

## Abstract

To protect metal from corrosion reactions, one of the most practical methods is to apply corrosion inhibitors. Corrosion reduction is typically achieved through cathodic protection, process control, metal impurity reduction, surface treatment techniques, and alloy incorporation. Phytochemicals, active plant ingredients, have been proven to inhibit the corrosion of mild steel and aluminum in various corrosive environments. The paper discusses how plant extracts can be used as a cheap, environmentally friendly, and renewable replacement for the harmful chemical corrosion inhibitors currently in use. The paper also provides an overview of corrosion processes, extraction of plant bioactive compounds and the research that has been conducted on the use of phytochemicals as corrosion inhibitors for mild steel and aluminum. Phytochemicals, including carbohydrates lipids, alkaloids, phenolic acids, terpenoids, and metabolites that contain nitrogen, interact with metal surfaces to act as corrosion inhibitors. In recent years, there has been growing interest in the use of natural products, such as plant extracts, as corrosion inhibitors. These inhibitors reduce corrosion rates, preventing financial losses due to metallic corrosion on industrial vessels, equipment, or surfaces.