

Manufacturing Process of Epoxy Resins

with Formulation

**(Synthesis, Epoxy Resin Adhesives
and Epoxy Resin Coatings)**



Introduction

Epoxy is a term used to denote both the basic components and the cured end products of epoxy resins, as well as a colloquial name for the epoxide functional group. Epoxy resin are a class of thermoset materials used extensively in structural and specialty composite applications because they offer a unique combination of properties that are unattainable with other thermoset resins.

Epoxy resins are characterized by epoxy equivalent (EEVV)/epoxy value, hydrolysable chlorine content, total chlorine content, viscosity/softening point, volatile content, colour, clarity, hydroxyl value, ionic iron, sodium and chlorine contents.

Epoxy resins are a group of synthetic resins, which are used to make adhesives and plastics. Owing to their versatility, high resistance to chemicals, durability, excellent adhesion, toughness, high electrical resistance, strong durability at both low and high temperatures, and ease they offer while pouring on cast without forming any bubbles, epoxy resins are becoming an integral part of various commercial and industrial sectors.

Epoxy based solution coatings are used in maintenance and product finishes, marine finishes, masonry finishes, structure steel coatings and tank coatings, aircraft finishes, appliance primers, automotive primers, car and drum linings, furniture finishes and collapsible tube coatings.

They are used for concrete floor paints, gym and floor varnishes, spar varnishes etc. Epoxy Resins are also used in decorative floor applications, as chemically resistant mortars and floor topping compound; in printing inks, in fabric treating applications in dental, surgical and prosthetic applications for breaking petroleum emulsions and for light weight chemically resistant foams. The epoxy resins are used as additives for a variety of other plastic materials, such as vinyl and acrylic resins and natural and synthetic rubbers.

The epoxy resin market is driven by its increasing demand in various applications such as coatings, adhesives, and composites.

The paints & coatings segment is the largest application and is projected to remain the same in the overall epoxy resin market, in terms of volume, during the forecast period. Economic expansion in the developing countries of Asia-Pacific will increase the demand of epoxy resin for paints & coatings application in building & construction and automotive end-use industries.

The global epoxy resin market is expected to reach USD 14.26 billion by 2024. The market is witnessing a moderate growth rate owing to increasing applications, technological advancements, and growing demand in Asia-Pacific. Epoxy resin is largely used in paints & coatings applications.

The market is anticipated to be driven by end-use industries including automotive, aerospace, transportation, composites, decorative coatings, construction, industrial & marine coatings, electrical & electronics, especially in Asia Pacific. Epoxy resins are the most preferred thermoplastics for manufacturing composite materials owing to their superior properties as compared to other materials.

The major contents of the book are synthesis and characteristics of epoxy resin, manufacture of epoxy resins, epoxide curing reactions, the dynamic mechanical properties of epoxy resins, physical and chemical properties of epoxy resins, epoxy resin adhesives, epoxy resin coatings, epoxy coating give into water, electrical and electronic applications, analysis of epoxides and epoxy resins and the toxicology of epoxy resins.

It will be a standard reference book for professionals and entrepreneurs. Those who are interested in this field can find the complete information from manufacture to final uses of epoxy resin. This presentation will be very helpful to new entrepreneurs, technocrats, research scholars, libraries and existing units.

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Comment

Niir Project Consultancy Services (NPCS)

can provide Process Technology Book on

Epoxy Resins

(Manufacturing Process, Synthesis, Epoxy Resin Adhesives and Epoxy Coatings)

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Our Approach

Requirement collection

Thorough analysis of the project

Economic feasibility study of the Project

Market potential survey/research

Report Compilation



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- *Rubber And Rubber Products*
- *Soaps And Detergents*
- *Stationary Products*
- *Spices And Snacks Food*
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