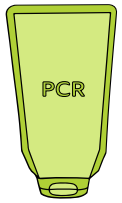
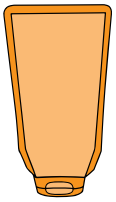
STREAMLINED LIFE CYCLE ASSESSMENT* HUMMUS PACKAGING CASE STUDY

HUMMUS PACKAGE COMPARISON

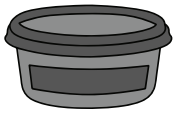
Hummus is a popular dip often packaged in a PET plastic tub. This Life Cycle Assessment study with a cradle-to-grave boundary evaluated a popular hummus brand in a 10 oz PET plastic tub and the premade STANDCAP Pouch, an eco-friendly inverted flexible pouch.



PCR STANDCAP



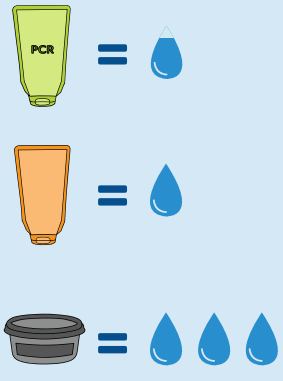
STANDCAP



SMALL PET PLASTIC TUB

Water Consumption

The premade STANDCAP Pouch with PCR uses the least amount of water by a wide margin, specifically **67.3% less** than the 10oz. rigid tub. This is driven by the lighter weight as well as less water needed for the laminating and extrusion process than thermoforming for the rigid tubs.



Greenhouse Gas Emissions

The premade STANDCAP Pouch results in GHG emissions nearly half **(-46.8%)** and the premade STANDCAP Pouch with PCR coming in with a **reduction of 49.8%** that of the 10 oz. rigid tub. This is driven by the lightweight of the flexible pouch, as well as the process of extruding and laminating a multilayer pouch, which can have lower emissions than the thermoforming of the tub.

Fossil Fuel Consumption

The use of PCR reduced the premade STANDCAP Pouch fossil fuel **(-40.3%)**. The 10 oz. tub would use the most fossil fuel as when normalized for comparison to the other packages. The 10 oz. tub uses 26.9g for 10 oz. of product.

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*All environmental impact metrics were developed using the streamlined life cycle assessment tool, EcoImpact-COMPASS®

END OF USE SUMMARY

SOURCE REDUCTION BENEFITS

According to the U.S. EPA Waste Hierarchy, the most preferred method for waste management is source reduction and reuse.

A major benefit of flexible packaging is the high product-to-package ratio that it offers.

RECOVERY BENEFITS

PCR STANDCAP

1x
amount of material ending up as municipal solid waste

STANDCAP

1x
amount of material ending up as municipal solid waste

SMALL PET PLASTIC TUB

1.7x
amount of material ending up as municipal solid waste

High product-to-package ratio:

95.1% Product weight | **4.9%** Package weight

95.1% Product weight | **4.9%** Package weight

Low product-to-package ratio:ratio:

91.3% Product weight | **8.7%** Package weight

While many multi-material flexible packages are not yet recovered and recycled in any significant amount, they still result in a substantial reduction in the amount of material sent to landfill versus other types of packaging.

The 10 oz. tub results in the most packaging landfilled **(84,913 grams per 1000 kg of hummus)** compared to the premade STANDCAP Pouch **(-39.9%)**.

IMPLICATIONS

The results of this scenario show that the premade STANDCAP Pouch results in lower impacts across a wide range of environmental metrics including water use, greenhouse gas emissions, and material discarded. The inclusion of PCR drives all of environmental indicators lower – fossil fuel, greenhouse gas emissions and water use.

FORMAT	FOSSIL FUEL CONSUMPTION (MJ-EQUIV)	GHG EMISSIONS (KG-CO^2 EQUIV)	WATER CONSUMPTION (L)	PRODUCT-TO-PACKAGE RATIO (%)	PKG LANDFILLED (G)/1,000 KG HUMMUS)
PCR STANDCAP POUCH	1.21 (-40.3%)	.05907 (-49.8%)	16.68 (-67.3%)	19.6:1 (95.1% : 4.9%)	50,996 (-39.9%)
STANDARD STANDCAP POUCH	1.34 (-33.5%)	.06253 (-46.8%)	19.24 (-62.3%)	19.6:1 (95.1% : 4.9%)	50,996 (-39.9%)
SMALL PET PLASTIC TUB	2.02	.1176	51.02	10.5:1 (91.3% : 8.7%)	84,913

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*For more information and methodologies of assessments, please visit **www.flexpack.org** or **www.glenroy.com** to download Glenroy's "A Streamlined Life Cycle Assessment Comparison for the Glenroy Premade STANDCAP Pouch in the Sauces and Personal Care Market versus Rigid Packaging Options" report and refer to pages 35-39.*