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## EFFECT OF Cr(VI) IN FOUR PORTUGUESE MICROALGAE GROWTH

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### Abstract

The objective of this work was to study the growth of microalgae *Chlorella fusca* ACOI 621, *Chlorella vulgaris* ACOI 879, *Scenedesmus acutus* ACOI 538 and *Scenedesmus obliquus* ACOI 550, in the presence and absence of Cr(VI). The microalgae growth was assessed as a function of different parameters, particularly, temperature, pH and Cr(VI) addition. Although growth inhibition due to Cr(VI) toxicity is rather visible for Cr(VI)  $\geq 5 \text{ mg L}^{-1}$ , concentrations up to  $1 \text{ mg L}^{-1}$  seem not to seriously affect the algal growth.

The production of metabolites (expressed in terms of dissolved organic carbon released from the microalgae to the solution) EXPRESSES the inhibition caused by toxic levels of Cr(VI) in the four microalgae, which adversely affects the sedimentation.

The more marked effect of Cr(VI) on algal growth is observed in *C. vulgaris* culture and all these microalgae can be used for the removal of heavy metals from wastewaters. All in all, *C. fusca* appears to be the best choice for work involving heavy metal removal.

*Key words:* *Chlorella fusca*, *Chlorella vulgaris*, chromium (VI), *Scenedesmus acutus*, *Scenedesmus obliquus*

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