

LAB JOURNAL - Version 3.0

Experiment No. : LBN 49 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 1010 (R225100845) Bu- EO-PO HV-62.3/ MW-900	Viswaat			174.0			900	0.19	1.0
2	P2O5	Commercial			9.815				0.069	0.36
3	Epomine SP-018	Nippon			32.2	100				
4	Butyl acrylate				60.7	100		128.2	0.47	
5	AIBN catalyst				0.31					
6	Step- B reaction mass (25%)				53.1					
7	Step- A product				136.3					

Experimental Procedure

Sr.No	Time hrs	Temperature °C	Pressure/Vacuum-N2	Process Steps	Remarks
1	0.25 / 1	50-55 / 65-70	N2	Step- A To main reactor added Vicaspin LUB 1010 (R225100845) Bu- EO-PO HV-62.3/ MW-900 under stirring and nitrogen atmosphere temp. 40 deg increased temp slowly with addition of P2O5	hazy then clear
2	1 / 0.5 / 0.5	40-45 / 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-45.8, free acid 0.9
3	1	55-60	N2	Step-C To main reactor added Step- B reaction mass (25%) and Step- A product, mixed till uniform	AV 46.2 Amine 33.0

Optimized Reaction Conditions: Temperature c: 70-75 | N2/Vac: N2 | Time: 5h

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	46.2
2	aminev	30.1	33.0

Conclusion: