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.
# Table of Contents

1. *Synthesis and Characteristics of Epoxy Resin*
   - Introduction
   - Structure of Epoxides
   - Epoxipation of Unsaturated Hydrocarbons
   - Catalytic Oxidation of Ethylene and Higher Olefins
   - Epoxidation by Peroxy Acids and Their Esters
   - Preparation of Peroxy Acids
   - In Situ Epoxidation
   - The Epoxidation Mechanism
   - Unsaturated Materials
   - Epoxidation by Inorganic Peroxy Acids
   - Epoxidation with Aliphatic and Aromatic Hydrocarbon Hydroperoxides
   - Epoxidation with Chromic Acid and Chromyl Compounds
   - Biological Epoxidation
   - Dehydrohalogenation of Substituted Hydroxyl Compounds
   - The Epoxidation Mechanism
   - Halohydrin Formation

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<table>
<thead>
<tr>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epoxides from Epichlorohydrin</td>
</tr>
<tr>
<td>Glycidyl Ethers</td>
</tr>
<tr>
<td>Glycidyl Esters</td>
</tr>
<tr>
<td>Nitrogen-Containing Epoxides</td>
</tr>
<tr>
<td>Thioglycidyl Epoxides</td>
</tr>
<tr>
<td>Silicon-Containing Epoxides</td>
</tr>
<tr>
<td>Organophosphorus Epoxides</td>
</tr>
<tr>
<td>Halogen-Containing Epoxides</td>
</tr>
<tr>
<td>Epoxides from Hydroxy Sulfonates or Halogenated Acetates</td>
</tr>
<tr>
<td>Epoxides from Glycols</td>
</tr>
<tr>
<td>Epoxidation by Condensation</td>
</tr>
<tr>
<td>Darzens Glycidic Ester Condensations</td>
</tr>
<tr>
<td>Epoxides from Ylids</td>
</tr>
<tr>
<td>Epoxides from Halogenated Ketones and Nickel Carbonyl</td>
</tr>
<tr>
<td>Epoxides from the Reaction of Diazomethane with Aldehydes or Ketones</td>
</tr>
<tr>
<td>Epoxides Containing Unsaturation</td>
</tr>
<tr>
<td>Conclusions</td>
</tr>
</tbody>
</table>

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2. Manufacture of Epoxy Resins
   - Raw Materials
   - Manufacture
   - Plant Location
   - Machinery Needed
   - Profit

3. Epoxide-Curing Reactions
   - The Effect of Epoxide Structure on Reactivity with Curing Agents
   - The Mechanism of the Curing Reaction
   - Polyaddition Reactions
   - Polyamines
   - Polyamides
   - Polyureas
   - Polyurethanes
   - Polyisocyanates
   - Polymercaptans
   - Polyhydric Alcohols
   - Polyphenols

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4. The Dynamic Mechanical Properties of Epoxy Resins

Basic Parameters
The Glassy Transition and Dynamic Mechanical Dispersion
Temperature and Frequency Interdependence
Experimental
Results and Discussion
Standard Measurements
Dynamic Measurements
Comparison of Results
Treatment by Reduced Variables
Conclusions
5. Physical and Chemical Properties of Epoxy Resins

- Solubility and Surface Properties
- Network Structure and Physical Properties
- Aging and Chemorheology
- Bisphenol a Epoxy Homopolymers and Copolymers
- Thermal Transition Effects
- Dynamic Mechanical Response
- Relaxation and Fracture Properties
- Properties Compared with Elastomers and Thermoplastics

6. Epoxy Resin Adhesives

- Introduction
- Theories of Adhesion and Adhesive-joint Strength
- Wetting and Spreading Phenomena
- Boundary-Layer Theory
- Surface-Attachment Theory of Adhesive-Joint Strengths
- Stress Distribution in Adhesive Joints
- Rheological Aspects of Adhesives
- Unified Interpretation of Adhesive-Joint Strengths
- Physical and Mechanical Aspects of Epoxy-Resin Adhesives
Dynamic Mechanical Techniques
Mechanical Behavior of Epoxy Adhesives During Joint Formation
Strength of Adhesive Materials
Chemical Aspects of Epoxy-based Adhesives
Curing Agents for Bisphenol A Epoxy Adhesives
Modifiers for Bisphenol A Epoxy Adhesives
Adhesives Based on Other Epoxy Materials
Technological Properties of Epoxy-adhesive Systems
Cure and Thermal Softening Behavior of Epoxy Adhesives
Stress and Environmental Durability of Adhesive Joints
Applications of Epoxy Adhesives
Future Prospects

7. **Epoxy Resin Coatings**
   Classification of Epoxy-Resin Coatings
   Epoxy Resins Commonly Used in Coatings
   Epoxy-Resin Esters
   Esters Produced from Solid Epoxy Resins
   General Remarks

