Emulsifier is an organic compound that encompasses in the same molecule two dissimilar structural groups e.g. water soluble and a water insoluble moiety. It is the ingredient which binds the water and oil in a cream or lotion together permanently. The composition, solubility properties, location and relative sizes of these dissimilar groups in relation to the overall molecular configuration determine the surface activity of a compound. Emulsifiers are classified on the basis of their hydrophilic or solubilizing groups in to four categories anionic, non ionic, cationics and amphoterics. Emulsifier is utilized in various industries; agriculture, building and construction, elastomers & plastics, food & beverages, industrial cleaning, leather, metals, paper, textiles paints & protective coatings etc. An emulsion is an ideal formulation for the administration. The emulsion form allows uniform application of a small amount of active ingredient on the surface of the skin. Some of the important emulsions in different field are pharmaceutical emulsions, rosin & rubber emulsion, textile emulsions, pesticide emulsions, food emulsions, emulsion in paint industry, emulsion in polish industry, leather & paper treatment emulsions etc. Various cosmetics creams, such as moisturizers, contain emulsifiers. Lighter, less greasy feeling creams are oil in water emulsions; heavier creams used to treat rough skin are water in oil emulsions, with oil as the main ingredient. Liquid soaps, toothpastes and other body care products also contain emulsifiers. Emulsifiers have the ability to optimize the concentration of certain nutrients in an emulsion. For example, in hair conditioners, some conditioning agents can damage hair if not properly diluted in the solution. Emulsifiers are among the most frequently used types of food additives. Emulsifiers can help to make a food appealing. Emulsifiers have a big effect on the structure and texture of many foods. Increasing demand for low fat food among health conscious consumers is gradually driving the market for emulsifiers. Besides stabilizing emulsions, emulsifiers derived from non hydrogenated fats help in maintaining sensory characteristics of food such as texture, flavor, and taste that are often lost due to fat reduction. This characteristic of making healthier products similar in taste to fat containing versions has enabled emulsifiers in gaining widespread acceptance in the market. The global food industry is also witnessing increase in demand for multipurpose emulsifiers that perform functions of both stabilization and emulsification. Some of the fundamentals of the book are characteristics and application of emulsifiers, wetting and detergent structures in emulsifier, effect of surfactant on the properties of solutions, wetting characteristics of emulsifiers, formulated emulsifiers, non surfactant functional additives, inert fillers, functional surfactant additives, uses of emulsifiers, household and personal products, industrial uses of emulsifier, anionic surfactants, non ionic surfactants, cationic, amphoteric and enzyme, alkylolamides, vinylarene polymers, alkyl sulfates, ethoxylation processes, application of emulsifiers, etc. The present book contains manufacturing processes of various types of emulsifiers which have applications in different industries, along with photographs of machinery and equipments. This is a resourceful book for scientists, technologists, entrepreneurs and ingredients suppliers.
Contents

1. Characteristics and Application of Emulsifiers

2. Industrial Uses of Emulsifier

3. Anionic Surfactants

4. Non-Ionic Surfactants

5. Cationic, Amphoteric and Enzyme Detergents

6. Sulfonated Oils
   Historical Background, Chemistry of Sulfation and Sulfonation, Applications of Sulfonated Oils, Manufacture of Sulfonated Oils, Sulfation, Sulfonation, Sulfation of individual Oils, Characteristics and Analysis of Sulfonated Sulfated Oils.

7. Alkylolamides

8. Vinylarene Polymers
   Monomers, Anionic Polymerization, Polymer Reactions, Stereoregular Polymerization, Cationic Polymerization, Free-Radical Polymerization, Polymer
Properties, Electrical Properties, Utility and Application.

9. N-Acyl-N-Alkyltaurates

10. Vinylamine Polymers

11. Alkyl Sulfates
    Introduction, Manufacture of Alcohols, Properties and Performance Characteristics of Alkyl Sulfates, Krafft Point, Critical Micelle Concentration, Surface and Interfacial Tens- ions, Wetting Time, Foam Height, Detergency, Dishwashing Test, Emulsion Stability, Manufacture of Alkyl Sulfates, Sulfation with Chlorosulfonic Acid, Sulfation with Sulfuric Acid, Sulfation with Sulfur Trioxide, Manufacture of Alkyl Sulfated on Large Scale, Formulated Products from Alkyl Sulfates.

12. N-Vinyl Amide Polymers
    Monomers, Manufacture, Polymerization, Properties of Polyvinyl Amides), Other Polyvinyl Amides), Uses, Cosmetics and Toiletries, Textiles and Dyes, Pharmaceuticals, Adhesives, Beverage Clarification, Miscellaneous Uses, Specifications and Standards, Analytical and Test Methods, Health and Safety Factors.

13. Olefin Sulfate and Sulfonates

14. Ethoxylation Processes
    Introduction, Ethoxylated Alkyl Phenols, Laboratory Method of Preparation, Batch Ethoxylation Unit, Properties of Ethoxylated Alkyl Phenols.

15. Ethoxylated Fatty Alcohols

16. Alkyl Phenol Ether Sulfates
    Introduction, Sulfation and Sulfonation, Man- ufacture of Alkyl Phenol Ether Sulfates, Sulfamation, Nonylphenol 4-ethoxy Sulfate, Di- (isohexyl / isoheptyl)phenol Ether Sulfate, Do- decylphenol Ether Sulfate, Sulfation with Sulfur Trioxide, Comparison of Sulfation with Sulfur Trioxide and Sulfamic Acid, Properties and Performance Characteristics of Alkyl Phenol Ether Sulfates.

17. Alkyl Ether Sulfates
    Introduction, Properties & Performance Characteristics of Alkyl Ether Sulfates, Individual Alkyl Ether Sulfates, Tallow Alcohol Ether Sulfates, Manufacture of Alkyl Ether Sulfates, Process
18. Fatty Amine Oxides

19. Bisquaternery and Other Cationic Softeners

20. Other Miscellaneous Emulsifiers
(i) Alkyl Naphthalene Sulfonates

(ii) Sulfated Alkylolamides

(iii) Sodium B-Sulfoethyl Esters of Fatty Acids
Introduction, Manufacture of Igepon A.

(iv) Polyethylene Glycol Fatty Acid Esters
Introduction, Manufacturing Process, Fatty Acid Esters of Sucrose.

(v) N-Acylsarcosinates
Introduction, Manufacture of Sodium N- Oleoylsarcosinate.

(vi) Sulfated Monoglyceride
Introduction, Manufacture.

21. Application of Emulsifiers
(i) Pharmaceutical Emulsions
Introduction, Cod Liver Oil Emulsions, Ointments, Beeler’s Base, Washable Ointment Base, Greaseless Base, Ointment Washable Type, Steroidal Emulsion, Aeriflavine Ointment, Aluminium Acetate Lotion, Typical Antibiotic, Anesthetic and Anti-Inflammatory Ointment, O/W Type Benzyl Ointment, O/W Boric Acid Ointment, W/O Calamine Cream, W/O Emollient Ointment, Solubilized Hexachlorophene, O/W Oxyquinoline Sulphate Ointment, Penicillin Ointment.

(ii) Rosin and Rubber Emulsion
(iii) Textile Emulsions

(iv) Pesticides Emulsions
Malathion Wettable Powder, Dieldrin Formulation, Lindane Formulation, Ronnel Formulation, Butyl Ester of 2, 4-D Formulation, Fruit Coating Wax Emulsion, Cattle Dips, DDT Formulation, Chlordane Formulation, Heptachlor Formulation, Aldrin Formulation, Endrin Emulsion Concentrate.

(v) Food Emulsion
Chocolate Milk, Stabilized, Artificial Cream, Lemon Oil Emulsion, Transparent Lemon Oil Emulsion, Orange Emulsion, Bitter Almond Emulsion, Butter Substitute, Mayonnaise, Salad Dressings, Coffee Whitener Liquid, Coffee Whitener (Spray Dried), Ice Cream Mix, Pickle Flavour Emulsion, Starch Paste.

(vi) Emulsions in Paint Industry

(vii) Emulsions in Polish Industry
Automobile Polish, ‘Dry Bright’ Floor Polish, Paste Polishes, Mineral Oil Emulsion Polishes, Silicone Polishing Cloth, Paste Type, Automobile Cleaner Polish.

(viii) Leather and Paper Treatment Emulsions

(ix) Cutting Oils, Soluble Oils, Miscible Oils
Napthenic Miscible Oils, Cutting Oils, Mold Release Compound.

(x) Cleaners

22. Determination of Physical Surface
Active Characteristics of Emulsifiers

23. Analysis of Emulsifiers
Introduction, Separation of Surfactants, Identification of Components, Anionics, Cationics, Nonionics, Determination of Surfactants, Total Organic Active Ingredient, Procedure, Correction for Sodium Chloride Content, Anionic Surfactants, Preliminary Estimate of Mol. Wt., Titration with Cationic Surfactants,

24. Photographs of Machinery and Equipments

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