


HANDLING AND DISPOSAL OF USED COOKING OIL

SUMMARY

The practice of reheating cooking oil or using the same cooking oil for frying is common. Cooking oil is often repeatedly used by topping it up with fresh oil. Generally, big food businesses involved in the manufacturing of fried foods dispose of their used cooking oil (UCO) for industrial purposes (soap manufacture, etc.) but sometimes it finds way to small food vendors at cheap prices. At household level or by road-side vendors, the UCO is discarded in an environmentally hazardous manner blocking the sewerage and drainage systems. Therefore, in order to safeguard public health, FSSAI has notified the limit of Total Polar compounds to be not more than 25% beyond which the oil is unsafe for human consumption. This guidance note outlines the Standard Operating Procedure (SOP) for safe handling and disposal of UCO for the benefit of consumers as well as small and big Food Business Operators (FBOs).

KEY TAKEAWAYS

- Avoid repeated use of cooking oil for frying.
- At household level, oil once used for frying foods should be filtered and may be used for curry preparation in order to make it economical.
- Used Cooking Oil should be consumed in a day or two. It should not be stored for longer period as the rate of deterioration is higher in used oil.
- Discard Cooking Oil when blue-grey smoke appears or tough foam is formed or oil becomes dark and murky or the consistency of oil changes.
- Discard cooking oil having developed Total Polar Compounds (TPC) of more than 25%.
- Do not dispose of the discarded oil in drains/sewerage systems.
- UCO should be discarded in an environment friendly way preferably by providing it to the authorized UCO aggregators/collection agencies.
- In order to dispose small quantities of used cooking oil at household level, mix the oil with an absorbent material such as sand or sawdust or used towel or paper towel or food scraps to avoid chances of spillage and then throw it away in dustbins.



This Guidance Note has been prepared by Ms. Aiman Zaidi, Technical Officer at FSSAI based on FSSAI Regulation and Standards. This note contains information collected and compiled by the author from various sources and does not have any force of law. Omissions and error, if any, can kindly be brought to our notice.

A. Introduction

Edible vegetable oils are used in frying of foods. During frying, the quality of oil deteriorates. Using the same oil repeatedly for frying leads to changes in the physico-chemical, nutritional and sensory properties of the oil. It also leads to the formation of Total Polar Compounds (TPC), which makes the oil, unfit for human consumption beyond certain limits. Reports have related these compounds to several diseases such as hypertension, atherosclerosis, Alzheimer's disease, liver disease etc.

The purpose of this guidance note is to outline proper means for handling and disposing of used oil in order to safeguard the environment and consumer health

B. Guidelines in Food Safety and Standards (Licensing and Registration of Food Businesses) Regulations, 2011

At present, following provisions in Schedule 4 Part V- Specific Hygienic and Sanitary Practices are to be followed by Food Business Operators engaged in catering/food service establishments:

S. No.	Provisions
01	Reuse of cooking oil should be avoided.
02	In case of reheating of oil, use maximum three times to avoid the formation of trans fat. It is ideal to use once, if possible.
03	Re-heating and reuse of oil should be avoided as far as possible. Avoid using leftover oil wherever possible.
04	The vegetable oil having developed Total Polar Compound more than 25% shall not be used

C. Disposal of UCO

At present, UCO is either not discarded at all or disposed of in an environmentally hazardous manner choking drains and sewerage systems. Also, UCO from organised Food Business Operators (FBO) reportedly finds its way to small restaurants/dhabas and road-side vendors which may lead to adverse health effects.

D. Procedures to be followed for handling and disposal of UCO

1. For small FBOs

- Do not use same oil for more than three times. It is ideal to use only once.
- Cooking oil should be filtered frequently to remove food particles.
- UCO should be disposed when blue-grey smoke appears or tough foam gets formed or oil becomes dark and murky or the consistency of oil changes. These are some of the indications that the quality of oil has deteriorated.
- Do not dispose of the discarded oil in drains/sewerage systems.
- UCO should be discarded in an environment friendly way preferably by providing it to the authorized UCO aggregators/collection agencies that are registered with authorized agencies such as States Biodiesel Boards, Biodiesel Association of India and other agencies nominated by state government to collect such oil for the manufacture of biodiesel or any other industrial purpose
- Keep UCO away from flame, gas cylinders etc.
- FBOs should refrain from buying UCO for manufacturing their foods products.

2. For big FBOs

- Cooking oils having developed Total Polar Compounds beyond the limit of 25% are hazardous waste. Discard such edible oil.
- Keep the discarded oil in a separate container once it is cooled. Keep headspace while filling. Always label the container to avoid cross contamination.
- Do not transfer hot oil to avoid chances of spilling and injury.
- Transfer the used cooking oil safely into the collecting drums provided by authorized collection agency.
- Keep used cooking oil away from flame, gas cylinders etc.
- UCO should be discarded in an environment friendly way preferably by providing it to the authorized UCO aggregators/collection agencies that are registered with authorized agencies such as States Biodiesel Boards, Biodiesel Association of India and other agencies nominated by state government.
- All Food Business Operators should train their staff responsible for handling and disposal of used cooking oil regarding procedures prescribed in this document
- All FBOs whose consumption of edible oils for frying is more than 50 Kg or litres per day shall maintain the following record:

Date	Name of the Oil	Quantity of oil used in frying	Quantity consumed at the end of the day	Quantity discarded at the end of the day	Mode and date of disposal of Used Cooking oil	Used Cooking oil Collected by (name of authorized agency)

3. For households

- At household level, oil once used for frying foods should be filtered and may be used for curry preparation in order to make it economical. Avoid using the same oil for frying.
- UCO should be disposed when blue-grey smoke appears or tough foam gets formed or oil becomes dark and murky or the consistency of oil changes. These are some of the indications of deteriorated quality of oil.
- Used Cooking Oil should be consumed in a day or two. It should not be stored for longer times as the rate of deterioration is higher in used oil.
- Do not refill the fresh oil container with UCO. Store it separately.
- In order to dispose small quantities of UCO, mix the oil with an absorbent material, such as sand or sawdust or used towel or paper towel or food scraps to avoid the chances of spillage and then throw it away in dustbins.

FSSAI Regulations

Food Safety and Standards (Licensing and Registration of Food Businesses) Regulation, 2011, Available at: <http://www.fssai.gov.in/home/fss-legislation/fss-regulations.html> (Accessed: 28 August 2018)

Other References

1. Choe, E. and Min, D. (2007) 'Chemistry of Deep-Fat Frying Oils', *Journal of Food Science*, 72(5), pp.R77-R86.
2. University of Virginia (2014) 'Standard Operating Procedure: Used Oil Disposal', 18th November, Available at: https://www.fm.virginia.edu/docs/operations/SOP_UsedOilDisposal.pdf (Accessed: 28 August 2018)