


1	 Company Name Not Available Bedford, MA USA	Case Name: Project.hsc
2		Unit Set: Field2e
3		Date/Time: Sun Jul 17 11:15:31 2022
4		
5		

Material Stream: CSTR Liquid Product

Fluid Package: Basis-1

Property Package: UNIQUAC - Ideal

CONDITIONS

	Overall	Liquid Phase	Vapour Phase
Vapour / Phase Fraction	0.0000	1.0000	0.0000
Temperature: (F)	309.6 *	309.6	309.6
Pressure: (psia)	14.70	14.70	14.70
Molar Flow (lbmole/hr)	122.4	122.4	0.0000
Mass Flow (lb/hr)	8276	8276	0.0000
Std Ideal Liq Vol Flow (barrel/day)	545.8	545.8	0.0000
Molar Enthalpy (Btu/lbmole)	-1.887e+005	-1.887e+005	-1.215e+005
Molar Entropy (Btu/lbmole-F)	22.21	22.21	41.22
Heat Flow (Btu/hr)	-2.310e+007	-2.310e+007	0.0000
Liq Vol Flow @Std Cond (barrel/day)	565.6 *	565.6	0.0000

COMPOSITION

Overall Phase

Vapour Fraction 0.0000

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

Liquid Phase

Phase Fraction 1.000

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

Vapour Phase

Phase Fraction 0.0000

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

Energy Stream: Coolant

Fluid Package: Basis-1


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

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Distillation: T-100 (continued)

Column Specification Parameters

Reflux Ratio

12	Fix/Rang: Fixed	Prim/Alter: Primary	Lower Bnd: ---	Upper Bnd: ---
13	Stage: Condenser	Flow Basis: Molar	Liquid Spec: Light	

Distillate Rate

16	Fix/Rang: Fixed	Prim/Alter: Primary	Lower Bnd: ---	Upper Bnd: ---
17	Stream: ver Liquid @COL2	Flow Basis: Molar		

Reflux Rate

20	Fix/Rang: Fixed	Prim/Alter: Primary	Lower Bnd: ---	Upper Bnd: ---
21	Stage: Condenser	Flow Basis: Molar	Liquid Spec: Light	

Btms Prod Rate

24	Fix/Rang: Fixed	Prim/Alter: Primary	Lower Bnd: ---	Upper Bnd: ---
25	Stream: om Liquid @COL2	Flow Basis: Molar		

Comp Fraction

28	Fix/Rang: Fixed	Prim/Alter: Primary	Lower Bnd: ---	Upper Bnd: ---
29	Stage: Reboiler	Flow Basis: Mole Fraction	Phase: Liquid	
30	Components:	12-C3diol		

Energy Stream: Q Condenser

Fluid Package: Basis-1

Property Package: UNIQUAC - Ideal

CONDITIONS

36	Duty Type: Direct Q	Duty Calculation Operation: Condenser @COL2		
37	Duty SP: 7.687e+005 Btu/hr	Minimum Available Duty: ---	Maximum Available Duty: ---	

Energy Stream: Q Reboiler

Fluid Package: Basis-1

Property Package: UNIQUAC - Ideal

CONDITIONS

43	Duty Type: Direct Q	Duty Calculation Operation: Reboiler @COL2		
44	Duty SP: 1.918e+006 Btu/hr	Minimum Available Duty: 0.0000 Btu/hr	Maximum Available Duty: ---	