AeroSafe GLOBAL

COMPARATIVE CASE STUDY:
Reuse vs Single-Use

ASG Reusable	VS	EPS Single-Use
5 components		17 components
16.1"x14.6"x14.1"		27"x21.5"x20.5"
22.3 lbs		47.0 lbs

SUMMARY

- Expanded polystyrene (EPS) is not regulated in the pharmaceutical industry.
- Supply chain is the highest contribution to carbon emissions for pharma.
- Based on this case study, AeroSafe Global (ASG) reuse shippers compared to equivalent EPS shippers show **70% reduction in CO2 emissions, 77% reduction water consumption, 55% less energy use and 94% less landfill per shipment.**
- Switching to reuse and ground can **reduce CO2 emissions more than 80%.**

CHALLENGE

Pharmaceutical manufacturers grapple with how to achieve Scope 3 carbon reductions – emissions outside of direct control - estimated to account for 80% of overall biopharma corporate carbon emissions.

ANALYSIS

Since pharmaceutical supply chain is the top source of carbon within their operations, manufacturers are making public commitments to reduce carbon emissions. They prioritize decarbonizing operations and minimizing product and service environmental impact through circular economy principles. In fact, in the next four years nearly 100% of the top 150 industry leaders said thermal packaging decisions will be impacted by sustainability targets. [1]

To understand the extent to which ASG's thermally superior reusable container drives measurable "green" savings, consider the differences of a single shipment. In this case, a 23 liter container engineered for a 72-hour shipment duration at the refrigerated temperature range (2-8 degrees Celsius/36-46 degrees Fahrenheit). For comparison, a EPS box capable of holding the same amount of product for the same duration and same temperature.

	Reuse Air	EPS Air	↓%	Reuse Ground	EPS Ground	↓%
(kg)	19.1	56.7	66%	10.3	38.4	73%
(kwh)	77	187	60%	58	116	50%
(m3)	.05	.22	77%	.05	.22	77%

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SOLUTION

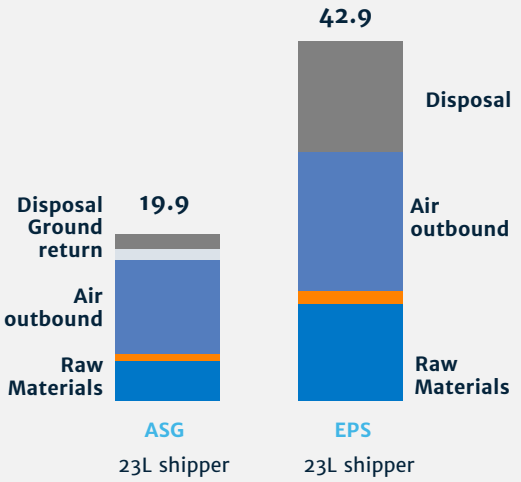
Pharmaceutical leaders recognize that the distribution of their temperature sensitive therapies via the cold chain is a driver of their carbon output. Forward-thinking leaders have identified that reusable ASG containers not only protect their therapies better than EPS, but also result in lower carbon emissions. ASG containers can be reused more than 70 times on average, are smaller, and have longer duration since vacuum insulated panels are a superior technology to EPS insulation. The ASG boxes' smaller size reduces transportation costs, and the extended duration means that pharma companies can now switch from air transportation to ground transportation, further reducing transportation costs and emissions.

98% Return Rate

70x Uses

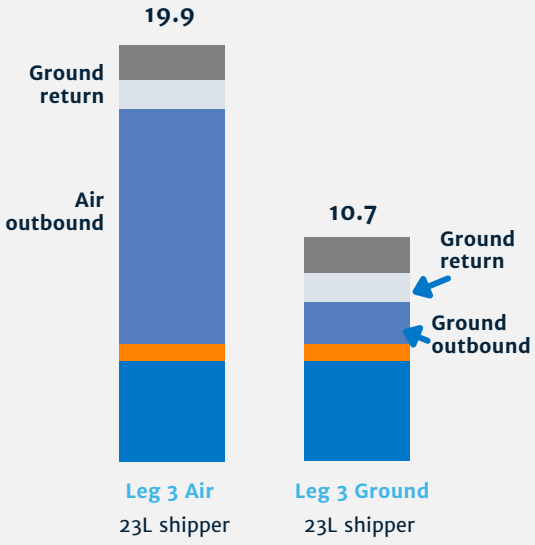
ISO 14040/14044

ASG Reuse is significantly better than single use EPS



Even with the return leg, ASG reusable shippers have less environmental impact than single use EPS

Air transportation has a much larger impact than ground transportation



Shipping by ground rather than by air can result in significant environmental impact savings

Raw Materials | Delivery to Pharma Customer | Preconditioning | Outbound to end-user | Return to ASG | Disposal

EPS can take over 500 years to break down in a landfill.
It's estimated that 2.3 million tons end up in landfills each year.

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