

DECOLORIZATION OF WASTE TEXTILES – COMPARISON OF BLEACHING CHEMISTRIES

Speakers: Sari Asikainen and Virpi Rämö, Kemira R&D and Technology

Globally over 92 million tons of textile waste is produced annually, mainly ending up in landfill or incineration, and there is increasing environmental and legislative pressure to recycle and valorise this waste stream. The availability of recycled cotton pulp from textiles is projected to increase five-fold in next 3 years, reaching 500 kt/a by 2026. One of the key requirements for the valorisation of cellulosic textile waste in production of MMCFs is the removal of dyes. The decolorization of postconsumer textile waste especially is challenging due to the heterogenous raw material. Vast number of different type of dyes are used for textile dyeing and this makes the colour stripping challenging. In addition, solutions for the wastewater management after colour stripping must also be developed. The current research presents recent results related to the efficiency of various bleaching chemicals in the decolorization of textile waste material. In addition, quality of the bleaching filtrates and the need for waste water treatment were evaluated. Further, additional chemistries required for the processing, final product quality and water treatment are discussed.
