# EXPERIMENT - 5

CONTENT IN BLEACHING POWDER

AIN: to estimate the amount of active chillipse content present on the given beaching powder sample using standard hypo solution (To Dom 61 RIC METHOD)

APPARATUS: 200 mil covical tlask, some pipetie, 50 mil burette Stand
with clamp glaged tile, sooms volumetric trask, measuring
jan, wash bottle etc.

CHEMICALS BEQUIRED: Standard Copper Sulphake Solution, 10:1 KP Solution hypo Solution, glacial arctic acid and bleaching powder sample.

PNDICATOR: 11. Strach Solution

End Point :- Blue to colowiess and the six

THEORY: the avaliable chilbrine content in a breaching powder sample can estimated with hypo by iodometric method based on the shearth shear while involves the conversion of exmental todine as given by (i)

Bleaching pocoder contains a minute of coccurct and ba liciom chilbride Cacl Co COH)2 tho the active component of bleaching pour 3 hypo chilbride from which is suesponsible to the bleaching action

pose conforme m

12 +20 -> QT - Ca (OC) Cl + H20 -> Ca (OH) 2 + Cl2

Little of the product of the color of the secret of the se

Report: free amount of 3mc process in the given room.

Solution is 6.36612 g.



blanching possible Bleaching possible is a good distinfection. hypochilosos acted for votivales contain enzymes in the cell of leading to their death available in chilosofe in liberales active chilosofe quantitatively.

Hence avaliable chilbrine can be determined todom

Frically by adding to and aretic acid to suspension of bleach

pocader is distrilled water the liberated chilbrine in the presence

of aretic acid steleased rodine from polassium indine solu

quantitatively and the liberated of known concentration

as a hypo solution is not a primary star

of is standard copper (cu) solution as was

mentioned achives.

PROCEDURE: - the given bleaching pocoder Sample Solution is loo volumetric flask is shaken throughly to complete homogenize the burietle is filled with hypo solution the pipette is with bleaching powder sample solution and tome of Same: is pipetted out into a clean aso me conical flask to of global accritic acid and tome of 10% kit solution the interest of the conical flask the contents of the conical flask interation mixed well by swiding the conical flask liberation from potassium iodide by active chibrine is almost the dark brown solution in the conical flask taken in

-	ESTIMATION OF AV	TABLE CHIO	PRIME CONTE	NT PM BLEACH
SND	and of breach of soin presse melias	Builtie	Reddiviso	ml V2)
Guo	100	0.0	9-3	9.3
1	10:00	9.3	18 6	9.3
2	10,000			colculated using

CALCULATIONS: the concentration of available childrine the equations N2V2 2 N3V3

N2 2 notmality of hypo 3dutton 2 0.050 58 N

V22 Volume of hypo stundown from burette > 9.3ml

V3 = volume of bleach sample solution pipetted out > 10.0ml

N3 normality of avaliable chilbrine " in bleaching pocoder sample

 $\frac{N_2V_2}{V_3}$ ,  $\frac{q.3 \times 0.05058}{10}$  2 0.04704N

No 2 0.04704N and bleaching pocoder; COD POINT

available chibline priesent in 100 ml bleaching pocoder Sample X> N3 x 29 wt of cl x 100, N3 x 35.45, 23.545 X N3

amount of bleach Sample taken; 420.50059 1 of avalrable chibine bleaching powder 2 x 100 0.1668 x100 2 33.33 y. 10 to present all for subspaces o 5,005 ale to didide out of

until the colour solution changes from don't between to light yellow at this stage aml of 17 of indicates the solution with hypo is continued until the blue solution to disappear two successive concurrent tites are obtained and the dreadings are steckated in table and the available chilbrine content is calculated as shown in table.

