## Comparing Enkase<sup>™</sup> with Alternatives - Plasma Chemical Vapor Deposition

Enkase<sup>™</sup> is a unique, permanent and recyclable barrier technology that transforms conventional plastics into high performance packaging. Enkase<sup>™</sup> technology has the lowest carbon footprint of any barrier packaging, making it the most environmentally responsible choice.

Plasma chemical vapor deposition is an alternative technology for barrier plastic packaging. Plasma coating utilizes a refrigerant gas, R134a, and acetylene to make highly reactive radicals that create a thin barrier layer on the inside of a container.

## The following table lists some considerations when choosing a plastic barrier packaging technology:

	Enkase™	Plasma coating	Attributes of Enkase™		
Quality consistency			<ul> <li>High consistency within each container</li> <li>Barrier imparted inside and out</li> <li>No discoloration of container</li> </ul>		
Barrier performance			<ul> <li>Up to 10x the barrier performance of plasma</li> <li>Tunable barrier performance</li> <li>Not impacted by additives in plastics</li> <li>Works with the most aggressive chemistries</li> </ul>	a	
Design freedom			<ul> <li>Any shape or size packaging</li> <li>Any shape spout, closures and other compo</li> <li>Tubes, collapsible, standup pouches, drums,</li> <li>Enables complex container designs</li> <li>Enables lightweighting</li> </ul>	nent: IBCs	3
Quality control			<ul> <li>100% quality control on every batch</li> <li>Full lot/batch traceability</li> <li>40+ years of reliable performance</li> </ul>		
Environmental impact			<ul> <li>Lowest GWP and fossil fuel consumption</li> <li>Zero water, zero waste, zero emissions</li> <li>Does not use banned substances</li> <li>Does not use any PFAS substances</li> </ul>		
Productivity			<ul> <li>High to low volume production</li> <li>No capital investment</li> <li>Multiple redundancies to ensure supply</li> <li>Product development support</li> <li>No royalty payment requirements</li> </ul>		

Excellent Good OK

**NKQS** 

Poor



Enkase™ ■ Plasma coating 1% % Weight Loss\* **Enkas** 0.10% 0.10% 0.01% Aromatic 150 Toluene/Xylene \*At 50°C for 28 days, per DoT method 49CFR173.24, Appendix B Graph 1: Barrier performance comparison of Enkase™ and plasma coating Enkase<sup>™</sup> is pledged to the **Ellen MacArthur** Foundations' New Plastics Economy Global Commitment and is recognized by Suez Circpack®, Z the Association of Plastics Recyclers and Plastic

Recyclers Europe's RecyClass as fully recyclable.

) Global



RecyClass



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