

PREP™

The science behind great fried food





The science behind great food

Your frying oil can make all the difference to the food you cook. It's the vital link between your equipment and your food - it's what makes raw ingredients into delicious dishes served to hungry customers.

Choosing the right kind of oil for your needs is an investment. And it will help you to save money, save time, and cook food that looks and tastes great, at every fry!

Prep high-performance frying oil is specially developed to last up to three times as long as standard frying oils. It's a stable, reliable, long-life oil that you can trust with your reputation.



What is long-life frying oil?

Long-life oil is a blend of oil that is stable, which means it can withstand high temperatures and repeated exposure to oxygen, water and food better than other oils.

All oils degrade eventually, but standard frying oils do so far more quickly than long-life oils.

What causes oil to degrade over time?

- Exposure to heat
- Exposure to oxygen
- Food particles
- Water

How does it degrade?

- Oxygen and heat create chemical changes such as oxidation, creating aldehydes, and ketones, which are linked to health problems. Using a long-life oil lowers the risk as the oil takes longer to degrade.
- Chemical changes alter the viscosity and colour of the oil.
- These changes continue every time the oil is heated.
- In time, high temperatures break the oil molecules into bigger molecules, making the oil more viscous.

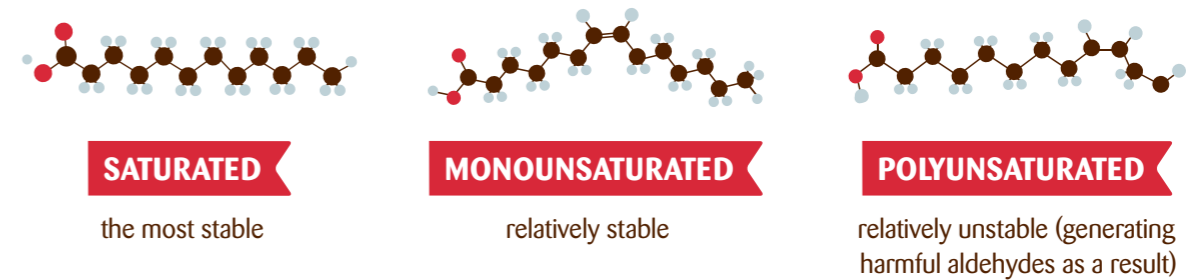
What makes an oil stable?

All oils and fats are a mixture of three types of fatty acid chains:

- Saturated
- Monounsaturated
- Polyunsaturated

Types of fatty acid chain

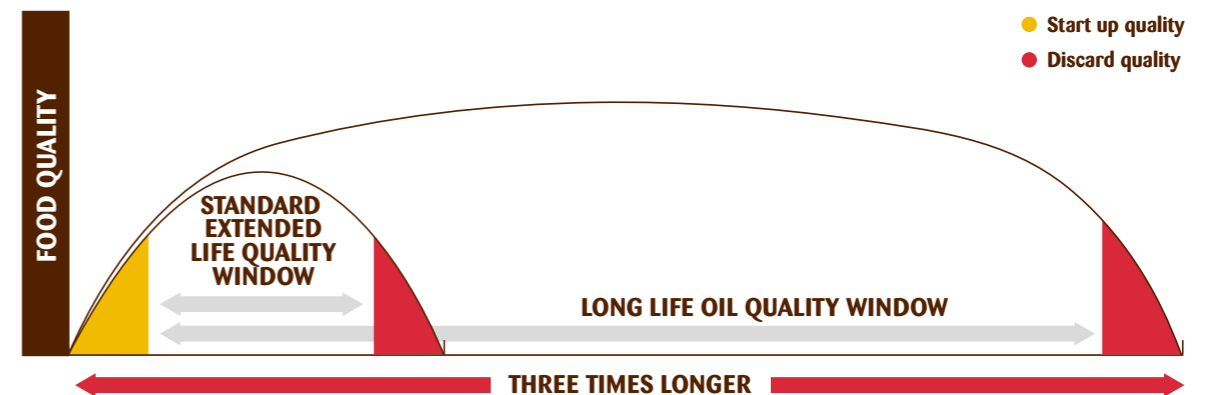
Each has a different level of stability:



The higher the saturates, the more stable the oil will be.

