

Batch- NO - 48 / ByK-9076

Date - 29/10/25

Chemical Composition / Step-I - Phosphate Ester

Raw Material	Weight	Mol. wt	* Moles.
1) Vicalpin - LUB-1010 Bu-FO-PO - MW=900 HV-62.3	178	900	0.197
2) P ₂ O ₅	9.35	141.94	0.0658

Process.	Time	temp.	Observation.
	0.5	RT-50 / N ₂	Charged LUB 1010 - 178 gm
	1.5	RT-75-77 / N ₂	Feed of P ₂ O ₅ -
	1 hrs	77 - N ₂	No Particles clear mass No-Turbidity AV - 52.52 MONO - 24.44 DIESTER - 51.76%

Step-II) Acylate Intermediate -

Raw materials	Weight	MW.	* %.
1) Epomine Sp-18	30		30%
2) 2-ethyl hexyl Acylate	70	184.27	70%

Process -	Time	temperature	observation.
	0.5	75-79 / N ₂	Charged - Sp-18
	2 hrs.	78-79 / N ₂	Feed of 2-ethyl hexyl Acylate over - 2 hrs.
	5.5 hrs.	77-81 / N ₂	Clear transparent

Step-III) Neutralisation.

Raw material	Weight	%
1) Phosphate Ester Step-I)	85	85%.
2) Arylate Intermediate Step-II	15	15%.

Process -	Time	Temperature	Observation.
	0.5	RT-55-59/N ₂	Charged Arylate Intermediate Feed of Phosphate 85gm over <u>25min.</u>
	1.5 hrs.	55-58/N ₂	clear mass
	1 hr	55-57/N ₂	- Yellowish No foam.
			AV - 44.36 Amine - 36.25

Batch - 48Q	Rm. from above Batch.	%
	1) Arylate Intermediate	15%.
	1) DMS	- 0.5%.
	11) Phosphate	- 85%.

Time	Temp	Observation
0.5	55-75 -	Charged Arylate
0.5		slowly added DMS. / clear transparent mass.
2.5	55-60 -	Slow addition of Phosphate ester.
		AV - 52 Amine - 31.67

Batch- NO-49 / BYK 9076

Date- 1/11/25

Step-I) Phosphate ester.

Raw material	Weight	Mol. Wt	Moles
1) Viscopin LUB 1010 Bu-Eo-PO HV - 62.3 / MW. 900	208	900	0.2311
2) P205	10.93	141.94	0.077

Process -	Time	temperature °C	Observation.
	0.5	RT-50 / N ₂	Charged LUB 1010 -
	1.5	50-75-77 / N ₂	Feed of P205 / 10
	1.5	77-80 / N ₂	Dispersion of P205 No - particles. Clear mass. No Turbidity AV - 51.87 Mono - 22.56 / Di - 48 Free Acid - 1.096

Step-II) Acrylate Intermediate

Raw material	Weight	Mol. Wt	Moles
1) Epomine SP-18	30		
2) 2-ethyl hexyl Acrylate	70	184.27	7

Process	Time	temperature °C	Observation.
	0.5	75-79 / N ₂	Charged SP-18
	2 hrs.	75-79 / N ₂	Feed of 2-ethyl hexyl Acrylate / 2 hrs
	5.5 hrs.	77-79 / N ₂ 81	Clear transparent

Step-III) - Neutralisation

Raw material	Weight	%
1) Phosphate Ester Step-I)	87	87%
2) Acylate Intermediate Step-II)	13	13%

Process -	Time	Temperature °C	Observation.
	0.5	55-58/N ₂	Acylate Intermediate 13gm
	1.5	55-57/N ₂	- Feed of phosphate Ester over
	1.5	55-57/N ₂	clear transparent Mass.
			AV - 46.5
			Amine - 20.2

(Batch - NO-50) / BYK 9076

Date 5/11/25

Step-I) Phosphate Ester

Raw material	Weight	Mol. Wt	Moles
1) Vicaspin-LUB 1010 Be-FO-PO / MW-900 HV-62.3	301	900	0.3344
2) P205	15.82	141.94	0.111

Process -	Time	Temperature	Observation.
	0.5	RT-50 / N ₂	Charged LUB 1010 30/gm.
			Feed of P205 - 15.82
			Over 10-12
	2.5	75-78 / N ₂ -	Clear mass.
			No particles.
			HV - 52.5
			mono - 23.5
			Dioctyl - 53.2
			Free Acid - 0.1

Step-II Acrylate Intermediate

Raw material	Weight	Mol Wt	mole/-l.
1) Epomine sp-18	30		307.
2) 2-Ethyl hexyl Acrylate	70	184.27	701.