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<table>
<thead>
<tr>
<th>Formulation Latitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>Esters Produced from Liquid Epoxy Resins</td>
</tr>
<tr>
<td>Precatalyzed Liquid Epoxy Resin for the Production of Solid Epoxy Resins and Epoxy-Resin Esters</td>
</tr>
<tr>
<td>Cooking Procedure</td>
</tr>
<tr>
<td>“Two-Step” Liquid-Epoxy-Resin Route to Epoxy-Resin Esters</td>
</tr>
<tr>
<td>Cooking Procedure</td>
</tr>
<tr>
<td>Solid-Epoxy-Resin Solution Coatings</td>
</tr>
<tr>
<td>Cold-Cured Epoxy-Resin Systems</td>
</tr>
<tr>
<td>Polyamine Curing Agents</td>
</tr>
<tr>
<td>Polyamine-Adduct Curing Agents</td>
</tr>
<tr>
<td>Polyamide-Resin Curing Agents</td>
</tr>
<tr>
<td>Polyamide-Adduct Curing Agents</td>
</tr>
<tr>
<td>Tertiary Amine Curing Agents</td>
</tr>
<tr>
<td>Industrial Maintenance Coatings Based on Cold-Cured Epoxy-Resin Systems</td>
</tr>
<tr>
<td>High-Film-Build Cold-Cured Epoxy-Resin Coatings</td>
</tr>
<tr>
<td>Application Instructions</td>
</tr>
<tr>
<td>Manufacturing Instructions</td>
</tr>
</tbody>
</table>

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Epoxy Baking Finishes
Epoxy-Phenolic Coating Systems
Epoxy-Urea-Formaldehyde Resin Coating Systems
Epoxy-Thermosetting Acrylic Coating Systems
Liquid Epoxy Resins in Solventless and Super-High-Solids Systems
Special Application Equipment and Formulation for Solventless Systems
Manufacturing Instructions
Application
Ketimine Curing Agents
Manufacturing Instructions
Application
Curing Characteristics
Powder Coatings
Application Equipment
Epoxy-Resin Powder-Coating Formulations
Fusion-Produced Epoxy-Resin Powders
Manufacturing Instructions
Applications Instructions
Dry-blended Epoxy-Resin Powders
Manufacturing Instructions
Application Instructions
Properties and Applications
Thermoplastic Epoxy Resins
Zinc-Rich and General Purpose Shop Primers
Manufacturing Instructions
Application Instructions
Manufacturing Instructions
Application Instructions
Thermoplastic-Epoxy-Resin Crosslinked Systems
Water-Reducible Epoxy Resin Coatings
Water-Reducible Epoxy-Ester Baking Finishes
Manufacturing Instructions
Application Instructions
Water-Reducible Polyamide-Cured Epoxy-Resin Coatings
Manufacturing Instructions
Application Instructions
Water-Reducible Epoxy-Resin Coatings for Electrodeposition
General Remarks
Cooking Procedure
Application Instructions

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8. Epoxy Coating Give into Water

9. Electrical and Electronic Applications: Sealants and Foams
   Electronic and Electrical Applications
   Introduction
   Casting
   Potting
   Encapsulation
   Coatings
   Sealing
   Molding
   Formulation of the Resin System
   Internal Stresses
   Rapid Cures
   Flexibilizing Epoxy Resins
   Fillers
   Reactive Diluents
Cycloaliphatic Epoxides
High-Temperature Epoxy-Resin Systems
Flame-Retardant Epoxy Resins
Colorless Epoxy Resins
Epoxy Formulations
Molding
Molding Compounds
Molding Technology
Liquid-Injection Molding
Pellets and Preforms
Epoxy Sealants
Epoxy Foams
Gas-Blown Foams
Syntactic Foams
One-Package Foams
Epoxy-Foam Applications
Epoxy Strippers
Handling of Epoxy Casting Systems
10. Analysis of Epoxides and Epoxy Resins

Uncured Epoxy Resins
Qualitative Tests
Detection of Free Epoxy Groups
Determination of Epoxy Group — Lithium-Chloride Test
Reagents
Procedure
Determination of Epoxy Group — Periodic Acid Test
Reagents
Procedure
Determination of Epoxy Group — Pyrolysis Test
Reagents
Procedure
Determination of Epoxy Group — Lepidine Test
Reagents
Procedure
Detection of the Bisphenol A Skeleton
Reagents
Procedure

