The study was designed to test the efficiency of Silybum marianum in different doses to treat carbon tetrachloride (CCl4) induced liver damage. Thirty-five Wistar albino rats were divided randomly into five groups as follows: Control Group: 4 ml saline; CCl4 Group: 4 ml saline plus 2 ml/kg CCl4; 2.5% Infusion Group: 2 ml/kg CCl4 plus 2.5% infusion of Silybum marianum; 5% Infusion Group: 2 ml/kg CCl4 plus 5% infusion of Silybum marianum; 10% Infusion Group: 2 ml/kg CCl4 plus 10% infusion of Silybum marianum. Infusions were given once a day for 5 consecutive days. CCl4 was administered intraperitoneally (2 ml/kg) on days 2 and 3. At the end of the 5th day, animals sacrificed and their bloods were drawn for biochemical tests and liver samples were taken for histopathologic investigation. CCl4 caused to increase in glucose and to decrease in albumin, total cholesterol and triglyceride levels. Silybum Marianum treatment improved these changes. All liver function tests were elevated by CCl4 administration and then reduced, by Silybum Marianum treatment. CCl4 caused to hepatocyte degeneration, central vein dilatation, congestion, and to increase in the number of Kupffer cells and histopathological injury scores. Treatment with Silybum marianum infusion showed slightly preventive effect on CCl4 induced liver damage by biochemical and histologically.