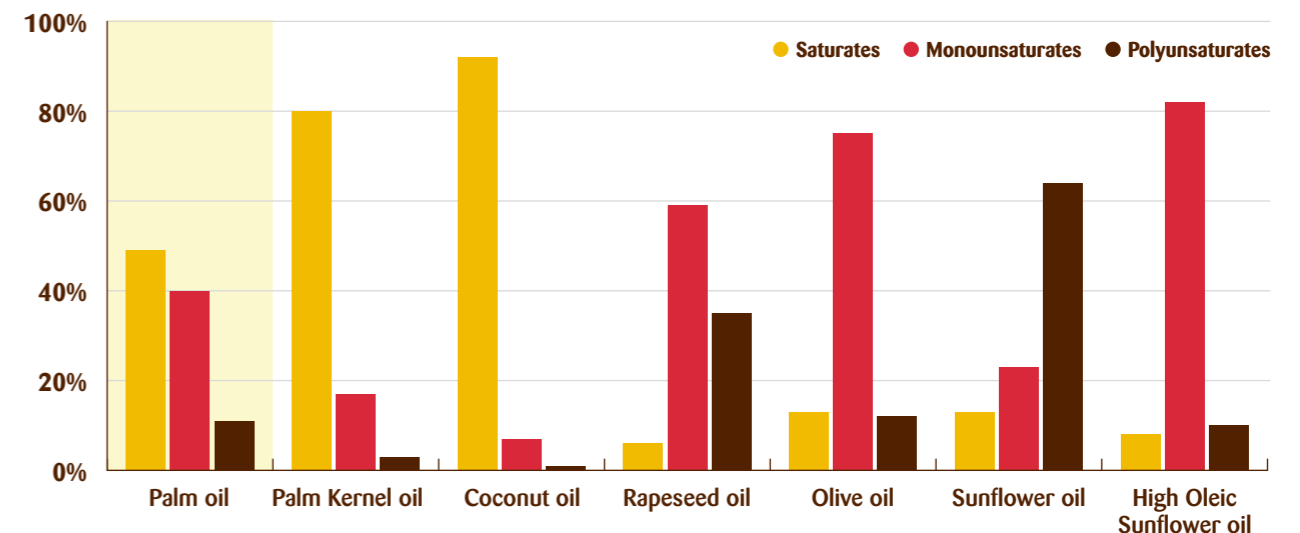
Extended oils vs. Long life oils

The long-life oil clearly has a longer quality life window between oil changes. This means that the oil will last longer and does not need to be changed as often. A longer life oil will also ensure great-tasting and good-looking food, as well as improving cost in use and reducing down time and waste in the kitchen.



Popular vegetable oils: How are they composed?

The composition of palm oil is what makes it the most popular and efficient frying oil. As well as being from the highest yielding oil crop, it is also the most stable oil and will last longer than other frying oils.



Choosing the right oil for your business

“Because different oils perform in different ways, it is important to choose the right oil for your needs,” says Prep brand manager Olivia Shuttleworth.

“If you just fry a few chips occasionally then you only need a light duty frying oil. “Similarly, if your frying demands are higher you need an oil that’s ideal for a wide variety of foods at every service and will last longer.”

Benefits of using the correct oil:

- Food quality: Great food = customer loyalty and good online reviews!
- Improved cost in use: You’ll pay less for each fry.
- Fewer oil changes: Meaning less waste and less time spent changing oil.
- Food safety: Over-using oil past its natural fry-life can create toxins in your food - and breach legislation over harmful compounds.

How to choose

Visit prepoils.co.uk/how-to-choose or download the Prep Oils app for a simple tool that will help you select the right oil for you.



Discard levels

One of the most important parts of using frying oil is knowing when it’s time to discard it. The most obvious signs are the oil changing colour and becoming dark. The food quality also starts to suffer and looks bad - but by then, it's too late!

Regular testing will show you when your oil is getting close to the end of its useful life - long before it has a chance to ruin your customers’ well-earned meals. Testing can be as simple as using Prep Sticks and comparing them with the Prep colour chart.



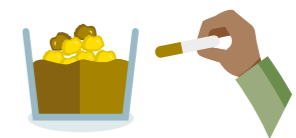
For chips



	Good Oil	✓	Match the colour. No match or darker - change the oil.
	Change Oil	✗	

OR

For mixed frying



	Good Oil	✓	Match the colour. No match or darker - change the oil.
	Change Oil	✗	

What is TPM?

Total Polar Material (TPM) builds up in the oil during regular use, and measuring these levels (as a percentage) is one of the most reliable and accurate measures of oil quality and cleanliness of frying oil.

- FRESH OIL: 7% TO 10% TPM**
- MID LIFE (OPTIMUM FRY): 17% TO 18%**
- DISCARD POINT: 25%**

At Prep, 25% is our recommended discard level, in line with European legislation.

How can TPM be measured?

The Testo 270 Cooking Oil Tester accurately measures TPM levels in a few seconds. It provides clear notifications to kitchen teams, so they know when it’s time to make a change.

Over time, this can help to reduce oil consumption by up to 20%, whilst guaranteeing you are cooking with clean, effective oil.

Acrylamide, the law and your business

Acrylamide is a naturally occurring chemical substance, formed by a reaction between amino acids and sugars. It occurs typically when foods with a high starch content, such as potatoes, root vegetables and bread, are cooked at temperatures over 120°C from the process of frying, roasting or baking. This is why we recommend frying at a maximum of 175°C or lower if possible. Where appropriate, cook for longer at a lower temperature but always ensure foods are properly cooked!