Process - Time	Temperature °C	Observation.
0.5	78-81 / N ₂	Charged sp-18.
2hrs	78-80 / N ₂	Feed of 2-ethyl hexyl Acrylate / 2hrs.
5.5hrs	78-80 / N ₂	At room temperature.

Step-III) Neutralisation . / (B.NO - 50B)

Raw material	Weight	%
I) Phosphate Ester (Step I)	80	80%.
II) Acylate Intermediate Step-II	20	20%.

Process -	Time	Temp (°C)	Observation.
	0.5	55-57/N ₂	Charged. Acylate Intermediate 20gm Feed of phosphate Ester 80gm / 10-12 min
	0.5	55-57/N ₂	- Clear mass / No foam
	2.5	55-57/N ₂	- No turbidity AV - 44.14 Amine - 4.7

B.NO - 50A	I) Acylate - (Step-I)	- 15%.
	II) DMS (1:1)	- 1%.
	III) phosphate Ester Step-II	- 85%.

Time	Temp °C	Observation.
0.5	55-58/N ₂ 65-70	Charged Acylate Feed of DMS (1:1) over 15 min.
1.5 hrs	70-75 / N ₂	Clear yellowish mass
0.5 hrs.	55-62 / N ₂	Feed of phosphate Ester 30 min
3 hrs.	58-62 / N ₂	- Clear Uniform mass Slight Turbidity. AV - 48.7 Amine - 31.08

Batch-51 / BYK 9078

Date - 17/12/25

Step-I

Chemical Composition

RAW material	Weight	Mol Wt	Moles	-J.
1) Vicasurf LUB 1010/Bu-Ea-PO AV - 57.8	125 gm	970.5	0.128	
2) P205	4.8 gm	141.94	0.0338	

Phosphate Ester

Process	Time (hr)	Temp °C	Observation.
	0.2 hrs	RT-55 / N ₂	100 gm Added of Vicasurf LUB 1010 over Added. + Feed of P205 over 10 min.
	1 hrs.	77-78 / N ₂	dispersion of P205 slowly
	2 hrs.	75-80 / N ₂	slight turbidity / yellow structure.
	1.5 hrs.	75-78 / N ₂	AV - 51.7 Added 25 gm LUB 1010 Final AV - 42.5 Mono - 33% / Diols - 10.65 Free Acid - 0.24%.

Step-II) Acylate Intermediate

RM	Weight	%	Mol Wt	Moles / %
1) Epomine SP 18	30 gm	30%		30%
2) 2-Ethyl hexyl Acylate	70 gm	70%	184.27	70%

Process.

Time

0.2

Temp °C

RT-75-78 / N₂

Observation.

charged SP-18 - 30 gm.
heated to 75-80°C

Time
5.5 hrs.

Temp °C
75-81°C / N₂

Observation.

Observed Reaction by IV analysis.

Final IV - 26.1 @ 5.5 hrs.

Step-III - Neutralisation.

Raw Material	Weight	%
Phosphate Ester Step-I	85	85%
Acylate Intermediate Step-II	15	15%

Process - Time	Temp	Observation.
0.2	55 / N ₂	Charged Acylate Intermediate - 15 gm.
0.5	55-59 / N ₂	Feed of Phosphate Ester over 10-15 min.
2 hrs.	55-58 / N ₂	Slight Turbidity <u>AU - 46.8</u>

Blending B.NO-51A - 1) B.NO-51 - 50% } AU - 23.66
2) Finalux - 50% } Amine - 14.2
G-1812

B.NO-51B - 1) B.NO-51 - 75% } AU - 31.9
2) Finalux - 25% } Amine - 20.4
G-1812

B.NO-RSB-04A) 1) RSB-04 - 81.8% }
2) Finalux - 9.09% }
G-1812 }
3) B.NO-48 Acylate - 9.09% }

B.NO-51C PPG-Adipate - 100%.

Step-I) Phosphate Ester

Raw material	Weight	Mol wt	Moles
1) Vicasuf LUB 1010 / BuEpo HV-57.8 MW-970.5	125 gm	970.5	0.128
2) P ₂ O ₅	4.8 gm	141.94	0.0338

Process-

Time	Temp °C	Observation
0.2 hrs	RT-55 / N ₂	100 gm LUB 1010 charged + feed of P ₂ O ₅ complete over 10 min. @ RT.
1 hrs.	77-78 / N ₂	dispersion of P ₂ O ₅ slow
2 hrs	75-80 / N ₂	slight turbidity
1.5 hrs.	75-80 / N ₂	Yellow fineture. AV-51.7 added 25 gm LUB 1010 added AV-42.5 / Monoester - 33% Drover - 10% / Free Acid 0.2 hr.

