Streams	*Mass Fl.rate*	*Mass Fl.rate*	*AA %*	*BDO %*	*additives %*	*polyol %*	*polyolblend %*	*MDI %*	*water %*	*TPU %*	*Known variables*
	(Kg/hr)	*(tons/day)*	*w/w*	*w/w*	*w/w*	*w/w*	*w/w*	*w/w*	*w/w*	*w/w*	
Stream 1	84.6427131	2.03142511	100	0	0	0	0	0	0		%age of moisture in stream19
Stream 2	208.70806	5.00899343	0	100	0	0	0	0	0		
Stream 3	41.7416119	1.00179869	0	0	0	0	0	0	100		production rate in Kg/hr
Stream 4	168.125937	4.03502249	14.53	88.319	0	100	0	0	0		% of water removed by centrifugal dyer
Stream 5	170.784608	4.09883058	0	0	1.55750529	98.4425	0	0	0		amount of chilled water used (kg/hr)
Stream 6	143.253216	3.43807718	0	0	0	0	0	100	0		% of water absorption in during wash
Stream 7	314.037823	7.53690776	0	0	0	0	29.57559804	20.809	0		%polyol
Stream 8	314.037823	7.53690776	0	0	0	0	29.57559804	20.809	0		% MDI
Stream 9	35.4722638	0.85133433	0	100	0	0	0	0	0		%BDO
Stream 10	349.510087	8.38824209	0	10.14	0.80896958	48.06	48.86896958	41.04	0	100	% Additives
Stream 11	336.154087	8.06769809	0	10.14	0.80896958	48.06	48.86896958	41.04	0	100	amount of additives(kg/hr)
Stream 12	21000	504	0	0	0	0	0	0	100	0	mol.wt of adipic acid(stream1)
Stream 13	16800	403.2	0	0	0	0	0	0	100	0	mol.wt of 1,4 butanediol(stream2)
Stream 14	4536.15409	108.867698	0	0	0	0	0	0	92.58945	7.4106	mol.wt of polyol(stream4)
Stream 15	4536.15409	108.867698	0	0	0	0	0	0	92.58945	7.4106	mol.wt of water(stream 3)
Stream 16	2520	60.48	0	0	0	0	0	0	100	0	moles of adipic acid(by stoichiometry)
Stream 17	2016.15409	48.3876981	0	0	0	0	0	0	83.32696	16.673	moles of 1,4butanediol(by stoichiometry)
Stream 18	2016.15409	48.3876981	0	0	0	0	0	0	83.32696	16.673	moles of polyol formed(by stoichiometry)
Stream 19	1679.82491	40.3157979	0	0	0	0	0	0	100	0	moles of water formed(by stoichiometry)
Stream20	336.329175	8.07190019	0	0	0	0	0	0	0.05	99.95	
											% conversion
Total Loss	14	0.336									***%Loss***
Polyol loss	0.315	0.00756									%Polyol charging and metering loss
MDI loss	0.315	0.00756									%MDI charging and metering loss
Extruder loss	11.34	0.27216									%Extruder startup loss
pelletiser loss	2.016	0.048384									%Pelletiser upset loss

values		*stream no.*	*Temperature*	*enthalpy of stream*	*Heat loss*			
			(K)	**KJ/hr**	**KJ/hr**			
0.05		Stream 1	298	39228.19656	in reactor		***stream***	***Temp***
		Stream 2	298	89816.48284	-141311.233			***(K)***
350		Stream 3	373	30291.98912			water	298
60		Stream 4	363	-42558.54269			adipic acid	298
21000		Stream 5	353	5205.658165	in mixer		BDO	298
20		Stream 6	338	8664.952593	-16471.5854		polyol	363
48.06		Stream 7	371	-2600.974651			MDI	338
41.04		Stream 8	371	83483.07348	in extruder		TPU	333
10.14		Stream 9	298	17209.26523	-125285.259			
0.76		Stream 10	483	-24592.92037			Temp. of reactor (K)	493
2.66		Stream 11	483	-54388.84049	in water		Temp. of Extruder (K)	523
146		Stream 12	288	8558550	wash		Temp. in hot air dyer(K)	368
90		Stream 13	304.62	-5679717.12	-14767264.7		Temp of water effluent(K)	318
290		Stream 14	308	-583386.3853			Temp of mixer(K)	373
18		Stream 15	308	-75275.66261	in centrifugal		specific heat of mixer outlet(KJ/kg)	1.78
1		Stream 16	305	73735.2	dryer		enthalpy of mixer outlet stream	-1483
2		Stream 17	303	16728.63531	165739.4979		Temp of chilled water wash (K)	385.5
1		Stream 18	303	217472.259	hot air dryer		temp in centrifugal dryer(K)	298
2		Stream 19	353	-105325.022	-342331.649			
		Stream20	333	-19534.36843				
96								
4								
2.25								
2.25								
81								
14.4								

specific heat, Cp	***ΔH_f***
(KJ/kg)	***(KJ/mol)***
4.18	-242
2.43694	-994.3
2.219263205	-503.25
1.89	-1250
1.8	-360
1.65946	-1393