

---

## PS-030. The influence of biocidal ingredients from leather matrix on biodegradability

İhsan Yaşa, Bahri Başaran, Ahmet Aslan

Ege University, Fundamental and Industrial Microbiology Division, Biology Department, Faculty of Science  
Ege University, Department of Leather Engineering, Faculty of Engineering

**Aim:** Biodegradation of materials, the foot stone of natural regeneration in terms of sustainable environment, is the breakdown of materials by biological ways. This is of main importance for handing down the next generations of the quality life in clean environment, that needs to use the naturally compatible and eco benign materials. Leather is a bio-based consumer product and it is assumed that it would correspond to essentialities. However; its grade and impacts are unknown. The determination of biodegradability of leather material is one of the key issues having been studied recently in leather industry with respect to reputation on environmental impact and also new methodologies are being developed. **Method:** PrEN ISO 20136 is the recent biodegradability test based on the determination of CO<sub>2</sub> that is the final metabolism product by microbial activity. In addition to CO<sub>2</sub> formation in standart method; the effects of inhibitive matters in effluent on the alternation of metabolic activity measured by FDA hydrolysis were ascertained by MetPlate tests. **Result:** Results shown that there was an inverse correlation between inhibition rate (%) and FDA hydrolysis degree. **Conclusion:** FDA hydrolysis and MetPlate tests are fast, reliable and alternative test for leather biodegradable tests named for PrEN ISO 20136

**Keywords:** Leather, biocide, biodegradation, FDA hydrolysis, MetPlate test