Step-II) Acylate Intermediate

RM	Weight	Mol wt.	Moles / %
1) Epamine sp-18	87.6 gm		30%
2) 2 Ethyl hexyl Acylate	181 gm		-
3) DBN Catalyst (0.2%)	0.517	184.27	70%

Process

Time	Temp °C	Observation
0.5	78-81 / N ₂	SP-18 - 77.6 gm + charged / D
2 hrs	78-81 / N ₂	Feed of 2-ethyl Acylate over 2 hrs - turbidity / yellow fineture
7 hrs	78-80 / N ₂	IV - 24.26
3.5 hrs	78-81 / N ₂	Added SP-18 - 10 gm IV - 24 / Cool to R.

Step - III) Neutralisation.

Raw material	Weighted	%
Step-I) phosphate Ester	85	85%
Acylate Intermediate (Step-II)	15	15%

Process

Time	Temp ^o C	Observation.
0.5	<u>55/59/N₂</u>	Charged Acylate 15gm Δ ON / feed of Phosphate Ester - 85gm Over running found Turb
3.5	55/59/N ₂	• more clarity AU - 37 / Amine - 30 SAP - 53

STEP-I) Phosphate Ester

Raw material	Weight	Mol. Wt	Moles
1) Finalux-G-1812 HV-120	273	467.5	0.583
11) P ₂ O ₅	13.81 gm	141.94	0.0972

Process

Time	Temp °C	Observation.
0.5	RT-	Charged Finalux G 1812 - 273 gm
3.5	75-80 / N ₂	Feed of P ₂ O ₅ - 13.81 gm over - 10 min
0.5	75-80 / N ₂	P ₂ O ₅ Dispersion / slightly turbid Yellow tincture / slight turbid.
		AV - 24.3 MONO - 9.8 / DROPS - 15 Free Acid - 0.76

STEP-II) Acrylate Intermediate

Raw material	Weight	Moles WE	Moles / %
1) EP-SP-18	87.6		30%
2) 2-Ethyl hexyl Acrylate	181	184.27	90%
3) DBN (0.2)	0.577		0.2%

Process

Time	Temp °C	Observation.
0.5	78-81 / N ₂	SP-18 - 77.6 gm charged / DBN
2 hrs.	78-81 / N ₂	Feed of 2EHAcrylate / 2 hrs.
7 hrs	78-81 / N ₂	IV - 24.26
3.5 hrs	78-81 / N ₂	Extra. Added 10 gm SP-18 IV - 26 / Cool to RT.

Step-III) Neutralisation.

RAW material	Weight	%
phosphate Ester	85	85%
Step-I) Acylate Intermediate	15%	15%
Step-II)		

Time	Temp ^o C	Observation
0.5	RT-55-59/N ₂	- charged Acylate Intermediate (15%) + feed of phosphate (85%) over 10 min.
<u>2.5 hrs.</u>	55-59/N ₂	- More clear mass. AV-20.8 / Avine-29.5

Batch-54 / BYK-9076

Date - 8/1/26

Step-I) phosphate Ester

Raw material	Weight	Mol. Wt	moles
1) Vicasurf LUB 1010 Butand-10Eo-10PO HV-57.8	145	970.5	0.149
1) P2O5	3.37	141.94	0.0237

Process

Time	temp	Observation.
0.5	RT-55/N ₂	Charged LUB 1010 - 145 gm
3.5	75-77/N ₂	Feed of P2O5 - 3.37 gm / 10 min.
0.5	75-78/N ₂	slight foam / Turbidity clear mass /
		AV = 23.5 / mono - 6.3 Dimer - 44.4 Free Acid - 0.2

Step-II) Acylate Intermediate

Raw material	Weight	Mol Wt	Mole / %
1) Epimine Sp-18	72.8		30 %
2) 2-Ethyl hexyl Acylate	169.1	184.27	70 %

Process

Time	temperature °C	Observation.
0.5 hrs	75-77 / N ₂	Charged Sp-18 - 72.8
2 hrs.	77-79 / N ₂	Feed of 2-ethyl hexyl Acylate over 2 hrs.
5.5 hrs	78-81 / N ₂	IV - 27.5 at 5.5 hrs / 77 clear mass.

