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international association of fish meal manufacturers

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**RECOMMENDED METHOD OF ANALYSIS
FOR DETERMINATION
OF SALT IN FISH MEAL**

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1. General

Determination of chlorine as sodium chloride.

2. Principle

If the product contains organic matter it is clarified. The solution is acidified with nitric acid and the chlorides precipitated in the form of silver chloride by means of a solution of silver nitrate. The excess silver nitrate is titrated with a solution of ammonium thiocyanate, by Volhard's method.

3. Reagents

All reagents shall be of analytical quality.

Ammonium thiocyanate, 0.1 N solution.

Silver nitrate, 0.1 N solution.

Ammonium ferric sulphate, saturated solution.

Nitric Acid, d: 1.38.

4. Method

Weigh approximately 5g of the sample to the nearest 1 mg.

Add 50 ml silver nitrate solution, and then add 20 ml of nitric acid. Boil gently on a hot plate or sand bath until all solids except silver chloride dissolve (usually 15 minutes). Cool, add 50 ml water and 5 ml ammonium ferric sulphate, and titrate with ammonium thiocyanate until solution becomes permanent light brown.

5. Blank test

Carry out a blank test in parallel with the determination, using the same procedure and the same reagents, but omitting the test portion.

6. Calculation

Calculate the content of chloride, expressed as a percentage by mass of sodium chloride, by means of a formula

$$\frac{5.845 (v_1t_1 - v_2t_2)}{m}$$

in which

t_1 = the normality of the silver nitrate solution

t_2 = the normality of the thiocyanate solution

v_1 = volume of added silver nitrate solution in ml

v_2 = volume of thiocyanate solution in ml used for titration

m = the weight in g of the test portion of fish meal.

Express the results to the nearest 0.1% (m/m.) sodium chloride.

7. Repeatability

The difference between the results of two determinations carried out simultaneously or in rapid succession by the same analyst should not exceed 0.1%.