**Lean Amin Properties Table 3.0.1**

|  |  |
| --- | --- |
| Vapour Fraction | 0.0 |
| Temperature | 80.0 C |
| Pressure | 298.635 kPa |
| Molar Flow | 600.0 kgmole/h |
| Mass Flow | 16177.398 kg/h |
| Liquid Volume Flow | 15.605 m3/h |
| Heat Flow | -180966626.416 kJ/h |

**Lean Amin Components Table 3.0.1**

|  |  |
| --- | --- |
| n-C30 | 0.0 |
| n-C20 | 0.0 |
| n-Decane | 0.0 |
| n-Butane | 0.0 |
| H2S | 0.0 |
| Hydrogen | 0.0 |
| Thiophene | 0.0001 |
| DEAmine | 0.1026 |
| CO2 | 0.0002 |
| H2O | 0.8971 |

**Rich amin Properties Table 3.1.1**

|  |  |
| --- | --- |
| Vapour Fraction | 0.0 |
| Temperature | 84.211 C |
| Pressure | 350.0 kPa |
| Molar Flow | 593.722 kgmole/h |
| Mass Flow | 16602.981 kg/h |
| Liquid Volume Flow | 16.334 m3/h |
| Heat Flow | -180008275.788 kJ/h |

**Rich amin Components Table 3.1.1**

|  |  |
| --- | --- |
| n-C30 | 0.0 |
| n-C20 | 0.0 |
| n-Decane | 0.0006 |
| n-Butane | 0.0 |
| H2S | 0.0131 |
| Hydrogen | 0.0 |
| Thiophene | 0.0002 |
| DEAmine | 0.1037 |
| CO2 | 0.0239 |
| H2O | 0.8585 |

**Reach Amin H-X in Properties Table 3.2.1**

|  |  |
| --- | --- |
| Vapour Fraction | 0.0 |
| Temperature | 84.217 C |
| Pressure | 311.6 kPa |
| Molar Flow | 593.722 kgmole/h |
| Mass Flow | 16602.981 kg/h |
| Liquid Volume Flow | 16.334 m3/h |
| Heat Flow | -180008275.687 kJ/h |

**Reach Amin H-X in Components Table 3.2.1**

|  |  |
| --- | --- |
| n-C30 | 0.0 |
| n-C20 | 0.0 |
| n-Decane | 0.0006 |
| n-Butane | 0.0 |
| H2S | 0.0131 |
| Hydrogen | 0.0 |
| Thiophene | 0.0002 |
| DEAmine | 0.1037 |
| CO2 | 0.0239 |
| H2O | 0.8585 |

**Recycled Amine Properties Table 3.3.1**

|  |  |
| --- | --- |
| Vapour Fraction | 0.0 |
| Temperature | 141.0 C |
| Pressure | 300.0 kPa |
| Molar Flow | 346.636 kgmole/h |
| Mass Flow | 11611.795 kg/h |
| Liquid Volume Flow | 11.03 m3/h |
| Heat Flow | -106921542.003 kJ/h |

**Recycled Amine Components Table 3.3.1**

|  |  |
| --- | --- |
| n-C30 | 0.0 |
| n-C20 | 0.0 |
| n-Decane | 0.0 |
| n-Butane | 0.0 |
| H2S | 0.0 |
| Hydrogen | 0.0 |
| Thiophene | 0.0001 |
| DEAmine | 0.1776 |
| CO2 | 0.0002 |
| H2O | 0.8221 |

**Swear water Properties Table 3.4.1**

|  |  |
| --- | --- |
| Vapour Fraction | 1.0 |
| Temperature | 130.339 C |
| Pressure | 300.0 kPa |
| Molar Flow | 247.086 kgmole/h |
| Mass Flow | 4991.186 kg/h |
| Liquid Volume Flow | 5.304 m3/h |
| Heat Flow | -59293977.335 kJ/h |