It is widely agreed that acrylamide has the potential to cause cancer and is therefore a risk to human health. Since 2018, foodservice operators have had a legal duty to take steps to manage acrylamide in food. Careful oil measurement is one of the simplest and most effective ways to comply with the legislation.

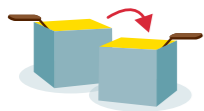
Industry expertise: Tips from Prep's oil management expert, Luke Walton

"The first thing I do when I visit a customer is find out which oil management techniques they currently use. There is a recurring theme - the three most important oil management tips are also the three most often neglected or done incorrectly!"

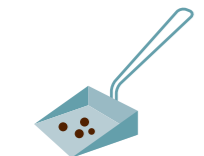
Correct oil management:



Top 3 oil management techniques:



Cascade: Oil is moved from fryer to fryer during the cascade process. This ensures that only the oil in the last fryer is discarded at a time. This helps to maximise oil life and maintain food quality without wasting oil.



Skim: Crumbs and debris from the oil's surface will eventually sink to the bottom of the fryer and degrade the oil. We recommend skimming the surface with a fine-grade skimmer before filtration to ensure that all particles are removed.

TOP TIP: Many people use a spider tool, which is used to lift fried food out of a fryer, to skim. However, this won't pick up finer food particles, so ensure you use a skimmer with a fine mesh.



Filter: Once skimmed, your oil can be filtered - either manually, or with a pump if your fryer has a built-in filtration system. Wait until your oil has cooled to 40°C before you do this. The oil can then be poured back into the fryer or moved to the next one if cascading.

TOP TIP: Make sure your fryer is completely dry before adding oil! Even the smallest amount of water will evaporate through the oil, causing air bubbles which can lead to explosions and diminish the quality of the oil - and food.

Benefits of cascading:

- Saves money: you're only replacing the oil in one fryer at a time.
- Safer: less handling, as smaller quantities of oil are being disposed.
- Food is cooked in the most suitable oil: keeping the freshest, newest oil for chips.

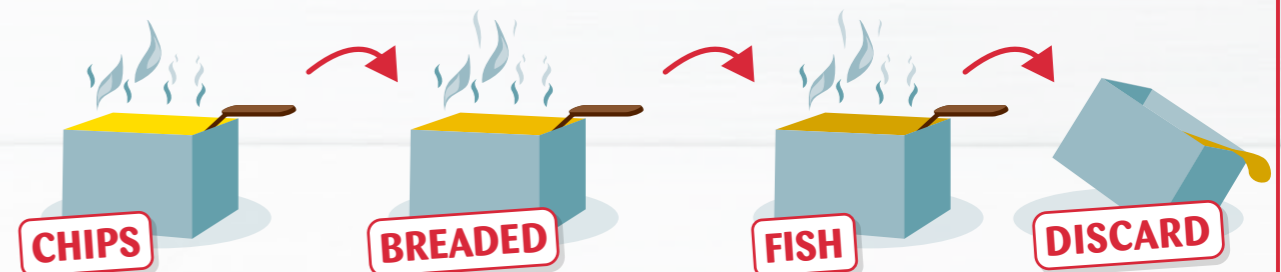
Systems vary from outlet to outlet and the order depends on your menu, output and service hours.

Cascading in practice

EXAMPLE

Large pub with three fryers

The pub is busy at lunchtimes and early evenings, popular with work groups and families looking for a varied menu of good pub grub. The kitchen has one fryer for chips, one for breaded meat products and one for fish.



CHIPS
Frying in fresh oil produces crisp, lightly-golden chips, so we recommend that new oil is added to your chip fryer.

BREADED
The oil from the chip fryer, which hasn't been tainted by any strong flavours, is then moved to the breaded products fryer.

FISH
As fish can affect the taste of oil, we'd suggest leaving this one until last. Breaded products won't have much of an impact on the flavour of oil. When this oil starts to degrade, it is removed and discarded of.

Sustainable frying



All Prep frying oils are certified sustainable by the Roundtable on Sustainable Palm Oil (RSPO). This guarantees that the oil has been produced without harm to people, animals or the environment, in line with stringent rules set out by the RSPO.

Prep was the first frying oil brand in the UK to support sustainable palm oil production and is one of the leading names in the campaign to buy 100% of the UK food industry's palm oil from sustainable sources.

Prep oil management toolkit

Prep has put together a kit of the best tools for the job in our online store. Search "Prep oil management" on Amazon to find industry-standard implements that will give optimum results - all available separately, or as part of a complete set.

Find out more at prepoils.co.uk/responsible-frying



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Want to know more?

From the science behind your oil to expert advice and training, the Prep team is here to help. Contact us at prepoils@ak.com or visit prepoils.co.uk