However, when the initial concentration is increased at more than 100 ppm, the particle size seems play a role in the amount of Pb (II) adsorbed. The smaller the particle size, the higher the amount of Pb (II) adsorbed.It is shown when the particle size is increase to around 1200 µm, the amount of Pb (II) adsorbed is decreased, because the surface area will decrease with the increasing of the particle size.

Interestingly, at the bigger particle size, that is from 2000 to 4000 µm, with the increasing of initial concentration up to 500 ppm, starting from 250 ppm, it is shown that, the amount of Pb adsorbed is increasing again, and from 4000 µm the amount of Pb (II) adsorbed is constant as an indication that saturation is achieved (Figure 1). While actually, the smaller the particle size, the surface area is supposed to be bigger, and the adsorption again the concentration was the limiting factor (Figure 2) or in other words, the particle size has little or no influence in the amount of Pb adsorbed.

It can also be explained that when the particle size was bigger, the active size might be larger as it might form a sponge-like formation, and when the size of the ion is fit, some adsorption will occur, that made the amount of Pb adsorbed is also increase.

CONCLUSION

It can be concluded that at lower concentration of Pb(II) in terms of mg Pb adsorbed/g straw, the differences between particle sizes are less significant, and there is an optimum in the amount of Pb(II) adsorption by straw. On the other hand, the results at particle size > 2000 micrometers, including those with cut straw, appear to corroborate the conclusion that the adsorptive power of rice straw for Pb(II) is independent of particle size.

The higher the initial concentration of Pb (II), the higher will be the amount of Pb (II) adsorbed.

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