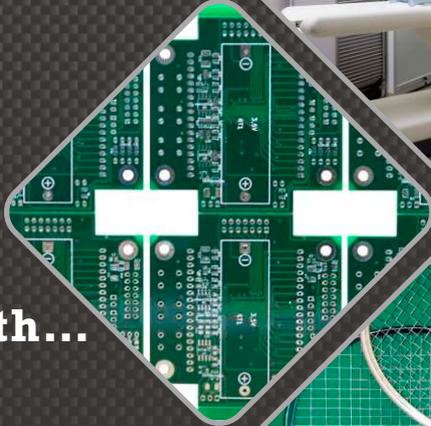


S U L F O N E S



**Energising possibilities...
Stimulating growth...**

LEGACY

Founded in 1947 by a legendary Indian, Kasturbhai Lalbhai, Atul Ltd (Atul), is amongst the first companies of independent India. It has the distinction of being the first private sector company of India to be inaugurated by the first Prime Minister of the country, Pandit Jawaharlal Nehru. It is part of the Lalbhai Group, one of the oldest diversified business houses of the country engaged in manufacturing since 1896. Ever since its inception, Atul has been committed to serving society, particularly in the areas of education, empowerment, health, relief, infrastructure and conservation.

PROFILE

The first site of Atul, spread over 1,250 acres of land, houses one of the largest and the greenest chemical complexes of its kind in the world. Starting with just a few textile dyes, the Company now manufactures 900 products and 450 formulations, managing complex chemical processes in a responsible way. It has also established fruitful and time-tested collaborations with leading multinational companies of the world.

Atul serves customers belonging to diverse industries including Adhesives, Agriculture, Animal Feed, Automobile, Composites, Construction, Cosmetic, Defence, Dyestuff, Electrical and Electronics, Flavour, Food, Footwear, Fragrance, Glass, Home Care, Horticulture, Hospitality, Paint and Coatings, Paper, Personal Care, Pharmaceutical, Plastic, Polymer, Rubber, Soap and Detergent, Sports and Leisure, Textile, Tyre and Wind Energy. In order to enhance customer focus, the Company has divided its product portfolio into seven businesses - Aromatics, Bulk Chemicals and Intermediates, Colors, Crop Protection, Floras, Pharmaceuticals and Intermediates and Polymers, and has established subsidiary companies in the USA, the UK, China, Brazil and the UAE.

PURPOSE

We are committed to significantly enhancing value for our Stakeholders by:

- fostering a spirit of continuous learning and innovation
- adopting developments in science and technology
- providing high quality products and services, thus becoming the most preferred partner
- having people who practice values and exemplify a high standard of behaviour
- seeking sustained, dynamic growth and securing long-term success
- taking responsible care of the surrounding environment
- improving the quality of life of the communities we operate in

POLYMERS BUSINESS

Epoxy resins, reactive diluents and curing agents are manufactured and marketed under the trade name 'Lapox®' by the Polymers Business of Atul. The manufacture of epoxy systems began in 1960 in Cibatul Ltd, a joint venture between the erstwhile Ciba-Geigy (Switzerland) and Atul. Following the disintegration of Ciba-Geigy, Cibatul was merged into Atul in 1999.

The state-of-the-art manufacturing facilities for these products are located in Atul complex, 200 km north of Mumbai. In addition to its leadership position within India, Polymers also sells to discerning customers outside the country. The Business has been awarded ISO 9001:2008 and ISO 14001.

Lapox® is a registered trademark of Atul Ltd.

Sulfones at Atul

The Polymers Business of Atul Ltd has been manufacturing aromatic sulfones for over 20 years. The manufacture of sulfones began with the API, Dapsone (4,4'-Diaminodiphenyl sulfone or 4,4'-DDS). Non-pharma applications of 4,4'-DDS were subsequently developed; today, one of its major applications is as an epoxy curing agent for carbon fiber composites in the aerospace industry. Over the years, Atul has evolved into a global leader in 4,4'-DDS, particularly for the aerospace industry. This has been enabled by the use of innovative manufacturing processes, including backward integration to 4,4'-DCDPS, a key intermediate.

