



## Standard Laboratory Operating Procedure #206 Lipid Test of Fish Feed/Fish Sample

**Laboratory:** Biotechnology/Environmental  
**SOP prepared by:** R. Sanders

**Location:** Science Lab  
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**General:** A lot of lipids function as long-term energy storage. One gram of fat stores more than twice as much energy as one gram of carbohydrates. Lipids are also an important component of the cell membrane.

**Safety:** Safety Glasses  
Be careful. Sudan red can stain clothes.

**Materials:** Refer to Flinn Kit, AP8635 Food Analysis Kit [www.flinnsci.com](http://www.flinnsci.com)  
Test Tubes  
2 mL Food Sample Solution  
Vortex  
Sudan III  
Timer  
Disposable Pipets

### **Procedure:**

#### **Prep of Solid Sample for Testing:**

1. Weigh out 5g of food sample using electronic balance, add sample into a mortar.
2. Add 10mL of distilled water to food sample in mortar, grind sample with a pestle to make into a slurry.
3. Filter slurry using filter paper and funnel, to collect liquid food sample into a small graduated cylinder or beaker.
4. Use the filtrate to complete the Lipid Indicator Test.
5. Repeat steps 1-4 for each food sample.

#### **Lipid Indicator Test:**

1. Add 1 mL of food sample solution with .5 mL of Sudan III Solution.
2. Gently mix with Vortex.
3. Sudan red will stain the fat molecules.
4. The more fat the sample contains, the more particles the Sudan red will stain.