Beptit: powentage of avaliable chilbrine content in bleaching powers 33.33%

ALH-CH-OH NH2 CONH2 + HICHO -> 0'=0 HICHO > NH1 - CH2 OH (18 (18 CUsea) (18 maldehyde) (18 maldehyde) (18 maldehyde) (18 maldehyde) Coimethynal Urea) (mono methy nol usea) to kalmedit odi ben marketakanie nothine oppi a co was assured told standard color of the PROCESSING the given insolving peader somple something volumetric that is shaken throughly to complete in the transfer is filled with type salution the process with preaching pointing sample solution and rount of som pipertial cut fints a clean ase me contrate placed or representation and the property of the sension much total ballitest to Joseph and box the control part the controls of the coings sated went top conditing the control trees trees promise at someted with and withhost to compare the compared one the days former starting in the reason with



exactions:

Agrios tract -> Agril tractos
Solution Solution porepilare Solution.

Ph molonity & in Namality. A uday solution (IM) is one which contains one grown molecular weight of the reagent per life of sol , the gram equivalent weight varies with the type of the reaction, the same compound passes, different gram equivalent weight in different context.

of an acid is obtained by dividing the gram equivalent coeight of an acid is obtained by dividing the gram moleculor weight of the promple the gram equivalent weight of the is it given the is its gram molecular weight divided by (36.4511) while that Similarly the gram equivalent weight of a base contained by dividing its molecular weight by number of replaceable hydroxide ions that it contains the example the given equivalence of the original and a proposed ions.

community weight of an exident les obtained by dividing its molecular weight by the number of elections that it gain



S	
	molecular weight by the number of electron it loses in the steaction the enample thallows children critical is a stedectant and thallown (1) loses two electrons on the prioress of oxidation.
	- CATOCHION -
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### EXPERIMENT -6

\* PREPARATION OF UREA FORMALDEHYDE \*

iNi

To perepane unea formal de hyde onesin.

PRARATUS REQUIRED:

Beaker, glass god, funnel, filter paper and chemica

palanu-

henicals Required

wea, Asmaldehyde Soln, conc 42504, distilled wak

THEORY :-

Amino yesins agre condensation paroducts obtained by the reaction of termandehyde with nitrogen bearing compound Buch as anline amides 181 Eg: melonine famaldehyde, w formaldehyde etc.

usiea fameudenyde famed during the fame of diestin is monomethyl and dimethyl wreas.

Polymerisation can take place from mono (81) dimeth usied (81) Possibly through both, with the famation of long Observation 87 mass of the beaker (wil) 2 50.4019
mass of the beaker when termalderyde (wil) 25
mass of when termalderyde (wil) 24.2719
mass of when termalderyde (wil) 24.2719

contrate of matrices or the



#### Broce DURC!

- 1. Place about 5ml of 10% formaldehyde solutions on 100 bearen.
- 2 Add about 2-59 of whea with constant string till sature Solution is obtained.
- 3. Add a few designs of conc. Hosay, with constant stining
- 4. A voluminous white Solid mass appears in the beaker.
- 5 wash the white solid with water and day 9t in the folds
- 6 weight the yeild of product

# Precautions:

- I while adding concentrated H2SO4 it is better to so the avory from the braken as it sometimes vige
- 2. the greaction mixture should be stigged continuous

Repolit: the yeild of wea formaldehyde yearn 42=



#### Broce DORC!

- 1. Place about 5ml of 101. formaldehyde solotions in 10
- 2. Add about 2.5g of unea with constant string till satured.
- 3. Add a few drops of conc. thesay, with constant stiming
- 4. A voluminous white Solid mass appears in the beaker.
- 5 wash the white solid with water and day 9t in the following paper.
- 6. weight the yeild of paroduct

# Pue cautions:

- 1- while adding concentrated H2So4 it is better to state away from the braker as it 30 metimes vig
- 2. the greaction mixture should be stigged continu

Report: - the yell of wea tomaldehyde hearn : 4.8



EXPERIMENT - 7	
DETERMINATION OF STRENGTH OF HYDROCHIDRIC A	OD
Aira:- to detormined the Strength of hydrochlaric acid Standard Sodium hydroxide by ptt metrix method.	
Apparatus:  pt meter, combined electrode glass electrode and postic store toomic beaker, to ml micro busiette and postic store	od calomel
Reagents:  Distilled water standard OIN Noon soin the standard buffer soln, of pt 4 and 9.2	Sample 3d)
THEORY:  #81 many pumposes , especially when dealing with  tions it is cumbersome to empress conc. of the and of  gram equivalent pet liter, A very convient method  the concentration of these ions was proposed by  Pin 1909 the introduced the tri ion emprent ph	to emporess
the greationships:  pt = logio [ti] = logio [tt  (81)  (HT] = 10-PH	

Table: 1 Pilot tituation.

