Studi ekstrak daun cassia angustifolia (daun jati cina) sebagai inhibitor ramah lingkungan pada pipa baja API 5L di lingkungan HCL 1m = Study of cassia angustifolia leaves extract as green inhibitor for API 5L steel pipe in 1m HCL solution

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Abstrak

Ekstrak daun jati cina Cassia angustifolia sebagai inhibitor ramah lingkungan pada Baja API 5L di lingkungan HCl diinvestigasi. Pengujian yang dilakukan adalah polarisasi dan kehilangan berat. Senyawa yang terkandung pada ekstrak adalah senyawa flavonoid, xanthone, dan anthraquinone. Senyawa tersebut diinvestigasi melalui pengujian FTIR. Variabel pengujian merupakan konsentrasi inhibitor, meliputi 10 ml, 20 ml, 30 ml, 40 ml, dan 50 ml. Kemampuan inhibitor untuk menginhibisi optimum pada konsentrasi 40 ml. Ekstrak daun jati cina berperan sebagai inhibitor campuran dengan dominan katodik. Mekanisme adsorpsi pada ekstrak daun jati cina merupakan mekanisme adsorpsi isotherm Langmuir dengan tipe adsorpsi physisorption.

.....Cassia angustifolia leaves extract as green inhibitor for API 5L steel pipe in HCl environment was investigated. This study was experimented by using different types of test, such as polarization and weight loss. The compound in cassia angustifolia are flavonoid, xanthone, and anthraquinone. These compound was investigated by using FTIR. This experiment was investigated with different number of concentrations as its variables, which are 10 ml, 20 ml, 30 ml, 40 ml, and 50 ml inhibitor extracts. The optimum capability of the inhibitor to inhibit the steel surface was in 40 ml concentrations. Cassia angustifolia leaves extract is found to be a mixed type inhibitor with predominant cathodic effectiveness. The adsorption mechanism of cassia angustifolia leaves extract was Langmuir with physisorption as the types of adsorption.