

**green a** 10.21.10

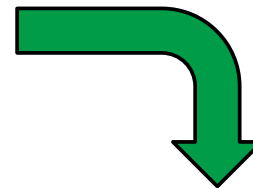
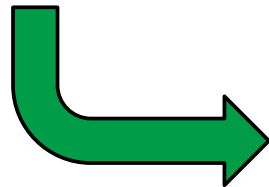
**Veggiefuel**

# Product Vision

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*Veggiefuel converts waste cooking oil to biodiesel. Compared with other products, our **portable** processor uses a quick **automated process** that makes it safer and easier to use.*

**Cooking Oil**



**Biodiesel**

# Market: Food Trucks & Restaurants



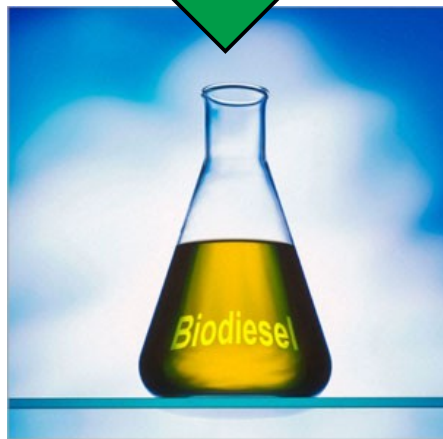
Clover Truck



10 gal



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\$.85/gal

# Market: Food Trucks & Restaurants

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**130 mi/batch !!!**

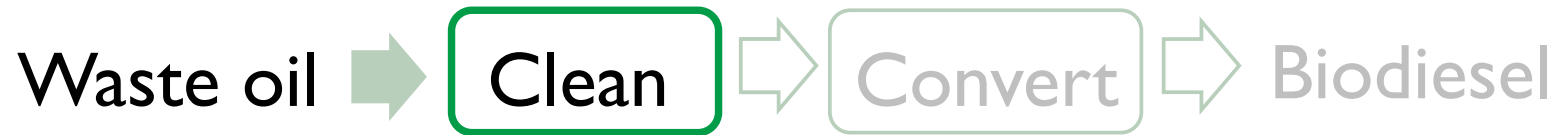
# Product Contract

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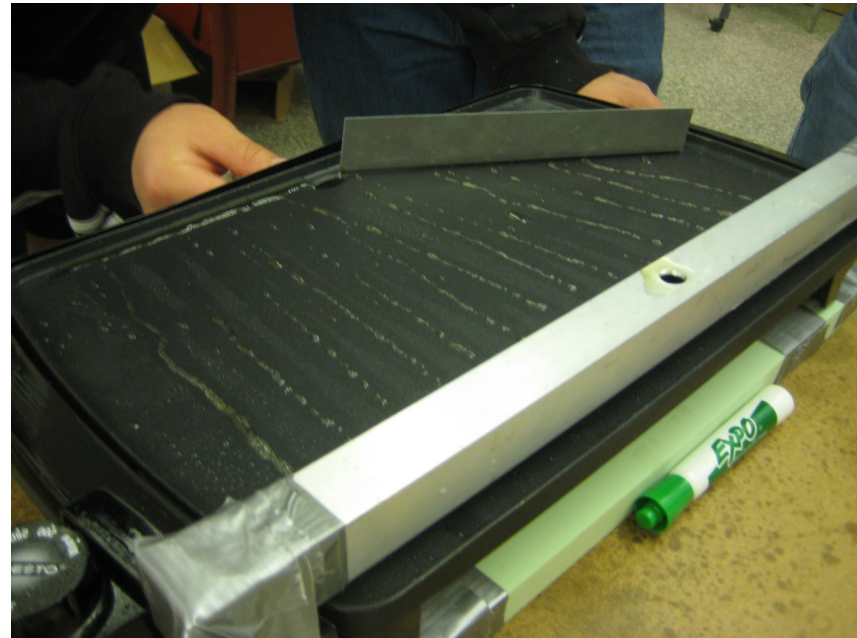
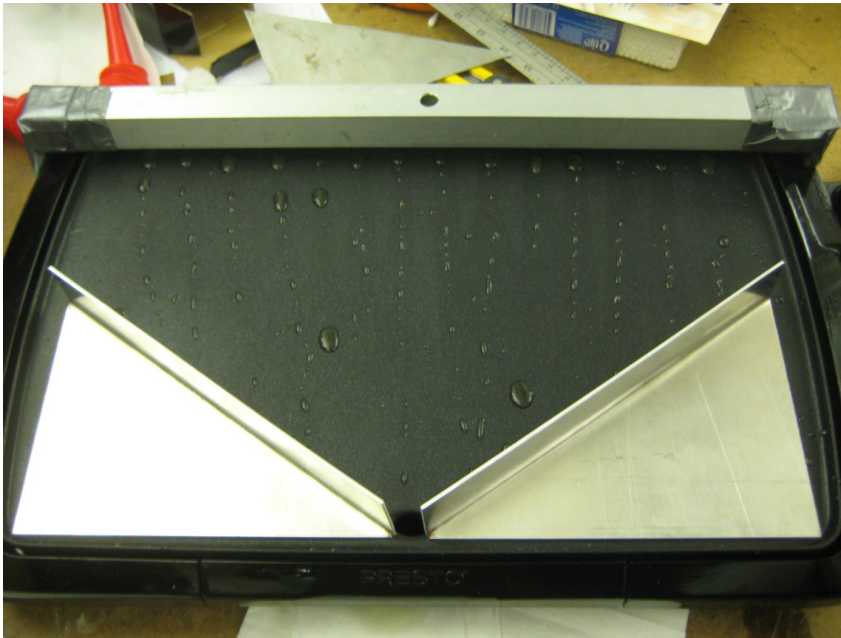
Customer Need	Product Attribute	Specification
Is <b>easily stored</b> in small commercial kitchens	Size	Approx. 3' x 3' x 4'
<b>Prevents risk</b> of fuel flammability and chemical corrosion	Safety	Chemical resistant, microwave safe tubing & containers
Can operate in a <b>reasonable time frame</b>	Cycle Time	Turnaround time $\leq$ those of existing products
<b>Easy to use</b>	Automation	One-step process