Step-III) Neutralisation.

#

Raw material	Weight.	%
phosphate Ester (Step I)	95	95%.
Acylate Intermediate (Step-II)	5	5%.

Process

Time	Temp ^o C	Observation.
0.5	55/N ₂	Charged Acylate - 5gm. & feed of phosphate - 9.5gm over 10min.
2.5	55-59/N ₂	yellowish transparent clear mass. AV-25.69 / Amine - 8.35.

Batch-54A / ByK 9076

Date 19/1/26

Step-D) phosphate Ester

Raw material	Weight	MW	mole
1) <u>Vicasuf LVB 1010</u> Butanof 10EO-10PO HV - 57.8	250	970.5	0.257
2) P205	5.8	141.94	0.0408

Time (hr)	Temp °C	Observation
0.5	RT-50/N ₂	Charged Vicasuf LVB 1010 - 250 Then feed of P205 over 10 min
4.5 hrs	75-80/N ₂	clear mass AV - 28.5 Mono - 8.3 / Diester - 38.5 Free Acid - 0.25

Step-A) Acrylate Intermediate

Raw material	Weight	MW	mole
1) Epimine-SP-18	72.8		3
2) 2-ethyl hexyl Acrylate	169.1	184.27	7

Time (hr)	Temp °C	Observation
0.5	75-79/N ₂	Charged SP-18 - 72.8 gm
2 hrs	78-81/N ₂	feed of 2-ethyl hexyl Acrylate Over 2 hrs /
5.5	77-81 / N ₂ -	IV - 27.5 / 5.5 hrs / clear yellowish mass.

Step-III) Neutralisation]

Raw material	Weight	%
Phosphate Ester Step-I)	90 gm	90%
2) Acylate Intermediate Step-II)	10 gm.	10%

process

Time (hr)	Temp	Observation.
0.5 hrs.	55-59 / N ₂	charged Acylate Intermediate
0.5 hrs.		10 gm / feed of phosphate Ester 90 gm over - 12 min.
2.5 hrs	55-59 / N ₂ —	Yellowish Clear Mass
		AD-25 / Amine - 21.9.

Batch-55 / BYIS 9076

Date 21/1/26

Step-I) Phosphate Ester

Raw material	Weight	MW	Moles
1) BEP-1100M 68.35 HV- 50082 BuEO-PO/ Block Copolymers Esters.	150 gm	820	<u>0.1829</u>
2) P2O5	8.68 gm	141.94	<u>0.0611</u>

Time	Temp °C	Process.
0.5 hrs.	RT-50/N ₂	BEP-1100M charged - 150 gm Feed of P2O5 - 8.68 gm - Disperse Well.
4.5 hrs	75-80/N ₂	Yellowish Brownish appearance NO particles / clear mass AV-52.85 / Mono - 18.39 Di - 72.44 Free Acid - 0.3

Step-II) Acylate Intermediate

Raw material	Weight	MW	moles/l.
1) Epomine Sp-18	72.8		30%.
2) 2-Ethyl hexyl Acylate	169.1	184.27	70%.

Time	Temperature °C	Observation.
0.5	75-79 / °N ₂	Charged Sp-18 - 72.8 gm
2 hrs	77-81 / N ₂	Feed of 2-Ethyl hexyl Acylate / 2 hrs
5.5	77-81 / N ₂	IV - 27.5 / 5.5 hrs. clear yellowish mass.

Step-III) Neutralisation

Raw material	Weight	%
Phosphate Ester Step-I)	85 gm	85%
Acrylate Intermediate Step-II)	15 gm	15%

Time	Temp. °C	Observation.
0.5	55/102	Charged Acrylate - 15 gm Feed of phosphate ester - 85 gm Over 15-20 min
2.5	55.56/102	Slight foam / Turbidity.

Batch-SSD — A) B.NO 55 — 50%.

B) BEP-1100 — 50%.

Blending Above material.

