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Anaerobic Degradation of Neutral Fats and Lipids

1.2.8 Competition of Sulfate Reducers with Methanogens in Methane Reactors1.2.9 Amount and Composition of Biogas During Fermentation of Carbohydrates, Proteins, and Fats; 1.3 Nitrogen Removal During Wastewater Treatment; 1.3.1 Ammonification; 1.3.2 Nitrification of Ammonia; 1.3.2.1 Autotrophic Nitrification; 1.3.2.2 Heterotrophic Nitrification; 1.3.3 Denitrification: Nitrate Removal from Wastewater; 1.3.4 Combined Nitrification and Denitrification; 1.3.5 Anaerobic Ammonia Oxidation (Anammox®); 1.3.6 New N-removal Processes; 1.4 Enhanced Biological Phosphate Removal

1.5 Biological Removal, Biotransformation, and Biosorption of Metal Ions from Contaminated Wastewater1.5.1 Sulfate Reduction and Metal Ion Precipitation; 1.6 Aerobic and Anaerobic Degradation of Xenobiotics; 1.7 Bioaugmentation in Wastewater Treatment Plants for Degradation of Xenobiotics; References; 2 Industrial Wastewater Sources and Treatment Strategies; 2.1 Introduction and Targets; 2.2 Wastewater Flow Fractions from Industrial Plants; 2.2.1 Synopsis; 2.2.2 Rainwater; 2.2.3 Wastewater from Sanitary and Employee Facilities; 2.2.4 Cooling Water

2.2.5 Wastewater from In-plant Water Preparation2.2.6 Production Wastewater; 2.3 Kinds and Impacts of Wastewater Components; 2.3.1 Temperature; 2.3.2 pH; 2.3.3 Obstructing Components; 2.3.4 Total Solids, Suspended Solids, Filterable Solids, Settleable Solids; 2.3.5 Organic Substances; 2.3.6 Nutrient Salts (Nitrogen, Phosphorus, Sulfur); 2.3.7 Hazardous Substances; 2.3.8 Corrosion-inducing Substances; 2.3.9 Cleaning Agents, Disinfectants, and Lubricants; 2.4 General Processes in Industrial Wastewater Treatment Concepts; 2.4.1 General Information

2.4.2 Production-integrated Environmental Protection

Sommario/riassunto

A deeper insight into the complex processes involved in this field, covering the biological, chemical and engineering fundamentals needed to further develop effective methodologies.The book devotes detailed chapters to each of the four main areas of environmental biotechnology -- wastewater treatment, soil treatment, solid waste treatment, and waste gas treatment -- dealing with both the microbiological and process engineering aspects.The result is the combined knowledge contained in the extremely successful volumes 11a through 11c of the ""Biotechnology"" series in a handy and compact