Computing the surface integral is time consuming. We use instead the Divergence Theorem:

$$\iint_S \mathbf{F} \cdot \mathbf{N} dS = \iiint_R \text{div } \mathbf{F} dV,$$

where in our situation S is the surface of the cylinder and R is the interior of the cylinder. We compute

$$\text{div } \mathbf{F} = \frac{\partial}{\partial x} 0 + \frac{\partial}{\partial y}(xyz) + \frac{\partial}{\partial z} 0 = xz.$$

Switching to cylindrical coordinates we have

$$\iiint_R xzdxdydz = \int_0^{2\pi} \int_0^3 \int_0^5 (r\cos\theta) zrdzdrd\theta$$
$$= (\int_0^{2\pi} \cos\theta d\theta)(\int_0^3 r^2 dr)(\int_0^5 zdz)$$
$$= 0 \cdot \frac{27}{3} \cdot \frac{5^2}{2} = 0.$$