AV-26.12 / Avine - 12.86

Batch - 56 / By K 9076

Date - 20/1/26

Step - I) Phosphate Ester

Raw material	Weight	Mol. Wt.	Moles.
1) BEP - 1100M HV - 64.29	200gm	872	0.229
2) P ₂ O ₅	4.511	141.94	0.0317

Process

Time	Temp ^o C	Observation.
0.5	RT-50/N ₂	Charged BEP-1100M - 200g Feed of P₂O₅ P ₂ O ₅ - 4.5 in 10 min
4.5	75-81/N ₂	- Initially dispersion of P ₂ O ₅ - Traen of particles found - Yellowish tincture. AV - 23.85 / MONO - 50.0 Diester - 32 Free Acid - 0.0

Step - II) Acrylate Intermediate

Raw material	Weight	Mol Wt	mole / %
1) EPDMing P-18	72.8		
2) 2-Ethyl hexyl Acrylate	169.1	184.27	

Time	Temp	Observation
0.5	75-79/N ₂	Charged Sp-18 - 72.8
2 hrs	77/81 - N ₂	Feed of 2ethyl hexyl Ac over 2hri.
5.5	77-81 N ₂	IV - 27.5 / 5.5 Clear transparent Mass

Step - III) Neutralisation -

Raw material	Weight	%
1) Phosphate Ester Step - I)	85	85%
2) Acylate Intermediate Step - II)	15	<u>15%</u>

Process

Time (hr)	Temp ^o C	Observation.
0.5	55-59/N ₂	Charged Acylate Intermediate - 15gm Heating to 55-58 ^o C / Feed of Phosphate Ester 85gm over 10 min. Yellowish transparent mass.
2 hrs.	55-59/N ₂	
2.5 hrs.	55-58/N ₂	Clear mass / AV - 15.9 Amine - 33.8

Batch No - 57 / BYK 9076

Date - 2/2/26

Step - I) Phosphate Ester

Raw material	Weight	Mol WT	Mole
1) BEP - 1100M / BuFO / POH HV - 64.29	200 gm	872.6	0.229
2) P ₂ O ₅	10.84	141.94	0.0763

Process -

Time	Temperature °C	Observation.
0.5	RT - 50 / N ₂	Charged BEP - 1100M - 200 gm
1.5	RT - 50 - 75 - 77°C / N ₂	Feed of P ₂ O ₅ - 10.84 / 10 gm dispersion of P ₂ O ₅ Yellowish Brownish mass - clear yellowish Brownish mass
0.5	75 - 77°C / N ₂	
1 hrs -	77°C / N ₂	# AV - 46.7 Mond - 11.8 / DSCOT - 76.6 Free - 0.61 %.

Step - II) Acylate Intermediate

Raw material	Weight	Mol. WT	mole / %
1) Epomine - Sp-18	72.8		30 %
2) 2-ethyl hexyl Acylate	169.1	184.27	70 %

Process -

Time	Temperature °C	Observation.
0.5	75 - 79 / N ₂	Charged Sp-18 - 72.8 gm
2 hrs	78 - 79 / N ₂	Feed of 2-ethyl hexyl Acylate

[Step-III) Neutralisation]

Raw material	Weight	%
phosphate 60% Step-I)	85 gm	85-1.
Acylate Intermediate Step-II	15 gm	15-1.

[<u>process -</u>]	Temperature °C	Observation.
Time (hr) 0.5	55-57/N ₂	Charged Acylate Intermediate - 15 gm. Feed of phosphate - 85 over 10 min.
2.5	55-59/N ₂ -	Yellowish Brownish appearance
1 hr	55-59/N ₂	Clear mass.
		AV - 39.7.
		Amine - 31.3

Batch - NO - 58 / BYK 9076

Date - 24/2/26

Step - I) Phosphate Ester

Raw material	Weight	Mol. wt	mole.
1) Vicasurf LUB 1010 Butanediol-12PO-10EO MW 942.2 / 59.5	200 gm	942.2	
2) <u>P2O5</u>	<u>5.471</u>	141.94	

Process -

Time

temperature.

Observation.

0.5

R-T / 50°C

Charged LUB 1010 - 200 gm

2.5

75-77 / N₂Feed of P₂O₅ - 5.47 / 10 mindispersion - clear
fine turbidity

1.5

75-79 / N₂clear mass

AU - 37.6

mono - 11 % Diester - 32

Free Acid - 0.25

Step - II) Acrylate Intermediate

Raw material	Weight	Mol. wt.	mole %
1) Epamine Epamine - 8p-18	50		30%
2) 2-ethyl hexyl Acrylate	116.6	184.27	70%
3) AIBN (0.1-1%)	(0.16)		0.1%

<u>Process - Time</u>	<u>Temperature</u>	<u>Observation.</u>
0.5	78-81/N ₂	- SP-18 - Changed - 50g
1.5	78-81/N ₂	- Feed of 2-ethylhexyl Acyl 116.2 / over 3 hrs. ATBN
1.5	78-81/N ₂	- slight turbidity - Feed over
4 hrs	78-81/N ₂	- IV-34 / Yellowish turbidity Appears
3.1 hrs.	78-81/N ₂	- IV-15.8 / Cool to RT.

