capacity is 600,000 tpa NPK. The patent is AZF, France. It is designed and constructed by ECEC (East China Engineering Corporation). Almost all equipment is domestic. More than 30 grades of NPK's are produced.

H3PO4 plant: It started production in 2000, the design capacity is 80,000 tpa P2O5 (100%). The concentration used is more than 50% P2O5 w/w. It has been producing at full capacity at present. The patent used is Jacobs (USA). The plant was designed and constructed by CWCEC (China Wuhuan Chemical Engineering Corp.), a local company.

There are some auxiliary plant facilities such as a 100,000 pieces per day fertilizer bag plant, H<sub>2</sub>SO<sub>4</sub> unloading and storage system, etc. The ammonia is supplied from the plant near Qinhuangdao by means of an underground pipeline whose length is more than 80 km.

SACF has always placed emphasis on product quality and marketing. Advanced technology and good management have produced good quality products. Its products have been honored as one of the best selling in China for the oversea markets. More than one hundred thousand tons of NPK products have been exported to Thailand, Pakistan, Indonesia, Japan, South Korea, Taiwan and others. SACF has produced close to thirty different grades of compound fertilizer products.

## **HONOR**

Because of its excellent performance and contribution in the field of fertilizer, SACF has been rewarded with many honors, such as "One of 100 China's Backbone Industrial Enterprises (1994)", "Best Selling in Chinese Market (1995)". It passed the ISO 9001 test in 1998 by the Beijing 9000 Certification Central.