Echium seed oil (EO), derived from the terrestrial plant *Echium plantagineum*, has been proposed as a sustainable source of omega-3 (n-3) fatty acids in place of fish oil because it contains substantial amounts of the n-3 fatty acid stearidonic acid (C18:4 6*c*,9*c*,12*c*,15*c*; SDA). Enrichment of bovine milk fat with SDA may be advantageous because of its beneficial effects on human health. Little is known about the transport and metabolism of dietary SDA before being incorporated into the milk lipids of the dairy cow. The objective of this research was to determine the transport site of SDA in the plasma lipids of dairy cattle by analyzing the level of this fatty acid in plasma triacylglycerols (TAG) and phospholipids (PL). EO was fed as the dietary source of SDA to twelve Holstein dairy cattle at Michigan State University. This study was conducted in a 3 x 3 Latin square design with two-week treatment periods (Control = no supplement as EO; Low-EO = 1.5% EO of dry matter intake (DMI); High-EO = 3% EO of DMI). Blood samples were taken from the cows' coccygeal vein during the final four days of each treatment period. Lipids were extracted from the plasma and then separated using solid phase extraction. Fatty acids were transesterified to fatty acid methyl esters and analyzed by gas chromatography. Plasma PL SDA concentration increased with increasing supplementation of EO (0, 0.10±0.03, and 0.17±0.06 g/100 g fatty acids for Control, Low-EO, and High-EO, respectively; $P < 0.01$). Similarly, SDA concentration increased in the plasma TAG fraction with increasing supplementation (0, 0.14±0.06, and 0.23±0.11 g/100 g fatty acids for Control, Low-EO, and High-EO, respectively; $P < 0.001$). In conclusion, there was a slight trend towards preferential incorporation of SDA into plasma TAG over plasma PL.