

LAB JOURNAL - Version 2.0

Experiment No. : LBN 8 Aim : To develop product equivalent to reference product
Equipment Details : Glass RBF with stirrer set up
Reaction Scheme : Safety Precautions :

Input Raw Material

Sr.No	Raw Material	Sources	Cas No.	RM No	Quantity gms	Purity	Rm %	Molecular Wt.	No. of Moles	Molar Ratio
1	Vicaspin LUB 1020 (R226011203) Bu- EO-PO HV-66.0/ MW-1100	Viswaat			207.0			1100	0.19	1.0
2	P2O5	Commercial			9.974				0.07	0.37
3	Epomine SP-018	Nippon			37.2	100				
4	Butyl acrylate				72.0	100		128.2	0.56	
5	AIBN catalyst				0.5					
6	Step- B reaction mass (20%)				54.7					
7	Step- A product				172.4					

Experimental Procedure

Sr.No	Time hrs	Temperature °C	Pressure/Vacuum-N2	Process Steps	Remarks
1	0.25 / 0.5	50-55 / 60-65	N2	Step- A To main reactor added Vicaspin LUB 1020 (R226011203) Bu- EO-PO HV-66.0/ MW-1100 under stirring and nitrogen atmosphere temp. 40 deg increased temp slowly with addition of P2O5	hazy then clear
2	1-2 / 0.5	50-55 / 70-75	N2	Step-B To main reactor added Epomine SP-018- reaction mass held with slow addition of Butyl acrylate, checked free acid at interval	AV-47.9, free acid 0.4
3	1-2	65-70	N2	Step-C To main reactor added Step- B reaction mass (20%) and Step- A product, mixed till uniform	AV 47.5 Amine 32.1

Optimized Reaction Conditions: Temperature c: 70-75 | N2/Vac: N2 | Time: 4h

Critical Process Parameter

Sr No	Source	Time	Temp	Observation Details
1	Step-A	0.25	55	hazy then clear

Critical Parameters

S.no	Parameter	Reference	Value
1	av	43.2	47.5
2	aminev	30.1	32.1

Conclusion: