> \[ mf_w_W := 1.0; \]
> \[ mf_w_U := 0.0017; \]
> \[ mdot_U := 25.0; \]
> \[ mdot_W := 0.03; \]
>
> \[ Waste_Eqn1 := 0 = mdot_U * mf_w_U + mdot_R * mf_w_R - mdot_A * mf_w_A; \]
> \[ Waste_Eqn1 := 0 = 0.04250 + mdot_R * mf_w_R - mdot_A * mf_w_A \]
> \[ Waste_Eqn2 := 0 = mdot_A * mf_w_A - mdot_W * mf_w_W + mdot_B * mf_w_B; \]
> \[ Waste_Eqn2 := 0 = mdot_A * mf_w_A - 0.030 - mdot_B * mf_w_B \]
> \[ Waste_Eqn3 := 0 = mdot_B * mf_w_B - mdot_R * mf_w_R - mdot_F * mf_w_F; \]
> \[ Waste_Eqn3 := 0 = mdot_B * mf_w_B - mdot_R * mf_w_R - mdot_F * mf_w_F \]
>
> \[ Recycle_Eqn := 0 = mf_w_R - mf_w_F; \]
> \[ Recycle_Eqn := 0 = mf_w_R - mf_w_F \]
>
> \[ Mass_Eqn1 := 0 = mdot_R + mdot_U - mdot_A; \]
> \[ Mass_Eqn1 := 0 = mdot_R + 25.0 - mdot_A \]
> \[ Mass_Eqn2 := 0 = mdot_A - mdot_W - mdot_B; \]
> \[ Mass_Eqn2 := 0 = mdot_A - 0.03 - mdot_B \]
> \[ Mass_Eqn3 := 0 = mdot_B - mdot_R - mdot_F; \]
> \[ Mass_Eqn3 := 0 = mdot_B - mdot_R - mdot_F \]
>
> \[ Eqn_a := 0 = mdot_R - 2.0 * mdot_F; \]
> \[ Eqn_a := 0 = mdot_R - 2.0 * mdot_F \]
>
> \[ Eqn_b := 0 = mf_w_A - 0.0010; \]
> \[ Eqn_b := 0 = mf_w_A - 0.0010 \]
>
> \[ Solution_a := solve({Waste_Eqn1, Waste_Eqn2, Waste_Eqn3, Recycle_Eqn, Mass_Eqn1, Mass_Eqn2, Mass_Eqn3, Eqn_a}, {mdot_A, mdot_B, mdot_R, mdot_F, mf_w_A, mf_w_B, mf_w_W, mf_w_F}); \]
> \[ Solution_a := \{ mdot_R = 49.94000000, mf_w_A = 0.0009007205765, \]
> \[ mf_w_B = 0.0005006007209, \]
> \[ mf_w_W = 0.0005006007209, \]
> \[ mdot_A = 74.94000000, \]
> \[ mdot_B = 74.91000000, \]
> \[ mdot_F = 24.97000000, mf_w_F = 0.0005006007209 \} \]
>
> \[ Solution_b := solve({Waste_Eqn1, Waste_Eqn2, Waste_Eqn3, Recycle_Eqn, Mass_Eqn1, Mass_Eqn2, Mass_Eqn3, Eqn_b}, {mdot_A, mdot_B, mdot_R, mdot_F, mf_w_A, mf_w_B, mf_w_W, mf_w_F}); \]
> \[ Solution_b := \{ mf_w_W = 0.0005006007209, mf_w_R = 0.0005006007209, \]
> \[ mdot_F = 24.97000000, mf_w_A = 0.0005006007209, \]
> \[ mf_w_B = 60.04210104, mdot_A = 60.01210104, mdot_B = 60.04210104, mdot_R = 35.04210104 \} \]
>