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.

Epoxies are monomers or prepolymer that further reacts with curing agents to yield high performance thermosetting plastics. They have gained wide acceptance in protecting coatings, electrical and structural applications because of their exceptional combination of properties such as toughness, adhesion, chemical resistance and superior electrical properties. Epoxy resins are characterized by the presence of a three membered cycle ether group commonly referred to as an epoxy group 1,2-epoxide, or oxirane. The most widely used epoxy resins are diglycidyl ethers of bisphenol-A derived from bisphenol-A and epichlorohydrin.

The market of epoxy resins are growing day by day. Today the total business of this product is more than 100 crores. Epoxy resins are used for about 75% of wind blades currently produced worldwide, while polyester resins account for the remaining 25%. A standard 1.5-MW (megawatt) wind turbine has approximately 10 tonnes of epoxy in its blades. Traditionally, the markets for epoxy resins have been driven by demand generated primarily in areas of adhesives, building and civil construction, electrical insulation, printed circuit boards, and protective coatings for consumer durables, amongst others.

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.
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
   Haloxydrin Formation
   Epoxides from Epichlorohydrin
   Glycidyl Ethers
   Glycidyl Esters
   Nitrogen-Containing Epoxides
   Thioglycidyl Epoxides
   Silicon-Containing Epoxides
   Organophosphorus Epoxides
   Halogen-Containing Epoxides
   Epoxides from Hydroxy Sulfonates or Halogenated Acetates
   Epoxides from Glycols
   Epoxidation by Condensation
   Darzens Glycidic Ester Condensations
   Epoxides from Ylids
   Epoxides from Halogenated Ketones and Nickel Carbonyl
   Epoxides from the Reaction of Diazomethane with Aldehydes or Ketones
   Epoxides Containing Unsaturation
   Conclusions

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
Polycarboxylic Acids
Polybasic Acid Anhydrides
Silanes and Silanols
Others
Polymerization
Anionic Catalysts
Cationic Catalysts

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
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

Formulation Latitude

Esters Produced from Liquid Epoxy Resins

Precatalyzed Liquid Epoxy Resin for the Production of Solid Epoxy Resins and Epoxy-Resin Esters

Cooking Procedure

“Two-Step” Liquid-Epoxy-Resin Route to Epoxy-Resin Esters

Cooking Procedure

Solid-Epoxy-Resin Solution Coatings

Cold-Cured Epoxy-Resin Systems

Polyamine Curing Agents

Polyamine-Adduct Curing Agents

Polyamide-Resin Curing Agents

Polyamide-Adduct Curing Agents

Tertiary Amine Curing Agents

Industrial Maintenance Coatings Based on Cold-Cured Epoxy-Resin Systems

High-Film-Build Cold-Cured Epoxy-Resin Coatings

Application Instructions

Manufacturing Instructions

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
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
Determination of Bisphenol A Epoxy Resins—Mercuric Oxide and Nitric Acid Tests
Reagents
Procedure
Determination of Bisphenol A Epoxy Resins in Coatings—Nitric Acid Test Reagents
Reagent
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
\[ \text{\textalpha-Glycol Group} \]

Estimation of \textalpha-Glycol Group

Reagents

Procedure

Calculation

Chlorine

Esterification Equivalent Weight

Estimation of Esterification Equivalent Weight

Reagents

Procedure

Calculation

Infrared Spectroscopy

Technique

Epoxide Absorption Bands

Epoxy Resins

Quantitative Estimation

Following the Degree of Cure

Other Physical Methods

Ultraviolet Spectroscopy

Electron Spin and Nuclear Magnetic Resonance Methods

Gas Chromatography

Paper Chromatography

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

Curing Characteristics of Epoxy Resin-Hardener Systems

Determining the Degree of Cure

Analysis of Cured Epoxy Resins

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

12. Photographs of Machinery with Suppliers
Contact Details

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