Acrylic Acid Production from Propylene.

Business Ideas & Opportunities in Petrochemicals Sector
Acrylic acid (2-propenoic acid) is a highly reactive carboxylic acid that can react with itself to form polyacrylic acid, which is used as an absorbent in hygiene products. It also can react with alcohols to form acrylates (esters) that are used in a wide range of polymers. However, polymers commonly called acrylic (Plexiglas, textiles, etc.) contain acrylate monomers but are often produced from chemicals other than acrylic acid.
Applications

- Chemical compounding
- Chemical intermediate
- Detergent
- Industrial water treatment
**Uses**

Acrylic acid is used in the manufacture of plastics, in latex applications, in floor polish, in polymer solutions for coatings applications, emulsion polymers, paint formulations, leather finishing’s, and paper coatings. Acrylic acid is also used as a chemical intermediate.

One of the main applications is in the manufacture of superabsorbent polymers that can soak up large amounts of liquid and are used mainly in diapers and other hygiene products.
The primary use of acrylic acid is in the production of acrylic esters and resins, which are used primarily in coatings and adhesives. It is also used in oil treatment chemicals, detergent intermediates, water treatment chemicals, and water absorbent polyacrylic acid polymers. Acrylic acid is used widely for polymerization, including production of polyacrylates.

It is a monomer for polyacrylic and polymethacrylic acids and other acrylic polymers. It is used in the manufacture of plastics, as a tackifier, as a flocculant, in the production of water-soluble resins and salts, as a comonomer in acrylic emulsion and solution polymers and in molding powder for signs, construction units, decorative emblems and insignias. It is used in polymer solutions for coatings applications, in paint formulations, in leather finishings, in paper coatings, in polishes and adhesives and in general finishes and binders.
**Market Outlook**

Acrylic Acid Market size was valued at $12,584.1 million in 2015, and is expected to reach $19,509.4 million by 2022, supported by a CAGR of 6.6% during the forecast period 2016 to 2022.

Acrylic Acid is a derivative of Esters and Acrylates. They have a wide range of application in paper treatment, plastic additives, textiles, sealants, adhesives, and surface coatings. The prices of oil has been rising due to this manufacturers are using bio-based techniques to produce this unsaturated carboxylic acid and acrylates from renewable resources such as glycerol, sugar, etc.
Growing demand in emerging markets, increasing demand from end user industries and rising demand for high strength materials are factors fuelling the market growth. However, volatile prices of the raw materials and stringent government regulations are hindering the market growth. Moreover, demand for Polymethyl methacrylate (PMMA) resins in different industries provides ample opportunities for market growth.

Based on end user, personal care segment is projected to grow at a steady rate due to increasing demand for super absorbent polymers. Personal care products such as diapers and adult incontinence products are increasingly using super absorbent polymers.
Global supplies of acrylic acid are likely to remain strong over the next couple of years with emerging markets posting higher demand. Acrylic acid remains a sought-after industrial material, owing to its wide-ranging properties. Acrylic acid is a specialty chemical and finds widespread application in several large-scale industrial verticals. Construction, polymer and adhesive are some of its major end-use industries, which are exhibiting healthy growth. The aforementioned factors are expected to play a key role in governing the growth trends of the global acrylic acid market in the forthcoming years.
Global Acrylic Acid Market Volume, By Region, 2015 (Kilo Tons)
Industries are developing and commercializing processes for producing it from petrochemicals. Due to the rising price of oil globally, manufacturers are using bio-based techniques to produce this unsaturated carboxylic acid and acrylates from renewable resources such as glycerol, sugar, etc. Renewable feedstock shows cost competitive outcomes as compared to petrochemical routes. Applications in Detergents, Adult Incontinence and Personal Care Products have contributed to the increased demand for acrylic acid.
Major end users are diapers, surface coating, adhesives and sealants, plastic additive, water treatment, textiles and surfactants. Currently, the compound is majorly consumed in manufacturing diapers; this segment would dominate the sector through 2022. Acrylic based surfactants are used as binders that enhance the flexibility, gloss and durability of the coatings. Moreover, it increases the shelf life of paints; improve the stability of freeze-thaw and mechanical stability. These factors are driving the demand for the compound in surfactants industry.
The acrylates are widely used in detergents, flocculants, thickeners and dispersants. The acrylate esters were the largest derivative that was consumed globally. They provide several desirable properties to the polymers such as color stability, resistance to heat, clarity and weather-ability, thus being used widely in the coating and adhesives industry. The personal care products such as adult incontinence and diapers are majorly using the super absorbent polymers. Hence, there is an increase in demand for the super absorbent polymers, which is positively contributing to the market growth. The acrylic acid-based products are used in the textile industry where they are used as fillers in the padded jackets.
By geography, Asia Pacific is anticipated held largest market share due to rising derivatives consumption in surfactants, coatings, personal care products and adhesives. In addition, North America is expected to have considerable market share owing to increasing demand in end user industries and growing geriatric population in the U.S. and Canada.

Indian Acrylic Acid Market: Demand-Supply Gap

Demand for acrylic acid is estimated to reach 260 Kilo Ton Per Annum (KTPA) by 2020. Indian acrylic acid market has a huge supply demand gap of 200 KTPA. At present, the market is entirely import dependent due to absence of local manufacturers. As a result, there is a huge potential for local manufacturers to set up manufacturing facilities within the country in order to meet the growing demand.

Indian acrylic acid market is estimated to reach INR16.9 billion in 2020 from INR7.8 billion in 2012, growing at a Compounded Annual Growth Rate (CAGR) of 10.1%.
Indian Source of Raw Material

Propylene is the primary feedstock required for manufacturing acrylic acid.

- Reliance
- Indian Oil Corporation Ltd (IOCL)
- HPCL-Mittal Energy Limited (HMEL)
- Haldia Petrochem
- Bharat Petroleum Corporation Ltd (BPCL)
- Mangalore Refinery and Petrochem
- GAIL
- Hindustan Petroleum Corporation Ltd (HPCL)
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Niir Project Consultancy Services (NPCS) can provide Detailed Project Report on Acrylic Acid Production from Propylene.

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See more

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