



## The Inhibitory Action of Extracts of *Moltikia ciliata* and *Euphorbia guyoniana* on the Corrosion of Mild Steel in Acid Medium: A Comparative Study

Soumaia Chihi<sup>1</sup>, Oumelkheir Rahim<sup>2</sup>

<sup>2</sup> *Laboratoire de chimie analytique faculté des mathématiques et des sciences de la matière, dép.de chimie Univ. Ouargla, B.P.511, 30000, Ouargla*  
[romolkheir1@gmail.com](mailto:romolkheir1@gmail.com)

### Abstract

The Inhibitive action of the extracts of *Moltikia ciliata* and *Euphorbia guyoniana* on the corrosion of mild steel in acid medium  $H_2SO_4$  has been studied using weight loss method, electrochemical methods. the results indicated that the inhibition efficiency increases with increasing extract concentration. A maximum inhibition rate of 81.3% in  $H_2SO_4$  *Moltikia ciliata* and 80.12% *Euphorbia guyoniana*. Polarization method indicates that the plant extracts are under mixed control, that is promoting retardation of both anodic and cathodic reactions. The adsorption on the metal surface was found to obey to Langmuir isotherm. The adsorption can be attributed to the presence of o-atoms,  $\pi$  electrons and aromatic/heterocyclic rings.

**Keywords:** *Moltikia ciliata*, corrosion, Mild Steel, *Euphorbia guyoniana*, Acid Medium.