

Guidelines on Deep Fryers and Frying Oil

What are the Potential Health Risks?

Improperly maintained deep fryers and frying oils can result in frying oils becoming degraded. Degraded frying oil can result in serious food safety hazards. These include:

- Deep fried foods may not be properly cooked.
- The level of fats in fried food increases when cooked in degraded frying oil.
- Degraded frying oil can contain increased levels of oxidized lipids and acrylamides, which can result in serious health effects.



How to Prevent Problems

1. Selection of Frying Oil

To help prevent frying oil from degrading, it is important to choose the right frying oil. This can be done by checking with your supplier and only using frying oils that:

- can withstand deep frying temperatures, and have sufficient oxidative stability for frying,
- are not flavoured, and
- contain low amounts of free fatty acids (<0.05%) and peroxides (<1.0 meq/kg).

2. Maintaining Deep Fryers and Frying Oils

There are precautions that can be taken to slow down or prevent the build up of degraded frying oil. These include:

- Frying oil should not be heated above 180°C (355°F).
- Measure the level of degradation with a commercial test kit or hand held measuring device. The next section provides information on when to discard used oil.

- Skimming and removing food particles and crumbs from the deep fryer frequently during the day, and nightly filtering.
 - Deep fryers washed with soap should be rinsed with a dilute vinegar solution to neutralize any remaining soap.
 - When not in use, lower the temperature of the fryer to 120°C (250°F).
 - Do not top up frying oil as a means of diluting/prolonging use. Only top up oil to keep it at a constant level.
 - Turn the deep fryer off and cover with a metal lid when not in use or the kitchen is closed.
 - Deep fryers, baskets and utensils should be made of stainless steel. Avoid copper, black iron or brass parts.
 - Use separate deep fryers for potatoes from those used for meats, chicken and/or fish.
 - Do not salt or season fried food over the deep fryer.
 - Do not use degraded frying oil as an ingredient in other foods, e.g. gravy.
- #### 3. Discarding Used Frying Oil
- Frying oil should be changed when the level of Total Polar Materials (Polar Content) is greater than 24%.
 - If a measuring device is not available, change the oil if the fried food has an unusual colour or taste.
 - Always change used frying oil before it smokes or starts foaming.
 - When discarding used frying oil, use steel or other appropriate container that can withstand high temperatures.

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What About Workplace Safety?

Because of the high temperatures inside deep fryers, handling frying oils can also be dangerous from a worker safety viewpoint. Always follow these safety tips:

- Dispose used frying oil by following the manufacturers' recommendations.
- Used frying oil should be allowed to cool before replacing.
- Wear protective equipment when replacing used frying oil.
- Flooring near deep fryers should be slip-resistant and cleaned often with grease-cutting solutions.
- Have safety equipment (e.g. fire extinguishers) close by and in proper working order.
- Educate employees and staff in:
 - ✓ Proper procedures in maintaining deep fryers,
 - ✓ Replacing and disposing of used frying oil, and
 - ✓ Administering first aid for burn injuries.

Information About Rapid Tests for Monitoring Oil Quality

When selecting a rapid test, operators should look for the following criteria:

- The test should correlate with internationally recognized standard methods.
- Provide an objective index.
- Be easy to use.
- Safe for use in food processing/preparation environment.
- Quantify with oil degradation.
- Be field rugged.

Laboratory supply companies can be contacted to enquire about rapid test products suitable for use in a food production setting.

***For further information please contact
your local Health Authority***

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