NITRATE METHOD 7

Using Nitrate No. 1 and No. 2 Tablets

INTRODUCTION

Nitrate present in water result from agricultural fertilizers leaching into watercourses, some industrial wastes and sewage effluents. Their presence in drinking water supplies is continuing to cause concern.

The EEC Directive relating to the quality of water for human consumption gives a recommended maximum of 25mg./l. as NO_3 with an absolute maximum of 50mg./l. as NO_3

This simple colorimetric test allows for the determination of Nitrate levels in the range 10 to 100mg./l. as NO_3.

PRINCIPLE OF THE METHOD

The Nitrate is first converted to Nitrite by a rapid reduction procedure. The Nitrite is then determined by a diazonium reaction which results in the formation of a coloured azo compound.

For maximum stability and convenience in use the reagents are combined together in the form of two tablets using one of each per test.

The intensity of the colour produced in the test is proportional to the original Nitrate concentration and is measured by comparison against Lovibond permanent colour glass standards.

REAGENTS REQUIRED

1. **Lovibond Nitrate No. 1 Tablets**

2. **Lovibond Nitrate No. 2 Tablets**

THE STANDARD LOVIBOND COMPARATOR DISC 3/142

The disc covers the range 10 to 100mg./l. Nitrate (NO_3) in steps of: 10, 20, 30, 40, 50, 60, 70, 80 and 100mg./l. and is used with 13.5mm./10ml. moulded cells with fitting cap.

METHOD

1. Into each of two 13.5mm. cells pour 10ml. of sample. Place one cell in the left-hand compartment of the Comparator to act as a blank for any inherent colour or turbidity present.

2. To the other cell add a Nitrate No. 1 tablet. Crush with a clean stirring rod and mix thoroughly to dissolve. Allow to stand for 30 seconds.

3. Add a Nitrate No. 2 tablet to the cell and **crush carefully**. Cap the cell and shake for exactly 30 seconds. Allow to stand for 3 minutes. **DO NOT REMOVE THE CAP**.

4. Place the cell in the right-hand compartment of the Comparator. Match the colour against the colour standards in the disc by rotating the disc until the nearest colour match is obtained (see note 1).

5. Read off the concentration in mg./l., of Nitrate as NO_3, in the bottom right-hand corner of the Comparator.

NOTE

1. For accurate results use the Lovibond Daylight 2000 Unit or North daylight. Fluorescent lighting should not be used.

REVISION HISTORY

Date	Change Note	Issue
04/02/03	36/460	2
23/03/05	CA243	3
12/10/06	JC83	4