

6

7

9 10

50 51

56 57 58

59 60 61 Company Name Not Available Bedford, MA USA

Case Name: Project.hsc

Unit Set: Field2e

Date/Time: Sun Jul 17 11:15:31 2022

Material Stream: CSTR Liquid Product

Fluid Package: Basis-1

Property Package: UNIQUAC - Ideal

CO	NI	DI.	TIC	ON	ıs
----	----	-----	-----	----	----

11	1		Overall	Liquid Phase	Vapour Phase	
12	Vapour / Phase Fraction		0.0000	1.0000	0.0000	
13	Temperature:	(F)	309.6 *	309.6	309.6	
14	Pressure:	(psia)	14.70	14.70	14.70	
15	Molar Flow	(Ibmole/hr)	122.4	122.4	0.0000	
16	Mass Flow	(lb/hr)	8276	8276	0.0000	
17	Std Ideal Liq Vol Flow	(barrel/day)	545.8	545.8	0.0000	
18	Molar Enthalpy	(Btu/lbmole)	-1.887e+005	-1.887e+005	-1.215e+005	
19	Molar Entropy	(Btu/lbmole-F)	22.21	22.21	41.22	
20	Heat Flow	(Btu/hr)	-2.310e+007	-2.310e+007	0.0000	
21	Liq Vol Flow @Std Cond	(barrel/day)	565.6 *	565.6	0.0000	

COMPOSITION

Overall Phase

26	COMPONENTS	MOLAR FLOW	MOLE FRACTION	MASS FLOW	MASS FRACTION	LIQUID VOLUME	LIQUID VOLUME
27		(lbmole/hr)		(lb/hr)		FLOW (barrel/day)	FRACTION
28	12C3Oxide	0.0597	0.0005	3.4650	0.0004	0.2840	0.0005
29	H2O	17.8985	0.1462	322.4461	0.0390	22.1231	0.0405
30	12-C3diol	104.4766	0.8533	7950.3377	0.9606	523.3483	0.9589
31	Total	122.4348	1.0000	8276.2488	1.0000	545.7554	1.0000

Liquid Phase

11							
24 25			0	verall Phase		Vapour Fr	action 0.0000
26 27	COMPONENTS	MOLAR FLOW (Ibmole/hr)	MOLE FRACTION	MASS FLOW (lb/hr)	MASS FRACTION	LIQUID VOLUME FLOW (barrel/day)	LIQUID VOLUME FRACTION
28	12C3Oxide	0.0597	0.0005	3.4650	0.0004	0.2840	0.0005
29	H2O	17.8985	0.1462	322.4461	0.0390	22.1231	0.0405
30	12-C3diol	104.4766	0.8533	7950.3377	0.9606	523.3483	0.9589
31	Total	122.4348	1.0000	8276.2488	1.0000	545.7554	1.0000
32				D	1. 1.000		
33	Liquid Phase					Phase Fra	ction 1.000
34	COMPONENTS	MOLAR FLOW	MOLE FRACTION	MASS FLOW	MASS FRACTION	LIQUID VOLUME	LIQUID VOLUME
35		(lbmole/hr)		(lb/hr)		FLOW (barrel/day)	FRACTION
36	12C3Oxide	0.0597	0.0005	3.4650	0.0004	0.2840	0.0005
37	H2O	17.8985	0.1462	322.4461	0.0390	22.1231	0.0405
38	12-C3diol	104.4766	0.8533	7950.3377	0.9606	523.3483	0.9589
39	Total	122.4348 1.0000 827			1.0000	545.7554	1.0000
40 41			V	apour Phase		Phase Fra	oction 0.0000
42 43	COMPONENTS	MOLAR FLOW (lbmole/hr)	MOLE FRACTION	MASS FLOW (lb/hr)	MASS FRACTION	LIQUID VOLUME FLOW (barrel/day)	LIQUID VOLUME FRACTION
44	12C3Oxide	0.0000	0.0223	0.0000	0.0364	0.0000	0.0443
45	H2O	0.0000	0.6908	0.0000	0.3498	0.0000	0.3562
46	12-C3diol	0.0000	0.2869	0.0000	0.6137	0.0000	0.5995
47	Total	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000
48 49	Ener	gy Stream:	Coolant			J	sis-1

