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(NJC)**(2010/ 1 / 12)****(2009/ 1 / 26)**

))

((-)) ((

. %25.24 %21.8

Abstract

Effect of nitrating agent on the degree of nitration of cellulose as a nitrogen content for cellulose nitrate has been studied. Cellulose nitrate prepared by reacting triple nitrating agent ((conc, HNO_3 , fuming H_2SO_4 and H_2O)) with (α -cellulose) which prepared previously from bleached linter cotton, that had been treated mechanically and chemically in Iraq.

This research demonstrated that the nitrogen content for cellulose nitrate increase with increasing HNO_3 and with decreasing H_2O in nitrating agent, also fuming H_2SO_4 has a main rule as a dehydrant through the reaction.

Also research stated that all ranges of industrial cellulose nitrate can be prepared by using nitrating agent containing HNO_3 in the range of ((21.8% - 25.24% by wt)).



. 25C° (80 mS cm⁻¹)

.2

2-1

((Nitrometer))

((Sensitive balance , Sartorius BL 210 S , Germany)

(¹³) (Panchenko) (Syroeshkin)

2-1-1

Trifluoroacetic acid

%98

%106

Bleached linter cotton

Na₂CO₃

(¹⁴) (Hameed)

2-2



: 2-2-1

(1)

(()) : (1)

%97	-
%2	
%0.6	Ash
%0.2	
%0.05	
%0.15	

: (⁷)

2-2-2

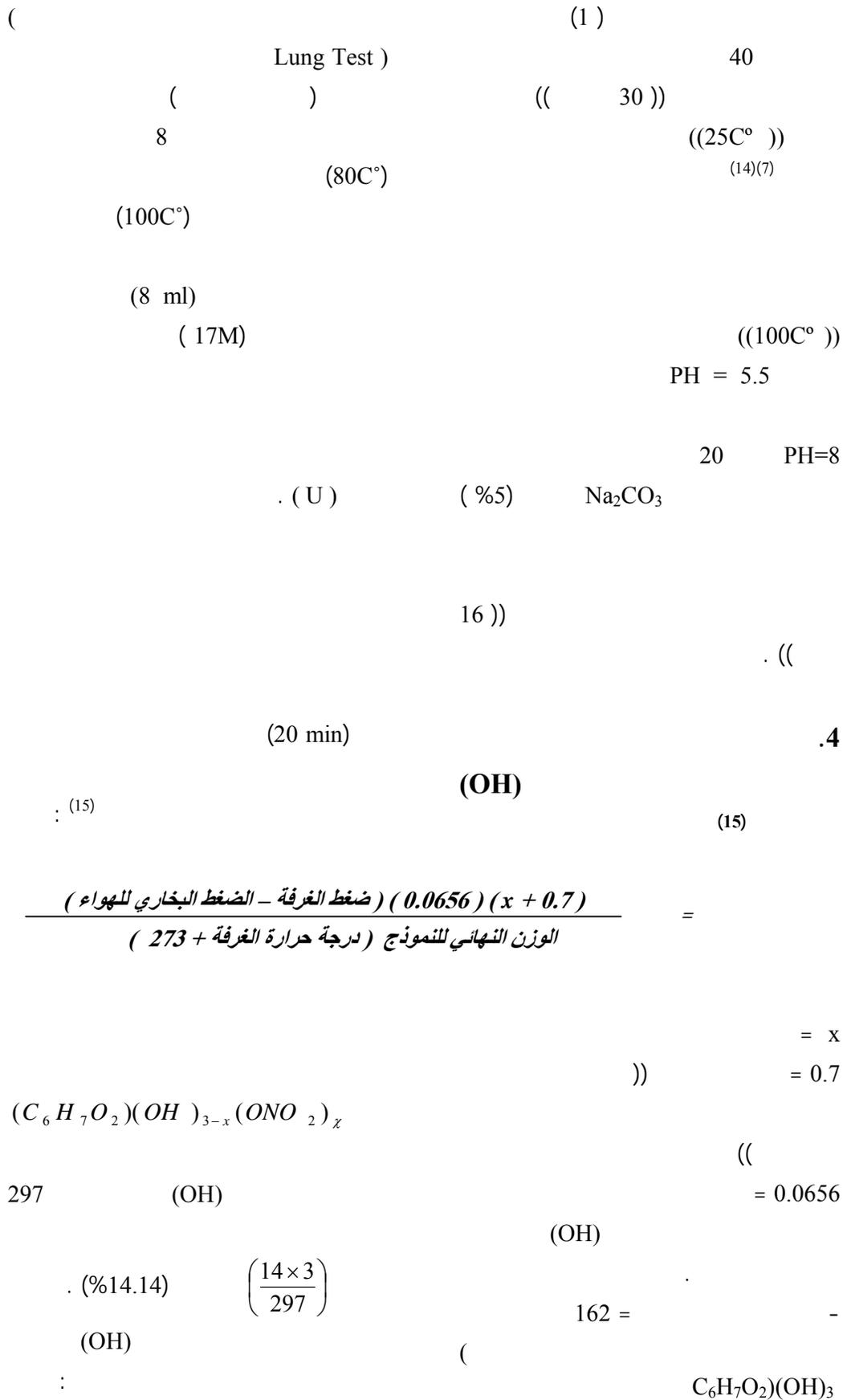
250ml

2-3

%98

%106 (())

(2)



$$\frac{\text{المحتوى النروجيني} \times 297}{14} = (\text{OH})$$

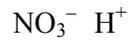
%10.11 %9.72 .5
 %13.50

%13.25

((2))

:

true acid

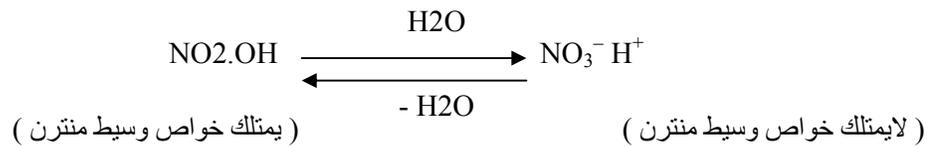


11 6 5 2 1

⁽⁹⁾ ((NO₂.OH)) Pseudo acid

12

2 1



(2) Pseude a cid

14 13 12

(1)

%13.50

%22.5

% 21.8

(2.86)

(OH)

%12.23

(3)

. 13

%12.43

. (OH)

dehydrant

(2)

Sample	H ₂ O wt%	H ₂ SO ₄ wt%	HNO ₃ wt%	Nitrogen content %
1	9.72	65.1	25.18	13.50
2	10.11	64.7	25.18	13.25
3	10.21	65.88	23.91	13.35
4	10.28	65	24.72	13.34
5	11.76	63.04	25.2	13.29
6	11.78	63.02	25.2	13.27
7	12.52	62.68	24.8	13.43
8	12.84	62.10	25.06	13.21
9	15.43	62.57	22	12.49
10	15.94	61.78	22.28	12.76
11	16.2	61.70	22.10	12.50
12	16.29	61.65	22.06	12.27
13	16.32	61.18	22.5	12.43
14	16.32	61.87	21.8	12.23
15	16.65	61.62	21.73	12.52
16	16.75	61.07	22.18	11.95

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