



شبكة المعلومات الجامعية

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



شبكة المعلومات الجامعية  
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# شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم





شبكة المعلومات الجامعية

# جامعة عين شمس

التوثيق الالكتروني والميكرو فيلم

## قسم

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# EFFECT OF SOME ADDITIVES ON PAPER PROPERTIES

BY  
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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

الله

﴿وقل رب زدني علما﴾

مركز المندسة

للحوسبة والطباعة والتصوير المستندات

**Post Graduate Studies For  
M.Sc. Students In  
Organic Chemistry (1992 / 1993)  
To Whom It May Concern**

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# INTRODUCTION



# ***I. INTRODUCTION***

## **1. Additives in General**

The furnish of the writing and printing paper consists of two main components, namely the fibrous and nonfibrous component. A part from newsprint and magazine paper, the fibrous component is bleached chemical or semichemical pulp obtained from soft wood or hard wood. Beside wood, agricultural residues are used - but to lesser extent - for manufacture of paper pulps. In Egypt rice straw and sugar cane bagasse represent about 80% of the fibrous component of writing and printing paper. The nonfibrous portion of paper is added to the pulp during papermaking operations; therefore it is called "additive". Some additives are used for special purposes. Antifoam materials prohibit foaming of the pulp slurries. Other additives increase wet strength of paper. A further class of additives is used to colour paper. A part from these special additives, the most common additives can be classified in three main types : filling materials, sizing agents and binders. Despite many recent proposed sizing agents, rosin size is still the main substance used for sizing of paper. The objective of sizing is to retard the penetration of water or ink into the pores of paper and their spreading on the paper surface (1-3). This is achieved by the increase in the wetting angle-angle of contact between the paper and ink - due to the size. It is evident that sizing is of prime importance in case of writing papers. However many printing papers are fully sized or partly sized.