



Microplastics in wastewater treatment plants

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Introduction

- Microplastics are present in wastewaters
- Fibres from textile and microbeads from cosmetics
- The removal of microplastics in wastewater treatment plant depends on treatment technology



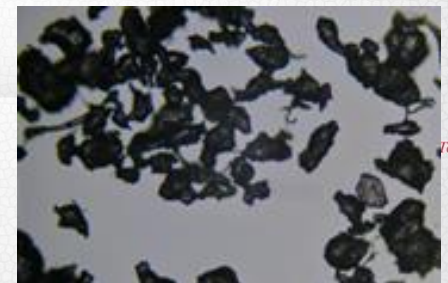
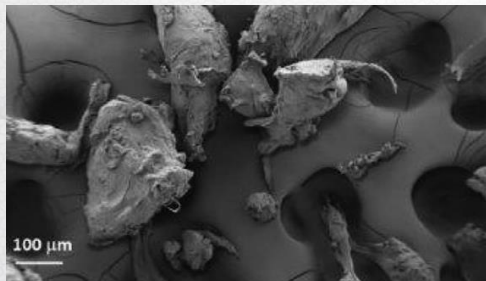
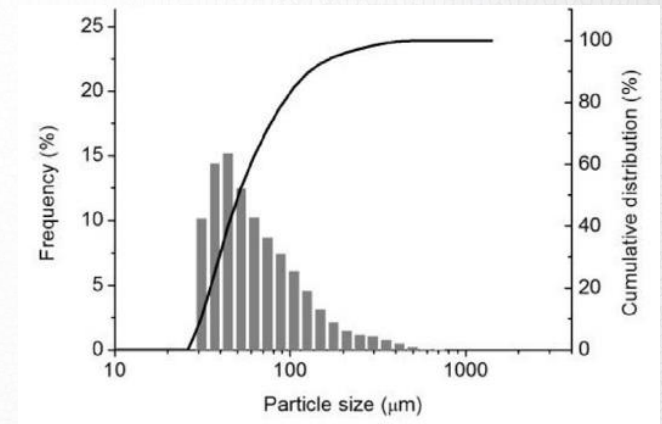
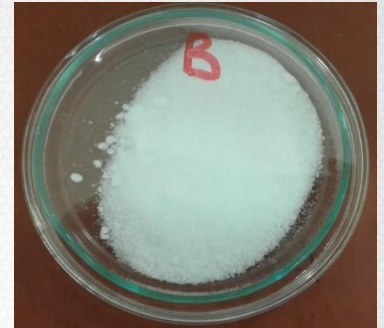
What is the fate of microbeads in WWTP and the actual amount of microbeads released into freshwaters?

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Microbeads in cosmetic products

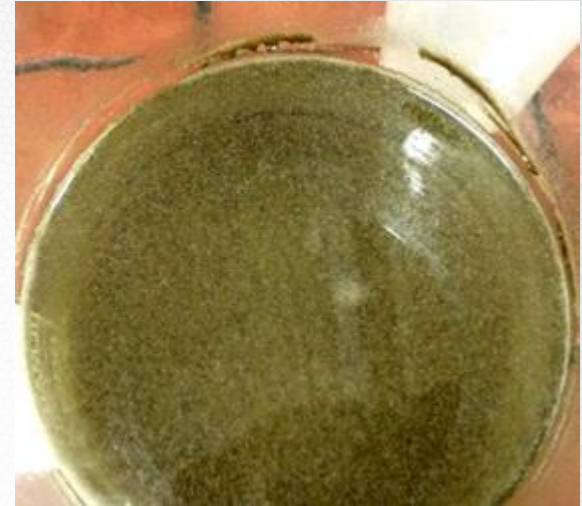
- Market analysis, Ljubljana, Slovenia
- Consumer survey: how often, how much, type of abrasive...(178 participants)
- Model wastewater treatment plant (SBR) – microbeads removal efficiency