Determination of Bisphenol A Epoxy Resins in Coatings—Nitric Acid Test

Reagents

Procedure

Determination of Bisphenol A Epoxy Resins—Filter-Paper Test

Reagents

Procedure

Determination of Bisphenol A Epoxy Resin—Formaldehyde Test

Reagents

Procedure

Determination of Bisphenol A Epoxy Resins—Phenylenediamine Test

Reagent

Procedure

Detection of Epoxy Resins Based on 4,4′-Diamino-diphenylmethane

Determination of Epoxy Resins Based on 4,4′-Diaminodiphenylmethane

Reagents

Procedure

Detection of Other Epoxy Resins
Quantitative Tests of the Epoxy Group
Hydrohalogenation Methods
Estimation of Epoxy Group—Hydrochloric Acid in Dioxane, Methyl Ethyl Ketone, or Dimethylformamide
Reagents
Procedure
Calculations
Estimation of the Epoxy Group—Pyridinium Chloride in Pyridine
Reagents
Procedure
Hydrohalogenation by Direct Titration
Estimation of Epoxy Group
Reagents
Procedure
Calculations
Other Chemical Methods
Estimation of Other Functional Groups
Hydroxyl Group
a-Glycol Group
Estimation of a-Glycol Group
Thin-Layer and Gel-Permeation Chromatography
Handling Properties
Molecular Weight
Softening Point
Viscosity
Color
Blends and Compounds
Hardeners and Accelerators
Organic Acid Anhydrides
Determination of Acid and Anhydride Content
Reagents
Procedure
Calculations
Amines
Determination of Amine Number
Reagents
Procedure
Calculation
The Curing Process
11. The Toxicology of Epoxy Resins

Introduction
Experimental Method
Materials
Acute Toxicity
Chronic Toxicity
Irritation
Sensitization
Results
Acute Toxicity
Chronic Toxicity
Irritation
Sensitization
Medical Experience with Epoxy Resins
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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- We adopt a systematic approach to provide the strong fundamental support needed for the effective delivery of services to our Clients’ in India & abroad.

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- Market Research Reports
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- Databases on CD-ROM
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- Embassies & Consulates
- Consultancies
- Industry / trade associations
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- Adhesives, Industrial Adhesive, Sealants, Glues, Gum & Resin
- Activated Carbon & Activated Charcoal
- Aluminium And Aluminium Extrusion Profiles & Sections,
- Bio-fertilizers And Biotechnology
- Breakfast Snacks And Cereal Food
- Bicycle Tyres & Tubes, Bicycle Parts, Bicycle Assembling
Sectors We Cover

- Bamboo And Cane Based Projects
- Building Materials And Construction Projects
- Biodegradable & Bioplastic Based Projects
- Chemicals (Organic And Inorganic)
- Confectionery, Bakery/Baking And Other Food
- Cereal Processing
- Coconut And Coconut Based Products
- Cold Storage For Fruits & Vegetables
- Coal & Coal Byproduct
Sectors We Cover

- Copper & Copper Based Projects
- Dairy/Milk Processing
- Disinfectants, Pesticides, Insecticides, Mosquito Repellents,
- Electrical, Electronic And Computer based Projects
- Essential Oils, Oils & Fats And Allied
- Engineering Goods
- Fibre Glass & Float Glass
- Fast Moving Consumer Goods
- Food, Bakery, Agro Processing
Sectors We Cover  Cont...

- Fruits & Vegetables Processing
- Ferro Alloys Based Projects
- Fertilizers & Biofertilizers
- Ginger & Ginger Based Projects
- Herbs And Medicinal Cultivation And Jatropha (Biofuel)
- Hotel & Hospitality Projects
- Hospital Based Projects
- Herbal Based Projects
- Inks, Stationery And Export Industries
Sectors We Cover  Cont...

- Infrastructure Projects
- Jute & Jute Based Products
- Leather And Leather Based Projects
- Leisure & Entertainment Based Projects
- Livestock Farming Of Birds & Animals
- Minerals And Minerals
- Maize Processing(Wet Milling) & Maize Based Projects
- Medical Plastics, Disposables Plastic Syringe, Blood Bags
- Organic Farming, Neem Products Etc.
Sectors We Cover

- Paints, Pigments, Varnish & Lacquer
- Paper And Paper Board, Paper Recycling Projects
- Printing Inks
- Packaging Based Projects
- Perfumes, Cosmetics And Flavours
- Power Generation Based Projects & Renewable Energy Based Projects
- Pharmaceuticals And Drugs
- Plantations, Farming And Cultivations
- Plastic Film, Plastic Waste And Plastic Compounds
- Plastic, PVC, PET, HDPE, LDPE Etc.
Sectors We Cover  Cont...

- Potato And Potato Based Projects
- Printing And Packaging
- Real Estate, Leisure And Hospitality
- Rubber And Rubber Products
- Soaps And Detergents
- Stationary Products
- Spices And Snacks Food
- Steel & Steel Products
- Textile Auxiliary And Chemicals
Sectors We Cover

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- Waste Management & Recycling
- Wood & Wood Products
- Water Industry (Packaged Drinking Water & Mineral Water)
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