SNO   Volume   Of   NOOH   Sdr (mi)   PH   1-15		PHOE THE MAINTEN	1. Flace Halopole
1 1.0 1.01 2 2.09 3 3.0 2.17 5 40 2.65 6 50 2.40 7 60 2.65 8 7.0 2.65 9 8.0 2.79 10 10 0 4.49 11 10 8.25 11 10 8.25 11 10 9.80 11 10 10 10 10 10 10 10 10 10 10 10 10 1	310	volume of MOOH 3dn (ml)	1760000
3 3.0 1.98 2.09 2.17 5 4.0 2.38 6 5.0 2.40 2.55 8 7.0 2.55 8 7.0 2.55 9.79 10 10 10 10 10 10 10 10 10 10 10 10 10		0.0	
3 3.0 1.98 2.09 2.17 5 4.0 2.38 6 5.0 2.40 2.55 8 7.0 2.55 8 7.0 2.55 9.79 10 10 10 10 10 10 10 10 10 10 10 10 10	2	1:0 com do 10	2 Add 10-latest
3 3.0 2.09 2.17 5 4.0 2.38 6 5.0 2.40 2.65 8 7.0 8 8.0 10 9.0 11 100 12 11.0 12 11.0 13 12.0 14 13.0 15 14.0 16 15 14.0		2.0	1-08
5 4.0 6.0 7 6.0 7 6.0 8 7.0 8 9.35 10 10 10 10 10 10 10 10 10 10 10 10 10	3		2.09
5 4.0 6.0 7 6.0 7 6.0 8 7.0 8 9.35 10 10 10 10 10 10 10 10 10 10 10 10 10	2 41013	103 11360 4109 3. Q103 to cotton	2.17
6 0 2.40 2.55 8 7.0 2.55 9 8.0 10 9.0 11 10.0 12 11.0 12 11.0 13 12.0 14.49 14.49 18.85 19 9.85 10 9.37 10 9.80 10 10.07	5	4.0	2.22
8 7.0 2.55 9 8.0 2.79 10 9.35 10 4.49 11 10.0 8.85 12 11.0 9.37 14 13.0 9.80	6	5.0	00000
8 7.0 2.55 9 8.0 2.79 10 9.35 10 4.49 11 10.0 8.85 12 11.0 9.37 14 13.0 9.80	M. 100	they pre with the side of	2.40
8 9.0 2.79 10 9.0 11 10.0 11 10.0 11 10.0 12.0 13.0 14.49 19.85 10 19.80 10.07	+		2.55
10 9.0 4.49 11 10.0 8.85 12 11.0 9.37 14 13.0 9.80 15 14.0 10.09	8	7-0	and and design and
10 9.0 11 10.0 12 11.0 13 12.0 14.49 8.85 14 13.0 19.80 10.09	9	8.0	
10 10 10 10 10 10 10 10 10 10 10 10 10 1		0.0	2-35
11 11·0 8·85 12 11·0 9·37 14 13·0 9·80 15 14·0 10·09	10		1.1.0
12 11.0 13 12.0 14 13.0 14 10.07	i usu	Leidi 100 blorianas	GIBEN SINGLE
14 13.0 9.80	12	100 the 600-111 00 it som	8.851/1
14 13.0 9.80	13	12.0	9-37
	14		9-80
16 15.0	15	of uncopythemolety	10-07 N
	16	16.0	10.40



the quantity of PH is thus the Jegarithm (to base 10) of
the oreciprocal of the H+ ion conc [H+] 81 is equal to the logarithms
of [H+] with negative 3ign, this method of expression has the advange
that all states of acidity and alkalimity both I/1 in [H+] of those
a neutral 80/10 with [H+] = 10-7 has a pH of 7; a 8d IN in [H+]
has a pH of 3010; and a 8d IN in [OH] passes a PH of
14.

