Title: **Study of the best conditions of temperature, solvent and time for the Soxhlet extraction of the antioxidants contained in a matrix of polypropylene random copolymer.**

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The best experimental conditions for Soxhlet extraction of the antioxidants contained in a polypropylene sample used for the manufacture of pipes are described. To study these conditions, a full factorial design of three factors and two levels with two replicates was followed. The studied factors were solvent, temperature and time of extraction and the extracted stabilisers were identified as Irganox 1010, Irganox 1330 and Irgafos 168.

The Identification and semi-quantitative analysis of the extracted products were performed by FIA-APCI(+)-HRMS using a carrier stream that consisted of a mixture of methanol / 0.025 M aqueous ammonium acetate (95:5) at 0.6 ml/min and with an acquisition time of one minute.

It was found that the extraction of the antioxidants increased remarkably with extraction times longer than 24 h. The use of methylene chloride as extracting solvent and higher temperatures also had a notable effect on the extraction of some of the antioxidants. The greatest recovery was reached at 110 °C, during 48 h using dichloromethane.