Vapour Phase

0.0000

12	COMPONENTS	MOLAR FLOW	MOLE FRACTION	MASS FLOW	MASS FRACTION	LIQUID VOLUME	LIQUID VOLUME
13		(Ibmole/hr)		(lb/hr)		FLOW (barrel/day)	FRACTION
14	12C3Oxide	0.0000	0.0223	0.0000	0.0364	0.0000	0.0443
15	H2O	0.0000	0.6908	0.0000	0.3498	0.0000	0.3562
46	12-C3diol	0.0000	0.2869	0.0000	0.6137	0.0000	0.5995
47	Total	0.0000	1.0000	0.0000	1.0000	0.0000	1.0000

Energy Stream: Coolant

Property Package: UNIQUAC - Ideal

CONDITIONS

;	Duty Type:	Direct Q	Duty Calculation Operation:	CSTR-100		
	Duty SP:	-3.883e+006 Btu/hr	Minimum Available Duty:	0.0000 Btu/hr	Maximum Available Duty:	

Distillation: T-100

SPECS

Aspen Technology Inc.

Aspen HYSYS Version 12.1

Page 1 of 2

1 2	<u> </u>			Case Na	ame: Project.hsc					
3	@ aspe	ntech Bedford	ny Name Not A , MA	Avaliable	Unit Set	: Field2e				
4 5		USA			Date/Tir	ne: Sun Jul 17 11:1	5:31 2022			
6										
7	Distillati					T-100 (contin	ued)			
9	Column					ation Parameters				
10 11					Reflux	Ratio				
12	Fix/Rang:	Fixed	Prim/Alter:		Primary	Lower Bnd:		Upper Bnd:		
13 14	Stage:	Condenser	Flow Basis:		Molar	Liquid Spec:	Light			
15					Distilla	te Rate				
16 17	Fix/Rang:	Fixed	Prim/Alter:		Primary Molar	Lower Bnd:		Upper Bnd:		
18	Stream:	ver Liquid @COL2	Flow Basis:			. Data				
19					Reflux					
20 21	Fix/Rang: Stage:	Fixed Condenser	Prim/Alter: Flow Basis:		Primary Molar	Lower Bnd: Liquid Spec:	Light	Upper Bnd:		_
22	-					od Rate	v			
23 24	Fix/Rang:	Fixed	Prim/Alter:		Primary	Lower Bnd:		Upper Bnd:		
25	Stream:	om Liquid @COL2	Flow Basis:		Molar					
26 27					Comp F	raction				
28	Fix/Rang:	Fixed	Prim/Alter:		Primary	Lower Bnd:		Upper Bnd:		
29	Stage:	Reboiler		Flow Basis: Mole I		Phase:	Liquid			
30 31	Components:		12-C3diol				Fluid Pa	ckade.	Basis-1	
32		Energy Str	eam: (Q Conde	nser			Package:	UNIQUAC - Ideal	
33 34							rioperty	i ackage.	ONIQUAC - Ideal	
35					COND		1			
36 37	Duty Type: Duty SP:	7.687e	Direct Q +005 Btu/hr	Duty Calculatio Minimum Availa		n: Condenser @COL2	Maximum A	vailable Duty:		_
38	,						Fluid Pa		Basis-1	
39 40		Energy Str	eam:	2 Reboil	er		Property	Package:	UNIQUAC - Ideal	
41					CONDI	TIONS				
42 43	Duty Type:		Direct Q	Duty Calculatio						_
44	Duty SP:	1.918e	+006 Btu/hr	Minimum Availa		0.0000 Btu/hr	Maximum A	vailable Duty:		
45 46										
47										
48										
49 50										
51										
52 53										
54										
55 56										
56										
58										
59 60										
61										
62 63	Asnan Tachr	pology Inc		Acno	n HVQVQ	S Version 12.1			Page 2 of 2	2
სა	Aspen Technology Inc. Aspen HYSYS Version 12.1 Page 2 of 2 Licensed to: Company Name Not Available * Specified by user.									