

LAB JOURNAL - Version 3.0

Experiment No. : LBN 16 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			160.0			900	0.18	1.0
2	P2O5	Commercial			7.548				0.053	0.29
3	Epomine SP-018	Nippon			39.4	100				
4	2 ethyl hexyl acrylate				67.0	100		184.3	0.36	
5	Step- B reaction mass (20%)				39.7					
6	Step- A product				133.5					

Experimental Procedure

Sr.No	Time hrs	Temperature °C	Pressure/Vacuum-N2	Process Steps	Remarks
1	3	45-50	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	clear mass
2	0.5 / 3 / 0.5	55-60 / 65-70 / 85-90	N2	Step-B To main reactor added Epomine SP-018- reaction mass held with slow addition of 2 ethyl hexyl acrylate, checked free acid at interval	AV-50.7, free acid 0.5
3	1-2	55-60	N2	Step-C To main reactor added Step- B reaction mass (20%) and Step- A product, mixed till uniform	AV 40.8 Amine 33.5

Optimized Reaction Conditions: Temperature c: 80-85 | N2/Vac: N2 | Time: 5h

Critical Process Parameter

Sr No	Source	Time	Temp	Observation Details
1	Step-A	3	50	clear mass
2	Step-B	0.5	80	free acid < 0.5 endpoint check

Critical Parameters

S.no	Parameter	Reference	Value
1	av	43.2	40.8
2	aminev	30.1	33.5

SPDu :
Conclusion: