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Dealkalinization; 2.4 Reverse Osmosis; Reference; 3: Sequestrants; 3.1 Definition; 3.2 Coordination Groups; 3.3 Sequestration Data; 3.4 Food Cleaning Sequestrants; 3.4.1 (Poly)phosphates; 3.4.1.1 Hexametaphosphate (HEMP); 3.4.1.2 Pyrophosphate; 3.4.1.3 Monomeric Phosphates; 3.4.1.4 Tripolyphosphate; 3.4.2 Phosphonates; 3.4.2.1 Phosphonates and pH; 3.4.2.2 Stability of Phosphonates; 3.4.2.3 Phosphonates and Corrosion Inhibition; 3.4.3 Hydroxy Acids; 3.4.4 Poly(co-poly)acrylates; 3.4.5 Aminopolycarboxylic Acids 3.4.6 Polysaccharides and BentonitesReferences; Part Two: Characterization of Chemicals Used in the Sanitation Process; 4: Laboratory Tests; 4.1 Turbidimetric Tests; 4.1.1 Sequestration Test (Oxalate); 4.1.2Nephelometric Titration; 4.1.3 Sequestration Test (Hampshire); 4.2 Suspension Test; 4.3 Dispersion Test; 4.4 Static Test of Scale Forming; 4.5 Dynamic Test of Scale Formation; 4.6 Static Test of Scale/Soil Dissolution; 4.7 157Dynamic Test of the Dissolution of Scale/Soil; 4.8 Chemical Stability Test; 4.9 Solution Stability; 4.10 Sequestrant Stability; 4.11 EDTA and Calcium Titration 4.11.1 Titration of EDTA4.11.2 Titration of Calcium Salts; References; 5: Surfactants, Caustics, and Acids; 5.1 Surfactants; 5.1.1 HLB; 5.1.2 Grouping of Surfactants; 5.1.2.1 Anionic Surfactants; 5.1.2.2 Nonionic Surfactants; 5.1.2.3 Cationic Surfactants; 5.1.2.4 Amphoteric Surfactants; 5.1.3 Defoamers; 5.1.4 Wetting Agents; 5.1.5 Cleaning Agents; 5.1.6 Disinfectants; 5.1.7 Structural Boosters; 5.1.8 Biodegradability and Toxicity; 5.1.9 BPD and REACH; 5.2 Caustics; 5.3 Acids; References; Part Three: Application to the Food Industry; 6: Bottlewashing; 6.1 Pre-washing; 6.2 Caustic Zone 6.2.1 Modifications Induced by Alkalinity

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## Sommario/riassunto

Finally, an up-to-date guide to cleaning and disinfection for the food preparation and processing industries. It discusses a host of examples from various food industries as well as topics universal to many industries, including biofilm formation, general sanitizing, and clean-in-place systems. Equally, the principles related to contamination, cleaning compounds, sanitizers and cleaning equipment are addressed. As a result, concepts of applied detergency are developed in order to understand and solve problems related to the cleaning and disinfection of laboratories, plants and other industrial

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