

The Complete Book on Rubber Chemicals

Author:- NPCS Board of Consultants & Engineers

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Rubber Chemicals are essential additives for the manufacture and quality improvement of rubber products such as automobile tires, rubber hoses, and quake absorbing rubbers. For rubber processing and compounding certain chemicals are required which are known as rubber chemicals. The primary requirement of adding different compounding ingredients to develop the different grades of rubber compounds to meet various service needs at an economic price and to provide certain desired physical properties to a considerable extent. Some of the examples of rubber chemicals are waxes, amines, thiazoles, silicone resins, alcohol, sulphuric acids, dithiocarbamates, phosphoric acid etc. They are mostly applicable for white and coloured rubber. They are generally used in rubber tubing, conveyor belt cover balloons, hot water bottles injection bottle caps, footwear related items etc. Indian rubber chemical industry has high growth potential triggered by increased consumption and steady growth in tyre and rubber industries. The speciality chemicals industry in India is projected to grow at 15-17 % per year to reach \$ 80-100 billion by 2020. The demand for rubber chemicals is on the rise. All major manufacturers have raised the prices of their products substantially. Massive investment is expected to flow into the rubber chemicals manufacturing sector in India in the coming years from both domestic and global players.

The book covers different types, physical and chemical properties, applications of different rubber chemicals like waxes, synthetic organic chemicals, amines, silicones resins, releasing agents, stabilizers, solvents and many more. Some of the fundamentals of the book are synthetic hydrocarbon waxes, uses of amines in polymers, synthetic organic chemicals, analysis of specific anti-degradants, stabilization of halogenated polymers, anaerobic fermentations, the manufacture of sulfuric acid, analysis of dithiocarbamate esters, sodium hyposulfite (hydrosulfite), citric acid, gluconic acid, acetic acid, itaconic acid, kojic acid etc.

Rubber chemicals have a huge potential growth in future and considering the importance of the chemical we have brought out this book which will be an invaluable resource to rubber chemical manufacturers, technocrats, researchers, consultants and new entrepreneurs.

1. Waxes

Petroleum Waxes

Paraffin Waxes

Microcrystalline Waxes

Uses

Test Methods

Safety

Natural Waxes
Vegetable Waxes
Animal Waxes
Mineral Waxes
Synthetic Waxes
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2. Amines
Physical Properties
Chemical Properties
Manufacture
Uses of Amines in Polymers
Catalysts
Solvents
Emulsifiers
Compounding and Finishing
3. Thiazoles
Antifungal Activity
4. Synthetic Organic Chemicals
Chemicals Derived from Methane
Synthesis Gas
Chlorinated Methanes
Acetylene
Carbon Disulfide
Chemicals Derived from Ethylene
Polyethylene
Ethylene Oxide
Chlorinated Hydrocarbons
Ethanol
Ethylbenzene
Acetaldehyde, Acetic Acid, Vinyl Acetate
Ethylene Oligomers
Chemicals Derived from Propylene
Isopropyl Alcohol
Polypropylene
Acrylonitrile
Propylene Oxide
Dodecene, Nonene, Cumene
Oxochemicals
Glycerine
Butanes, Butylene, LPG and Higher Aliphatic Hydrocarbons
LPG and n-Butane
Isobutane
n-Butylenes
Isobutylene
n-Pentane and Cyclopentane
Isopentane
n-Paraffins, Monoolefins, Primary and Secondary Higher Alcohols
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Benzene Products
Toluene Products
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Naphthalene Chemicals

Other Polymethylbenzenes

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Surfactants and Specialties

Emulsions

Greases and Compounds

Surfactants

Primers and Adhesion Promoters

6. Silicone Fluids

Silicone Elastomers

Azine and Related Dyes

Methods of Manufacture

Commercial Grade and Specifications

Methods of Analysis

Identification

Assay Methods

Application Methods

Determination of Impurities

7. Antioxidants and Antiozonants

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Antiozonants

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Paper Chromatography

Adsorption Chromatography

Thin-Layer Chromatography

Color Tests for Antidegradants

Spectrophotometric Identification of Antidegradants

Quantitative Determination

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N-Phenyl-2-Naphthylamine

Separation and Identification

Assay Methods

Determination in Mixtures

Acetone-diphenylamine Reaction Products

Separation and Identification

Assay Methods

Determination in Mixtures

1,2-Dihydro-2,2,4-trimethyl-6-ethoxyquinoline

N-1,3-Dimethylbutyl-NTM-phenyl-p-phenylenediamine

Separation and Identification

Assay Methods

Determination in Mixtures

N,NTM-Di-3-(5-methylheptyl)-p-phenylenediamine

Separation and Identification

Assay Methods

Determination in Mixtures

2,6-Di-tert-butyl-p-cresol

Separation and Identification

Assay Methods

Determination in Mixtures

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- Analysis of Dithiocarbamate Esters
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- Analysis of Thiuram Disulfides
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- Hydrochloric Acid
- Sodium Silicate
- Bromine and Bromides
- Sodium Sulfides
- Sodium Thiosulfate
- Sodium Bisulfate, Anhydrous
- Sodium Hyposulfite (Hydrosulfite)
- Caustic Soda and Chlorine
- Electrolysis of Brine
- Concentration of the Caustic Liquor
- The Mercury Cell
- Hydrogen Disposal
- Other Processes for the Production of Chlorine
- Liquid Chlorine
- Bleaches
- 14. Organic Acids
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- Itaconic Acid
- Kojic Acid
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- Sorbose
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- Ampholytic Surfactants
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- Industrial Phosphates
- Sodium Pyrophosphate
- Wet-Process Phosphoric Acid
- Potassium Salts
- Soluble Potassium Salts
- Potassium Nitrate
- Types of Volatile Solvents

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NIIR PROJECT CONSULTANCY SERVICES, 106-E, Kamla Nagar, New Delhi-110007, India.
Email: npcs.india@gmail.com **Website:** NIIR.org

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