

**"COMPARISON ON DISINFECTION IN WATER TREATMENT SYSTEM  
IN CONVENTIONAL AND OZONATION SYSTEM"**

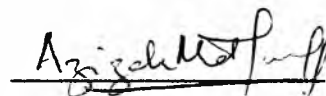
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## ABSTRACT

Urbanisation and commercial development lead to higher demand of water. Public awareness and health conscious has given a task to Water Authority to enhance the quality of treated water. The challenged faced by Water Authority is the deteriorating of the sources of raw water from the rivers.

The discovery and investigation has shown that chlorination practice in the conventional system has formed a chlorination by product of Trihalomethanes (THMs). Experiment conducted on animal provided evidence of the carcinogenicity of THMs. Through investigation conducted there is a correlation between the high usage of chlorine and the high formation of THM.

In practice the highly polluted raw water needs higher concentration of chlorine in disinfection.

In any treatment work disinfection is the most important processes. There are various type of disinfectant available and chlorine system has been used worldwide.

This dissertation will discuss the comparison between chlorine in conventional system and a newly introduced system of ozonation in our country but has been used effectively in other countries. Selection of this system is due to the record of effectiveness evaluated.

Discussion will be based on the effectiveness of both system and comparing the merit and demerit of both systems.

Keywords: Ozonation, chlorination, system, merit, demerit, effectiveness

## SYNOPSIS

This dissertation is studying on the comparison between two different disinfectants used in two different systems. Chapter 1 is highlighting the river quality which is the source of raw water to be treated. It also mentioned on the objective and method conducting the studies.

In Chapter 2 the water treatment processes is explained in quite detail. The treatment processes started from the river source. It will be undergoing processes such as aeration, coagulation, sedimentation, filtration and disinfection. The different between the conventional and the ozonation system is explained in this chapter.

Chapter 3 is mainly explaining on disinfection which is the main study of this dissertation. Explanation on the history and their effectiveness is explained precisely.

Chapter 4 is highlighting the role of the chlorination and ozonation. The merits and demerits of both systems are listed and also the finding from researchers on both disinfectants.

Chapter 5 is a discussion based on the pro and cons of the two systems. Besides that any points that are not highlighted in Chapter 4 is discussed in this chapter. Findings from researchers are also discussed.

Chapter 6 is the final chapter where the author concludes all the findings from the literature review on both the systems. Based on the conclusion, recommendations are made. The author proposed that further research is to be carried out on the recommendation and conclusion made.

TABLE OF CONTENTS

<u>DESCRIPTION</u>	<u>PAGE NO.</u>
<u>CHAPTER 1</u>	
1.0 Introduction	1
1.1 Objective	4
1.2 Scope of Study	4
1.3 Methodology	5
1.3.1 Reference	5
1.3.2 Laboratory test	5
1.3.3 Visit	6
1.3.4 Consultation and Advices	6
<u>CHAPTER 2</u>	
2.1 Water Treatment Processes	7
2.1.1 Screening	7
2.1.2 Aeration	7
2.1.3 Coagulation and Flocculation	9
2.1.4 Sedimentation	12
2.1.5 Filtration	13
2.1.6 Disinfection	14
i) Ozone	15
ii) Heat and other physical agent	16
ii) Ultraviolet Radiation	16
iv) Silver	18

<u>DESCRIPTION</u>	<u>PAGE NO.</u>
v) Iodine	19
vi) Potassium Permanganate	20
2.1.7 Conditioning	21
2.1.8 Fluoridation	21
2.1.9 Distribution	21
2.2 Conventional Water Treatment Processes	22
2.3 Ozonation Water Treatment System	24
2.3.1 System Operation	25
i) Ozone Production	25
ii) Air Preparation	25
iii) Ozone Generation	28
iv) Preozonation	30
v) Intermediate Ozonation	36
 <u>CHAPTER 3</u>	
3.0 History of disinfection	39
3.1 Rational of disinfection	39
3.2 Efficiency of disinfection	40
3.2.1 Kind and concentration of organism	41
3.2.2 Kind and concentration of disinfectant	41
3.2.3 Contact time	41
3.3.4 Chemical character and temperature of water to be treated	41
3.3 Disinfection in the conventional method of water treatment process	42