

CHEMICAL PROFILE

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Dimethylaminoethyl Acrylate Quaternary

USES

Dimethylaminoethyl acrylate, methyl chloride quaternary or

[2-(Acryloyloxy)ethyl]trimethylammonium chloride (AETAC) is a water-soluble monomer, almost all used in the manufacture of cationic polyacrylamides. Major producers are forward integrated to polymer. About 58% of global AETAC is used in waste and wastewater treatment, 27% in pulp/paper, 5% in petroleum (mostly drilling fluid), and 2% each in cosmetics/personal care, mining and soil conditioning. Water management is the dominant segment in the United States and Western Europe, while paper uses dominate the Japanese market. Water management and paper uses are the major segments in Asia Pacific.

SUPPLY/DEMAND

Global capacity for AETAC stood at 256,000 ton/year in 2013, 42.2% in Asia Pacific, 27.3% in Western Europe, 23.4% in the US, and 7.1% in Japan. China is the largest producer in the world with a capacity of 108,000 ton/year. China is also the biggest AETAC consumer with 81,000 ton/year, followed by 60,200 ton/year in Western Europe, 52,000 ton/year in the US and 13,400 ton/year in Japan.

PRICING

Because of captive use, AETAC price is hard to verify in international market except in China where the merchant market is relatively large. The price in China in 2Q 2014 was negotiated between ¥23/kg and ¥27/kg. The prices in the US and Western Europe are higher by 15-20%.

TECHNOLOGY

AETA is produced by the reaction of dimethylaminoethyl acrylate with excess methyl chloride on copper nitrate catalyst, followed by two stage scrubbing and carbon adsorption. Both batch and continuous operations are practiced.

HEALTH and SAFETY

AETAC is highly toxic, may be fatal if inhaled, swallowed or absorbed through skin. Effects of contact or inhalation may be delayed. It is readily biodegradable.

OUTLOOK

Global demand growth is forecast at 6.3%/year to 2018, the highest growth rates being expected in China (9.1%/year). The growth rate in other regions will be in 3-4%/year range in the US and Western Europe, 2% in Japan and about 3-4% in the remaining regions.

The use in water management will be the fastest growing market segment, 10%/year in China and 8% globally, followed by pulp/paper at 6%/year.

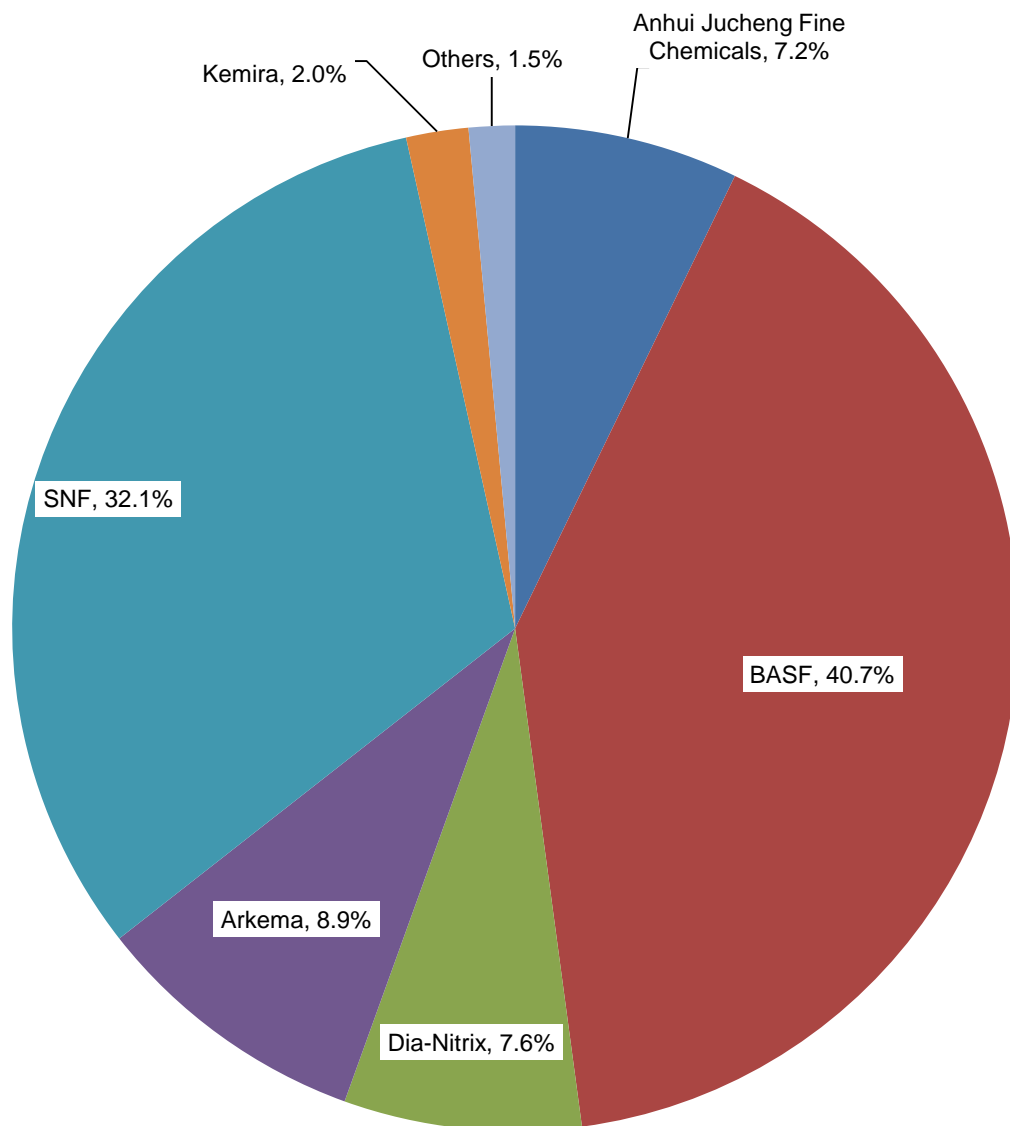
New projects are mainly being brought on-line by BASF, SNF, Arkema and CNPC, the main players in the AETAC market. No shortage of AETAC is expected by 2018.

MAJOR GLOBAL AETAC CAPACITY, '1000 TON/YEAR(*)

Company	Location	Capacity
Anhui Jucheng Fine Chemicals	Suixi EDZ, China	15.0
Arkema	Carling, France	20.0
BASF	West Memphis, AR, USA	30.0
	Bradford, England	25.0
	Nanjing, China	40.0
CNPC	Daqing, China	25.0
DIA NITRIX	Toyama, Niigata, Japan	6.0
	Otake, Japan	12.0
Kemira	San Giorgio, Italy	5.0
SNF	Riceboro, GA, USA	30.0
	Andrezieux, France	20.0
	Taixing, China	25.0

(*) Over 2 kt

GLOBAL MARKET SHARES FOR AETAC IN 2013



For more information about plant, market and site-specific/technology-specific investment and production cost data for AETAC and some 1000 more chemicals, please send your inquiries to trantech@chemplan.biz.