

CHEMICAL PROFILE

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ELAINE.BURRIDGE@ICIS.COM

BUTYL ACRYLATE

USES

Butyl acrylate (butyl-A) is used chiefly to make acrylic polymers and polyethylene (PE). It is used in formulating paints and dispersions for paints, inks, and adhesives. Other uses include cleaning products, antioxidant agents, amphoteric surfactants, aqueous resins and dispersions for textiles and papers.

In 2005, 39% of global demand came from coatings, 25% as a comonomer in PE, 17% in adhesives, 8% in textiles, 5% in polish/sanitizer, 2% each in printing/dyeing and pulp/paper, and 2% other uses.

SUPPLY/DEMAND

Global capacity stood at 1.83m tonnes/year in 2005, according to TranTech, with 622,730 tonnes/year in the US, 530,910 tonnes/year in Asia Pacific (excluding Japan), 319,090 tonnes/year in western Europe and 135,450 tonnes/year in Japan.

The US is the largest consumer at about 429,970 tonnes/year, followed by Western Europe at 412,630, Asia-Pacific at 365,960 tonnes/year. Japan and Latin America consume 113,500 tonnes/year and 94,850 tonnes/year, respectively. Global demand in 2005 was 1.65m tonnes.

PRICING

The price of butyl acrylate depends on its colour and purity. Most common butyl acrylate has an American Public Health Association colour index of less than 10 and minimum purity of 99.5%. European prices in quarter three were between €1.60/kg and €1.72/kg. Contract prices in September for the US and Asia-Pacific were \$2.14-2.25/kg and \$2.09-2.23/kg, respectively.

TECHNOLOGY

Butyl acrylate is made from ester grade acrylic acid and a small excess of butanol in a reactor bed at elevated temperature extracted at a yield of about 94-97%. It is usually integrated to an acrylic acid facility.

All the processes are based on the same principle of esterification; there are different catalysts, conditions and systems with variation in catalyst type, recycle of alcohol and quality of finished product. Available technology is limited. Most plants use the Nippon Shokubai process and another licensor is Mitsubishi. BASF, however, the largest scale manufacturer of acrylic acid and esters, does not release its technology.

HEALTH AND SAFETY

Butyl acrylate is a flammable, clear, colourless liquid with a sharp, fragrant, characteristic odour. It is slightly soluble in water and completely soluble in alcohols, ethers and most organic solvents. It irritates the eyes, skin and respiratory tract.

OUTLOOK

Global demand growth is forecast at 4.8%/year to 2010. Regionally, consumption will rise by 10%/year in Asia-Pacific, 5%/year in Africa, 6%/year in Asia and the Middle East, 4%/year in Australia, New Zealand and eastern Europe, 3%/year in Americas and western Europe, and 1%/year in Japan.

Formosa Plastics started a 182 000 tonnes/year unit in April 2006. In China, Shenyang Paraffin Wax and PetroChina Lanzhou Petrochemical will start units of 60,000 tonnes/year and 70,000 tonnes/year, respectively, by the end of 2006. Nippon Shokubai is expanding to 60 000 tonnes/year in Japan and to 52,000 tonnes/year in Indonesia. In 2007, Resolution plans to expand to 75 000 tonnes/year and Lucky will expand to 82,000 tonnes/year.