Step-III) Neutralisation -

Raw material	Weight	%
Phosphate Ester Step-I)	85	85%.
Acylate Intermediate Step-II)	15	15%.

<u>Process -</u>	<u>Temperature °C</u>	<u>Observation.</u>
Time		
0.5	RT- 55-59/N ₂	Changed Acylate 15% heat to 55°C
1.5	55-59/N ₂	Feed of phosphate Ester 85%. Over - 20 min
1.0	55-59/N ₂	Clear Mass
		AV - 24.6 Amine - 30.2

Batch NO-59. / Byk 9076

Date - 6/3/26

Step - I) Phosphate Ester

Raw material	Weight	mol. wt	moles,
1) Masust LUB 1010 Be-12P0-10E0 942.22 / 59.54	300gm	942.22	
2) P2O5	15gm	141.94	

Process -

Time

Temperature

Observation.

0.5

RT-50 / N₂

Charged LUB 1010 - 300gm

1.5

RT-75 / N₂Feed of P₂O₅ - 15gm
over 20 min. / raised temp ↑

2.5

77-78 / N₂

Yellowish / turbidity mass.

AU - 54.2

Mono - 15%.

Diester - 71%.

Free Acid - 0.31%.

Step - II) Acylate

Intermediate

Raw material

Weight

mol. wt.

mole %.

1) Epimine sp-18

50

2) 2-ethyl hexyl Acylate

116.6

184.27

3) AIBN - 0.1%.

0.16

Process

Time

Temperature °C

Observation.

0.5

77-78 / N₂

1.5

78-81 / N₂sp-18 charged
Feed of (2-ethyl hexyl
Acylate + AIBN) mix
over / 3 hrs.

Time	Temperature	Observation.
4 hrs.	78-81/N ₂	TV - 34 / Yellow turbid mass
3.1 hrs	78-81 / N ₂	TV - 15.8 / Cool to RT

Step-III) Neutralization.

Raw material	Weight	%
1) Phosphate ester Step-I)	85	85
2) Acylate Intermediate Step-II)	15	15.1

Process -	Time	Temperature	Observation.
	0.5	55-59/N ₂	changed - Acylate Intermediate
	1.5	55-59/N ₂	Feed of Phosphate ester
	1.5 hrs.	55-58/N ₂	Over - 15 min. / No clarity Turbidity / Foaming Yellowish Mass.
			AV - 43.2
			Amine - 24.2

(Batch NO-60) / By K 9076

Date - 1/4/26

Step-I) phosphate Ester

Raw material	Weight	Mol. Weight	Mol
1) Vicalux LUB 1010 Bu- PPO-10E0 MW-942.22 / W 59.52	200 gm.	942.22	
2) P205	10.04 gm	141.94	

Process -	Time	Temperature °C	Observation.
	0.5	RT-50 / N ₂	Charged - LUB 1010 - 200
	1.5	RT-75 / N ₂	Feed of P205 - 10.04 Over 10-15 min. / slow dispersion.
	1.5	77-80 / N ₂	Brown particles slight foam / AV - 52 Residue - sticks on wall

Step-II) Acylate	Intermediate		
Raw material	Weight	Mol. WT	%
1) Lupasol G-20	75		25%
2) 2-Ethyl hexyl Acylate	225	184.27	75%
3) AIBN (0.05%)	0.15 gm		0.05%

Process - Time	Temperature	Observation.
0.5	RT-50/N ₂ 78-81	Charged Lupasol-G-20 175gm.
1.5	78-81/N ₂	Feed of (Acrylate + AIBN) mix started
1.5	78-81/N ₂ -	Yellowish tincture / clear Mass Yellowish - clear mass.
4.1	78-81/N ₂	IV - 32.3 / clear mass.
3 hrs.	78-81/N ₂	IV - 17.6 - clear mass / yellow tincture.

Step-III) Neutralisation -

Raw material	Weight	mol. wt. %
1) Phosphate Ester Step-I)	85	85%.
2) Acrylate Intermediate Step-II)	15	15%.

Process - Time	Temperature °C	Observation.
0.5	RT-55/N ₂	Charged Acrylate - 15gm.
1.5	55-58/N ₂ -	Feed of Phosphate Ester - 7min.
1 hrs	55-58/N ₂	— Foaming / turbidity Non Uniform. mass. AV - 4.3 / Amine 25.7