

# **ANTIMICROBIAL ACTIVITY AND COMPOSITION OF ROSEMARY (*Rosmarinus Officinalis*) EXTRACTS OBTAINED WITH SUPERCRITICAL CARBON DIOXIDE PURE AND USING ETHANOL AS CO-SOLVENT.**

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The antimicrobial properties of rosemary (*Rosmarinus Officinalis*) essential oil obtained by supercritical fluid extraction were investigated by examining their influence on the growth of various bacterial types, some food-borne pathogens. The extracts are obtained via pure CO<sub>2</sub> and CO<sub>2</sub> + co-solvent (ethanol), the effect of co-solvent on extracts and his antimicrobial activity was also evaluated and compared. A bactericidal effect was observed also when exposed to essential oils at different concentration. The extracts and essential oil chemical composition were evaluated by GC-MS and GC-FID. The major components of rosemary essential oil found were champhor, eucalyptol and caryophyllene . The influence of process parameters like flow rate, pressure and temperature on chemical composition were also evaluated. The antimicrobial activity of the essential oil and extracts were determined by minimum inhibitory concentration and by disc diffusion method for extracts.