

# IAFMM

# FISH OIL BULLETIN

international association of fish meal manufacturers

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## RECOMMENDED METHOD OF ANALYSIS FOR DETERMINATION OF INSOLUBLE IMPURITIES IN FISH OIL

### 1. Principle

This method determines dirt, meal, and other foreign substances insoluble in kerosene and petroleum ether. It is applicable to all normal fats and oils.

### 2. Reagents

All reagents should be of analytical quality.

Petroleum ether, bp  $35^{\circ}$ - $60^{\circ}$ C, specific gravity 0.630 - 0.660 at  $15.5^{\circ}$ C.

Kerosene, refined petroleum distillate with a flash point not below  $23^{\circ}$ C as determined by the ASTM Standard Method D56 using the Tag Closed Tester. The kerosene should be filtered through a Gooch crucible prepared as described below before using.

### 3. Apparatus

Gooch crucible, prepared with a pad of acid washed asbestos, about 2mm thick. Wash the pad with water, alcohol, and ether. Dry to constant weight at  $103^{\circ}_{+1}$ C, cool in a desiccator to room temperature and weigh.

Filter flask of convenient size and Gooch crucible adapter.  
Drying oven set at  $103^{\circ} \pm 1^{\circ} \text{C}$ .  
Desiccator of glass or metal with freshly dehydrated indicating silica gel or activated alumina indicator grade.

#### 4. Method

Samples must be thoroughly mixed. Use the residue from the moisture determination or a sample prepared in the same manner. Take about 50g of sample and weigh accurately to nearest 1mg. Add 50ml of kerosene to the residue and heat on a water bath to dissolve the oil. Filter through the prepared Gooch crucible with the aid of suction. Wash with five 10ml portions of hot kerosene, allowing each portion to drain before adding the next. Wash thoroughly with petroleum ether to remove all the kerosene. Dry the crucible and contents to constant weight at  $103^{\circ} \pm 1^{\circ} \text{C}$ , cool to room temperature in a desiccator and weigh.

#### 5. Calculation

$$\text{Insoluble impurities, \%} = \frac{\text{Gain in weight of crucible} \times 100}{\text{Weight of sample taken for moisture}}$$