

EGGSHELLS – THE NEW NATURAL COAGULANT TO PURIFY THE SWAMP WATER

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1 Introduction

Clean water has always been a requirement for sustaining human life, but recently, in Palembang, Indonesia clean water has become difficult to find. This is largely due to the cities dependency on the Musi River, which is heavily polluted by accumulated pollutants, which are complex and difficult to control. However, there is a water source in the Palembang area that has potential to provide clean water; it just has not been utilized. That water source is swamp water. Our study is intended to reduce the iron content, turbidity levels, and normalize the pH in swamp water by utilizing eggshells powder as an alternative natural coagulant that, in turn, would create a new source for clean water.

Research Objectives

1. To Know The effect when we adding coagulant powder from eggshells
2. To Know The effect when we add vinegar toward water sample
3. To Know The Successful of Coagulant work.
4. To know the comparison between the coagulant water by Eggshell with Coagulant water by Cat-fish Bone.

2. METHODS

1.1 Materials

The main material which we use to making this coagulant are, eggshells, water, vinegar, swamp water and chemical material just like HI3834-0 solution. The tools which we use are beaker, hanna instrument, oven, spatulla, labu erlnmeyer, tabung glass, iron testing metre and mortar.

2.2 Procedure

The process making this coagulant consist of several steps. There are preparing the eggshell , wash the eggshell, minimize the size, heat the eggshell by oven, powder process and filtration process and then water testing

2. RESULT AND DISCUSS

The first parametre is about the measurement of the iron concentration inside the water, when we adding 0,1 gram of the coagulant dosis, the iron concentration will be decrease to the nearest zero.

Chart 4.1 The Decreasing In Iron Content In The Swamp Water Samples

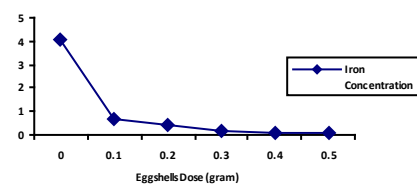


Table 4.1 The Comparison of The Quality of Water

No	Parametre	Coagulated Water From Eggshells	Coagulated Water From Cat-Fish Bone
1	Kadar Besi	0,06 mg/l	0,1 mg/l
2	Kadar Mangan	0,3 mg/l	-
3	Kekeruhan	3,26 NTU	4,0 NTU
4	pH	7,0	7,0

Well, beside from data above, all of the parameter have been got from this experiment and the result are the turbidity level decreasing to the normal, the turbidity when we add with vinegar also decreasing and the time needed to precipitate also need only 2 minutes below.

3. CONCLUSION

Iron Concentration was decreasing In The Water sample After We Adding The coagulant, Eggshells Powder can neutralization of Water PH, Adding The vinegar toward water will be effect on it's turbidity level, The Increasing of Temperature can optimilize the time to precipitate The Water, The quality Of Coagulant water by eggshells is equally with The Quality of Caogulant Water by Cat-Fish Bone

Reference

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