Sustainable Water Integrated Management:
Support Mechanism (SWIM-SM)

Mécanisme de Soutien
à la Gestion Intégrée Durable de l'Eau

آلية دعم الإدارة المستدامة والمتكاملة للمياه

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Wastewater characterization

Introduction

The production of waste from human activities is unavoidable. A significant part of this waste will end up as wastewater. The quantity and quality of wastewater is determined by many factors. Not all humans or industries produce the same amount of waste. The amount and type of waste produced in households is influenced by the behaviour, lifestyle and standard of living of the inhabitants as well as the technical and juridical framework by which people are surrounded.

In this part of the course, an overview of the different factors affecting the wastewater characteristics (from both a quantity and quality perspective) is presented. Major emphasis is given to the different parameters commonly used to assess the wastewater characteristics. Also, the standard notation used to represent the organic and inorganic components in mathematical modeling of wastewater treatment systems is introduced.

This course consists of a PowerPoint Presentation with voice over. Additional information for those interested in getting a deeper understanding of the subject are provided in form of 4 video lectures presented by **Prof. Mogens Henze**, from Technical University of Denmark, Lyngby, Denmark. The lectures introduce and describe the basics to understanding the wastewater characteristics (from both a quantity and a quality perspective) as well as the parameters and notation used in mathematical modeling for their representation.

Aims of the Course

- To present the different factors that affect the quantity and quality of wastewater.
- To provide basic knowledge about the relevant components commonly used to assess the wastewater quality as well as typical wastewater compositions depending upon the origin of the wastewater.
- To introduce the standard notation used in mathematical modeling to represent the different fractions of organic and inorganic components present in wastewater

Learning objectives

After the successful completion of this chapter the participant will be able to:

- Critically determine and analyze quantity and quality characteristics of wastewaters originating from urban environments and sewage plants themselves as a basis for the design, operation and control of wastewater treatment facilities.