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CHARACTERIZATION OF WOOD WASTE BIOCHARS FOR MICRO POLLUTANT ADSORPTION PROPERTIES

Ground wood waste is a sustainable source of biochars in Switzerland. Consequently, their application to environmental technologies is expected. A full characterization of their surface properties with respect to priority micro pollutants adsorption is therefore, required. This characterization, however, must account for the variability in the biochars quality with time and char size. This analysis was conducted for the ground wood waste biochars produced by SwissBiochars® at Belmont-sur-Lausanne (Switzerland). After analysing the production process, a biochar sampling procedure allowed estimating the variability of the produced biochars with time. The surface properties of these biochars were then estimated, with special focus on the adsorption properties with respect to priority pharmaceuticals, personal care products and ETM pollutants targeted by the Swiss legislation. The results highlight a large potential of the experimented biochars for micro pollutants adsorption applications. They also highlight the need for normalised tests of organic pollutants adsorption, and the cross dependence of biochars size and biochars properties in that field.