The common too PH meter is an electric digital milliNotinetar Scaled the stead PH districtly with a steading of o.o.l

PH unit and an account of tool unit the steading displayed
by the melor is a district measure of the pokential difference

stead of the passes electrode and calmoet electrode immente
in the lest sol. the basic electrochemical cell involving glass
electrode calomer electrode and text solo may be one pressed a

Ag/Agel, Hellglass/Test soln// Kel (Battwootvi) Hgelz/HgI

The Strength of given hydrochlarine acid Soln can be determined Using Standard Sodium hydroxide Soln tollocoln. The PH metur method.

ROCEOURE:

The given hydrochlaric acid Simple Soln is is lower lumeric task is made upto the mark is with distilled water mogenized bomb of soln is pipetled out into a clean look

Table	a:
caccognate	Titation]

	(Accusiate		TEDETECTOR
. 1	MOOH eath (me)	PH	
SNO	M Of MOOR	1.75	AM
,	0.0	1-91	
	1.0	1.98	Southwest Co
2	The state of the s	209	the state of the s
3	2.0	2.17	American Land
4			: Sylonony
5	40	5.98	
6	6.0	240	leo mc beakon
0	LE LES CHE CHELL BILDINGS	2.65	
7	7-0	2-79 3-35	Reagents
800	8.0	5.60	
1011	10.0 SAID	Vol of Naon son	mu) PH
MEG	SAID	10 -00	4.84

90		5.60	
100 (00 M)	SAID	Vol of MOOH 3dn (mu)	bti
20 bil	Sitto	101	4.84
A	12	Control of the Contro	5.60
	13	10-2	7.95
	14	10-3	101
and policy makes	15	escaped from	8-30
B (Bliff, Pd and and and	16	105	8.51
Di and the deal desirence	In	1067 1061	0.00
	18	10-7 FOI MEE	1-5-8
and the fresh to	19 20	80) 108	8-76
the also manche a	20	10.9	8.81
	20	140 ItO	8.85
Jeliger styl	23	12.0	9-20
		2-0	9.37
The state of the s	24		9-81
	25	13.0	
	26	18.8	10.1
		TO THE PARTY OF	STREET, STREET



beaker 40 ml of distilled is added to this Soln mean while

the PH meter 4.0 and 9.2 offer connectic the combined

electrode of else, glass electrode calomet electrode combined

electent finto the Hcl Soln in the rooms beaker and the

soln is stirried soln each time, the Soln is thoroughly

missed often each addition of the tilrant making cute of

a plastic Stater and the corresponding pli values as

displayed by the ph meter are recorded in table 1.

After Heaching a certain stage in the titration por a sudden and large change in pH will be noticed indication over stepping of equivalence is known as pilot titration of accurate titration on similar these to the pilot titration of similar the equivalence point is oreached after this a titration is continued by adding of me in one of the titration solve until the equivalence point is ocossed the process is continued until the equivalence point is ocossed the process is continued until the all the meleculant observed are preceded in table 2

A graph is drown blue volume and corresponding volues on 4-axis for the accurate fibration from the the world country of the correct comparison to hydrochionic acid in the Sail 13 Calculated in table-2

Repeat: Amount of hydrochibic and present in looms of the

Calculations:
The conc Hot in the given 3dn can be calculated by where Vis volume of Mach 210 as m2

M1: NBImality of Sodium hydroxide 20.06078N

1/22 volume of ticl 2 10ml

solo con el rolon 49 del nommon solo N22 Willy of HCl 2?

Hence was set find 100 to 40 prouded at 100 to 100 find 199 N2 2 NIVI 2 0.05078 X10.25 = 0.0520 N The desired only states to a only bardensis

mount of Hal acid present in loome given san is 0.18999 electrode caterner electrode and lort som may no

Appear there free sa / Lieu (so the order)

the Strength et que hydraelistice and s

somethic -these is neede upon the made sintemolal

concrenized bomb of Ser is pipelled cut into a