# Critical Risks

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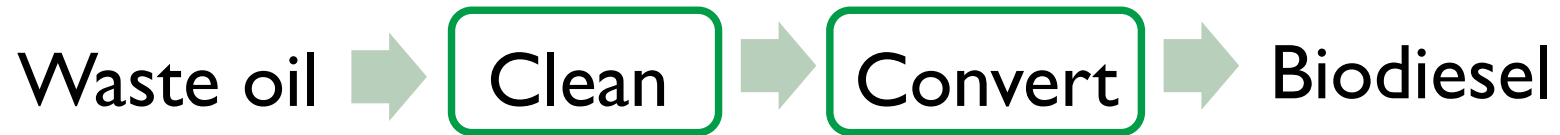


Can we **quickly** remove water from oil?



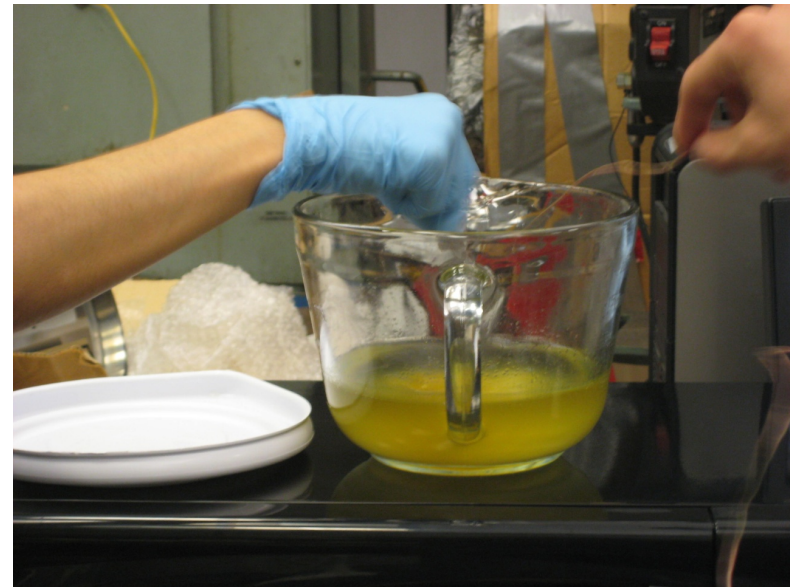
# Critical Risks

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Chemical **safety**?

**Quality** biodiesel?



# Key Findings

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Oil can be filtered and cleaned quickly

Water evaporated from 50mL oil in 10 sec

Microwave reduces time to reach conversion temp.



60°C in 10 min



60°C in 1 min



# Remaining Concerns

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## Quality of biodiesel

- Methanol test
- Water test
- Engine test

## Limited agitation in microwave

- Microwave stirrer

## Automation

