$$\begin{aligned}\text{div}\mathbf{F} &= \tfrac{\partial}{\partial x}\left(e^x \sin y\right) + \tfrac{\partial}{\partial y}\left(e^x \cos y\right) + \tfrac{\partial}{\partial z}\left(yz^2\right) \\ &= e^x \sin y - e^x \sin y + 2yz = 2yz,\end{aligned}$$

so by the Divergence Theorem,

$$\begin{aligned}\iint_S \mathbf{F} \cdot d\mathbf{S} &= \iint_D \text{div}\mathbf{F}\, dV = \int_0^1 \int_0^1 \int_0^3 2yz\, dz\, dy\, dx \\ &= 2\int_0^1 dx \int_0^1 y\, dy \int_0^3 z\, dz = 2\big[\, x \,\big]_0^1 \left[\tfrac{1}{2}y^2\right]_0^1 \left[\tfrac{1}{2}z^2\right]_0^3 = \tfrac{9}{2}.\end{aligned}$$