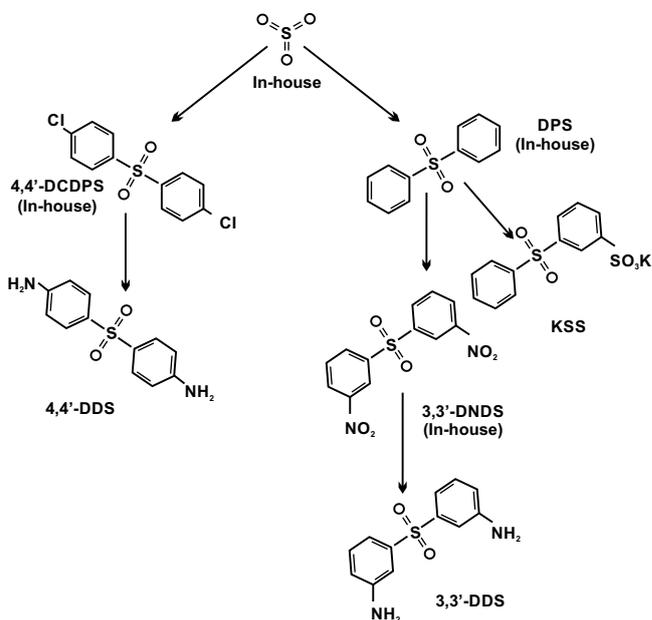
Sulfones product range

Lapox® grade	Appearance	Melting point	Purity by HPLC	Ash content	Median particle size
	—	°C	%	%	μ
ASH-10 (4,4'-Diaminodiphenyl sulfone)	White to off-white powder	176 - 185	Min 99.0	Max 0.10	—
ASH-10 MIC (4,4'-Diaminodiphenyl sulfone Micronised)	White to off-white powder	176 - 180	Min 99.0	Max 0.10	5 - 15
ASH-10 FF (4,4'-Diaminodiphenyl sulfone Free Flow)	White to off-white powder	176 - 185	Min 99.0	Max 0.10	—
ASH-11 (3,3'-Diaminodiphenyl sulfone)	White to brownish white powder	167 - 175	Min 99.0	Max 0.10	—
ASH-11 MIC (3,3'-Diaminodiphenyl sulfone Micronised)	Off-white to yellowish brown powder	167 - 175	Min 99.0	Max 0.10	Max 10
APIN-10 (4,4'-Dichlorodiphenyl sulfone)	White powder	147 - 150	Min 99.7	Max 0.10	—

*Method: Melting point - ASTM D1519; Ash content - Atul

Applications: Recommended for prepregs, carbon fiber composites, adhesives, high performance epoxy coatings, Electrical Moulding Compounds (EMC), copper clad laminates, thermal paper, flame retardant fibers, polysulfones, polyethersulfones and polyphenylsulfones.

Integrated chemistry at work



Our leadership in products for the aerospace industry is a result of process innovation and adaptability to customer demand by providing customised solutions. Our current consolidated manufacturing capacity is sufficient to meet growing demand for aerospace and high performance composites. Consistency of product quality and reliability of supplies are key factors considered by the aerospace industry. At Atul, we take extra care at every stage to comply with specific requirements and are considered a preferred supplier for this industry.

Key differentiators

- Fully backward integrated
- Continuous sulfonation technology
- Clean record of handling hazardous chemistries and processes
- Finest technical support
- DCS controlled operations
- Global leader for 4,4'-DDS and 3,3'-DDS
- Major supplier to the aerospace industry for over two decades

KEY MARKETS



NORTH AMERICA
Canada
USA

EUROPE
Belgium, Czech Republic
Finland, France, Germany
Hungary, Italy, Norway, UK

MIDDLE EAST
Iran, Kuwait, Oman
Saudi Arabia, Turkey, UAE

FAR EAST
China, Hong Kong
Japan, Korea, Taiwan

SOUTH AMERICA
Argentina
Brazil
Colombia
Peru

AFRICA
Algeria
Egypt
Kenya
Morocco
Tunisia

SOUTH ASIA
Bangladesh
India
Pakistan

SOUTH EAST ASIA
Indonesia
Malaysia
Singapore
Thailand

INDIA

Head office

Atul 396 020, Gujarat
India
Telephone: (+91 2632) 230000
E-mail: contact@atul.co.in

Registered office

Atul House
G I Patel Marg
Ahmedabad 380 014, Gujarat
India
Telephone: (+91 79) 26461294, 26463706

www.atul.co.in

Polymers Business - Mumbai (Goregaon)

1501 | 1502, C Wing, Lotus Corporate Park
Western Express Highway, Goregaon (East)
Mumbai 400 063, Maharashtra
India
Telephone: (+91 22) 39877700
E-mail: polymers@atul.co.in

Polymers Business - Mumbai (Dadar)

Atul House
310 B, Veer Savarkar Marg, Dadar (West)
Mumbai 400 028, Maharashtra
India
Telephone: (+91 22) 39876000

OUTSIDE INDIA

Atul Brasil Quimicos Limitada

Avenida Ipiranga, 318
Conjunto 1001, Sala 04, Bloco A
Republica, CEP 01046-010
Cidade de São Paulo
Brazil
Telephone: (+55 11) 985666355

Atul China Ltd

Room 806
Building 2E
Lane 686, Wuzhong Road
Shanghai 201 103
China
Telephone: (+86 21) 64753255

Atul Europe Ltd

1|B Dean Row Court
Summerfields Village Centre
Dean Row Road
Wilmslow SK92TB, Cheshire
United Kingdom
Telephone: (+44 1625) 539209

Atul Middle East FZ-LLC

Nucleotide Complex
Emirates Road, Floor 3, Office #43
Dubai Science Park, Al Barsha South
P.O. Box 500 767
Dubai
United Arab Emirates

Atul USA Inc

Office #400
6917 Shannon Willow Road
Charlotte
NC 28226
United States of America
Telephone: (+1 704) 5408460



POLYMERS



AROMATICS



BULK CHEMICALS
AND INTERMEDIATES



COLORS



CROP PROTECTION



FLORAS



PHARMACEUTICALS
AND INTERMEDIATES



Laibhai Group

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