**Swear water Components Table 3.4.1**

|  |  |
| --- | --- |
| n-C30 | 0.0 |
| n-C20 | 0.0 |
| n-Decane | 0.0014 |
| n-Butane | 0.0 |
| H2S | 0.0314 |
| Hydrogen | 0.0001 |
| Thiophene | 0.0003 |
| DEAmine | 0.0 |
| CO2 | 0.0571 |
| H2O | 0.9097 |

**Water MU Properties Table 3.5.1**

|  |  |
| --- | --- |
| Vapour Fraction | 1.0 |
| Temperature | 141.0 C |
| Pressure | 300.0 kPa |
| Molar Flow | 253.368 kgmole/h |
| Mass Flow | 4564.5 kg/h |
| Liquid Volume Flow | 4.573 m3/h |
| Heat Flow | -60318679.327 kJ/h |

**Water MU Components Table 3.5.1**

|  |  |
| --- | --- |
| n-C30 | 0.0 |
| n-C20 | 0.0 |
| n-Decane | 0.0 |
| n-Butane | 0.0 |
| H2S | 0.0 |
| Hydrogen | 0.0 |
| Thiophene | 0.0 |
| DEAmine | 0.0 |
| CO2 | 0.0 |
| H2O | 1.0 |

**DEA MU Properties Table 3.6.1**

|  |  |
| --- | --- |
| Vapour Fraction | 0.0 |
| Temperature | 141.0 C |
| Pressure | 300.0 kPa |
| Molar Flow | 0.0 kgmole/h |
| Mass Flow | 0.0 kg/h |
| Liquid Volume Flow | 0.0 m3/h |
| Heat Flow | 0.0 kJ/h |

**DEA MU Components Table 3.6.1**

|  |  |
| --- | --- |
| n-C30 | 0.0 |
| n-C20 | 0.0 |
| n-Decane | 0.0 |
| n-Butane | 0.0 |
| H2S | 0.0 |
| Hydrogen | 0.0 |
| Thiophene | 0.0 |
| DEAmine | 1.0 |
| CO2 | 0.0 |
| H2O | 0.0 |

**Recycled Lean Amin Properties Table 3.7.1**

|  |  |
| --- | --- |
| Vapour Fraction | 0.824 |
| Temperature | 167.424 C |
| Pressure | 300.0 kPa |
| Molar Flow | 600.0 kgmole/h |
| Mass Flow | 16175.845 kg/h |
| Liquid Volume Flow | 15.603 m3/h |
| Heat Flow | -156557921.277 kJ/h |

**Recycled Lean Amin Components Table 3.7.1**

|  |  |
| --- | --- |
| n-C30 | 0.0 |
| n-C20 | 0.0 |
| n-Decane | 0.0 |
| n-Butane | 0.0 |
| H2S | 0.0 |
| Hydrogen | 0.0 |
| Thiophene | 0.0001 |
| DEAmine | 0.1026 |
| CO2 | 0.0001 |
| H2O | 0.8972 |

**purge Properties Table 3.8.1**

|  |  |
| --- | --- |
| Vapour Fraction | 0.0 |
| Temperature | 167.424 C |
| Pressure | 300.0 kPa |
| Molar Flow | 0.004 kgmole/h |
| Mass Flow | 0.45 kg/h |
| Liquid Volume Flow | 0.0 m3/h |
| Heat Flow | -1890.471 kJ/h |

**purge Components Table 3.8.1**

|  |  |
| --- | --- |
| n-C30 | 0.0 |
| n-C20 | 0.0 |
| n-Decane | 0.0 |
| n-Butane | 0.0 |
| H2S | 0.0 |
| Hydrogen | 0.0 |
| Thiophene | 0.0 |
| DEAmine | 1.0 |
| CO2 | 0.0 |
| H2O | 0.0 |

**Lean Amin Mockup H-X in Properties Table 3.9.1**

|  |  |
| --- | --- |
| Vapour Fraction | 0.824 |
| Temperature | 167.437 C |
| Pressure | 300.0 kPa |
| Molar Flow | 600.0 kgmole/h |
| Mass Flow | 16177.4 kg/h |
| Liquid Volume Flow | 15.605 m3/h |
| Heat Flow | -156559707.662 kJ/h |

