

# Rotating-disk sorptive extraction of nonylphenol from water samples

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In this study the sorption of nonylphenol was implemented on a rotating Teflon disk coated with a PDMS film on one of its surfaces. In this way, the disk, which has a high surface area, contacts only the liquid sample, which can be stirred at higher velocity than with the stir bar used in stir-bar sorptive extraction (SBSE), without damaging the phase while at the same time facilitating analyte mass transfer to the PDMS surface. We refer to the procedure as rotating-disk sorptive extraction (RDSE). Extraction variables such as disk rotational velocity, extraction time, and surface area of PDMS film were studied to establish the best conditions for extraction. With increasing rotational velocity, the amount of extracted analyte significantly increases because the stagnant layer concomitantly decreases. On the other hand, the extracted amount concomitantly increases with extraction time, reaching equilibrium at approximately 20 min, which can be reduced to 10 min when the surface area of