GLOBAL BUTYL ACRYLATE CAPACITY 2005
 '000 TONNE/YEAR

Company	Location	Capacity
American Acryl*	Bayport, Texas, US	50
Arkema	Carling, France	120
BASF	Guaratingueta, Brazil	60
	Ludwigshafen, Germany	110
BASF-Petronas	Kuantan, Malaysia	110
BASF-Sinopec	Nanjing, China	100
CNPC (Jilin Chemical)	Jilin, China	35
Dongfang Chemical	Beijing, China	60
Dow Chemical	Clear Lake, Texas, US	164
	Schkopau, Germany	40
	Taft, Louisiana, US	40
Formosa Plastics	Mailiano, Taiwan	60
	Kaohsiung	40
Idemitsu	Nagoya, Japan	20
JSC DOS (Akrylat)	Dzerzhinsk, Russia	31
Lucky	Yeosu, South Korea	41
Mitsubishi Chemical	Yokkaichi, Japan	70
Mitsubishi-Sasol	Sasolburg, South Africa	80
Nippon Shokubai	Niihama, Japan	45
	Cilegon, Indonesia	40
Resolution Specialty	Sokolov, Czech Republic	55
Rohm & Haas	Deer Park, Texas, US	309
Shanghai Huayi	Shanghai, China	15
Singapore Acrylic Ester	Pulau Sakra, Singapore**	40
StoHaas	Marl, Germany	50

* Nippon Shokubai/Arkema jv-Arkema owns acrylate business

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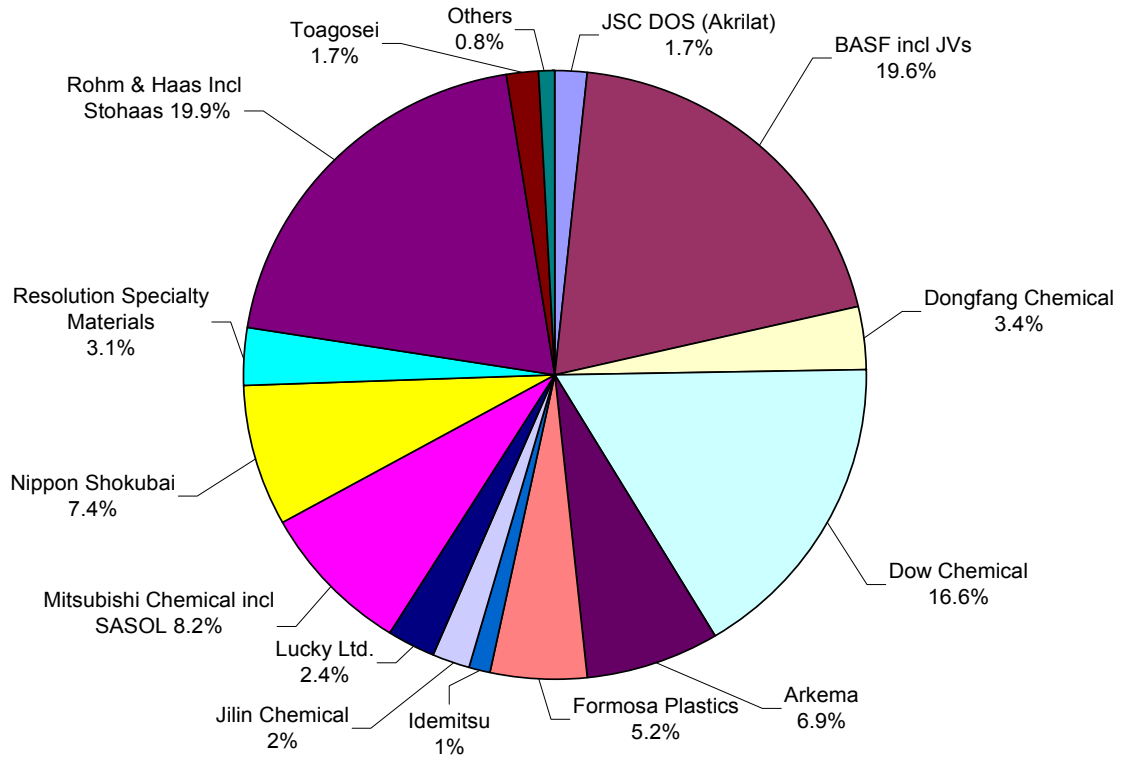
Source: TranTech

Profile provided by TranTech.

Tel: +1 610 647 7374

Email: amirnazmi@chemplan.com

Global Market Shares, Butyl Acrylate, 2005



SOURCE: TEANTECH