**Lean Amin Mockup H-X in Components Table 3.9.1**

|  |  |
| --- | --- |
| n-C30 | 0.0 |
| n-C20 | 0.0 |
| n-Decane | 0.0 |
| n-Butane | 0.0 |
| H2S | 0.0 |
| Hydrogen | 0.0 |
| Thiophene | 0.0001 |
| DEAmine | 0.1026 |
| CO2 | 0.0002 |
| H2O | 0.8971 |

**Rich Amin H-X out Properties Table 3.10.1**

|  |  |
| --- | --- |
| Vapour Fraction | 0.077 |
| Temperature | 127.114 C |
| Pressure | 306.643 kPa |
| Molar Flow | 593.722 kgmole/h |
| Mass Flow | 16602.981 kg/h |
| Liquid Volume Flow | 16.334 m3/h |
| Heat Flow | -175203541.997 kJ/h |

**Rich Amin H-X out Components Table 3.10.1**

|  |  |
| --- | --- |
| n-C30 | 0.0 |
| n-C20 | 0.0 |
| n-Decane | 0.0006 |
| n-Butane | 0.0 |
| H2S | 0.0131 |
| Hydrogen | 0.0 |
| Thiophene | 0.0002 |
| DEAmine | 0.1037 |
| CO2 | 0.0239 |
| H2O | 0.8585 |

**Lean Amin Mockup H-X out Properties Table 3.11.1**

|  |  |
| --- | --- |
| Vapour Fraction | 0.66 |
| Temperature | 147.437 C |
| Pressure | 298.635 kPa |
| Molar Flow | 600.0 kgmole/h |
| Mass Flow | 16177.398 kg/h |
| Liquid Volume Flow | 15.605 m3/h |
| Heat Flow | -161364422.495 kJ/h |

**Lean Amin Mockup H-X out Components Table 3.11.1**

|  |  |
| --- | --- |
| n-C30 | 0.0 |
| n-C20 | 0.0 |
| n-Decane | 0.0 |
| n-Butane | 0.0 |
| H2S | 0.0 |
| Hydrogen | 0.0 |
| Thiophene | 0.0001 |
| DEAmine | 0.1026 |
| CO2 | 0.0002 |
| H2O | 0.8971 |

**Hydrogen To Recycle Properties Table 3.12.1**

|  |  |
| --- | --- |
| Vapour Fraction | 0.999 |
| Temperature | 70.0 C |
| Pressure | 350.0 kPa |
| Molar Flow | 161.512 kgmole/h |
| Mass Flow | 2731.505 kg/h |
| Liquid Volume Flow | 8.466 m3/h |
| Heat Flow | -14663858.515 kJ/h |

**Hydrogen To Recycle Components Table 3.12.1**

|  |  |
| --- | --- |
| n-C30 | 0.0 |
| n-C20 | 0.0 |
| n-Decane | 0.0034 |
| n-Butane | 0.0352 |
| H2S | 0.1343 |
| Hydrogen | 0.577 |
| Thiophene | 0.0005 |
| DEAmine | 0.0 |
| CO2 | 0.1577 |
| H2O | 0.0919 |

**Sweet H2 Properties Table 3.13.1**

|  |  |
| --- | --- |
| Vapour Fraction | 1.0 |
| Temperature | 95.521 C |
| Pressure | 298.537 kPa |
| Molar Flow | 167.79 kgmole/h |
| Mass Flow | 2305.922 kg/h |
| Liquid Volume Flow | 7.738 m3/h |
| Heat Flow | -15624663.431 kJ/h |

**Sweet H2 Components Table 3.13.1**

|  |  |
| --- | --- |
| n-C30 | 0.0 |
| n-C20 | 0.0 |
| n-Decane | 0.0012 |
| n-Butane | 0.0339 |
| H2S | 0.0831 |
| Hydrogen | 0.5554 |
| Thiophene | 0.0 |
| DEAmine | 0.0 |
| CO2 | 0.0679 |
| H2O | 0.2585 |