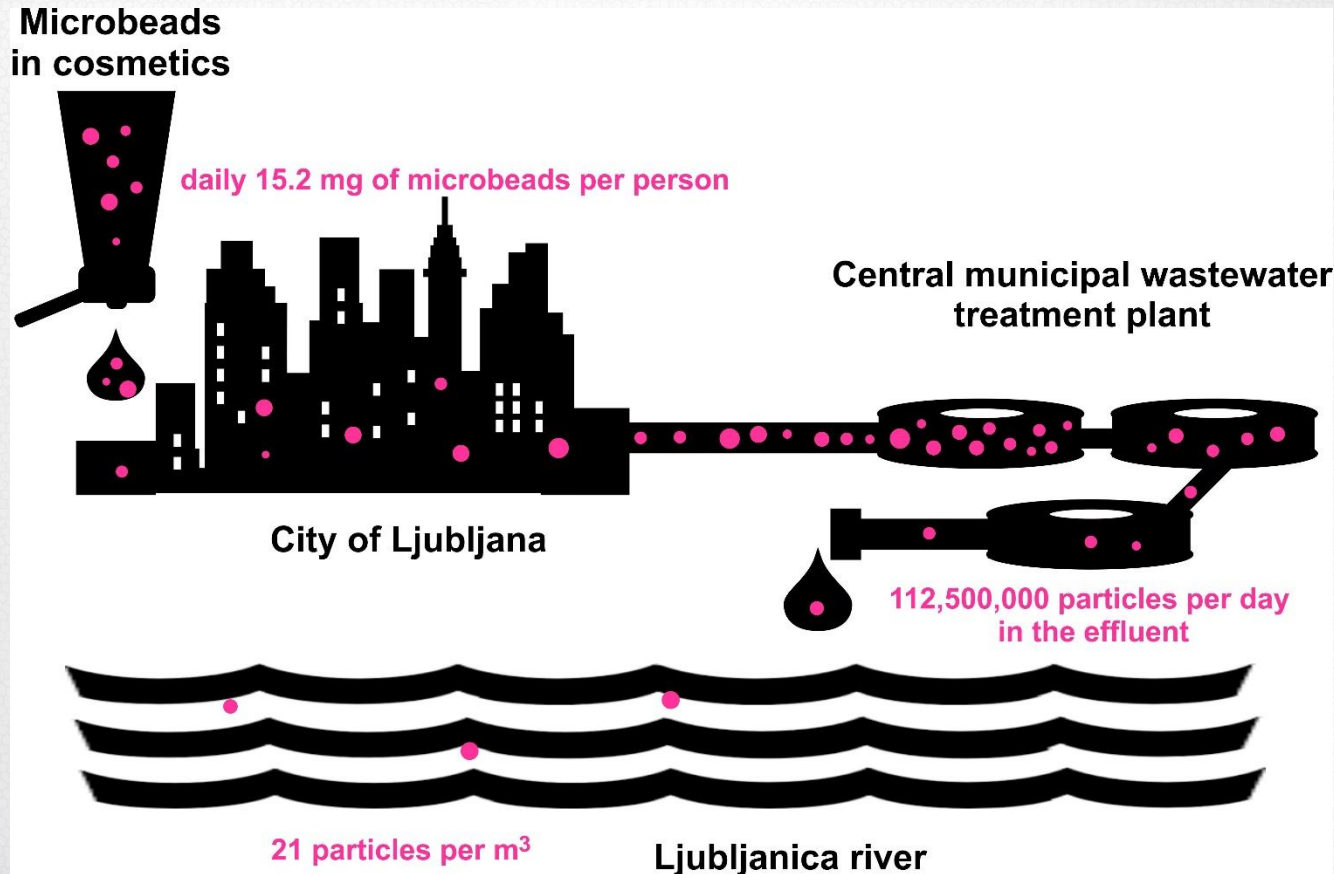
Wastewater treatment plant efficiency

- The average removal efficiency of polyethylene microbeads - 52% (~ 25% primary treatment)
- Particles above **60 μm** with mean particle size after treatment 160 μm
- High accumulation in activated sludge

High accumulation of microbeads in activated sludge – a problem for further applications!



Microbeads in cosmetic products – amount released into freshwater ecosystems?





Thank you for your attention!

