

## IRON METHOD 7

### Using Iron High Range Tablets

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#### INTRODUCTION

This simplified procedure for the determination of Iron in water responds to both Iron (II) & (III) and thus measures Total Soluble Iron. For maximum stability and convenience the reagents are provided in the form of a single test tablet.

#### PRINCIPLE OF THE METHOD

Both Iron (II) & (III) react with a soluble salt of thioglycollic acid in alkaline solution with the formation of a pink colouration. The intensity of this colour, which is proportional to the Iron concentration, is measured by comparison against Lovibond permanent coloured glass standards.

#### REAGENT REQUIRED

1. Lovibond Iron High Range Test Tablets.

#### THE STANDARD LOVIBOND COMPARATOR DISC 3/117

Disc 3/117 covers the range 1 to 10mg./l. Iron (Fe) in steps of 1mg./l omitting the 9mg./l. step and is for use with 13.5mm./10ml. moulded cells.

#### METHOD

1. Place in the left-hand compartment of the Comparator a 13.5mm./10ml. moulded cell containing the sample only; this serves as a blank to compensate for any inherent colour in the sample.
2. Rinse a similar cell with the sample and then fill to the 10ml. mark. Add one Iron High Range tablet, crush and mix to dissolve. Place the cell in the right-hand compartment of the Comparator.
3. Allow the sample to stand for one minute then match the colour by holding the Comparator against a standard source of white light, such as the Lovibond Daylight 2000 Unit, or against North daylight (not fluorescent lighting), then rotating the disc until the nearest colour match is obtained.
4. The figure displayed in the bottom right-hand corner of the Comparator is the concentration of Iron as Fe in mg. /l.

If the colour produced is deeper than the top step on the disc the sample should be diluted with deionised water and the test repeated. The subsequent reading should then be multiplied by the dilution factor.

## NOTES

1. For certain water samples, particularly industrial waters, it may be necessary to measure the Total Iron content, i.e. both soluble and insoluble forms. A supplementary procedure for the determination of Total Iron is described on a separate sheet available on request.
2. For the determination of concentrations of Iron less than 1mg. /l. the Iron Low Range (PPST) tablets should be used with Lovibond disc 3/116.

## REVISION HISTORY

<b>Date</b>	<b>Change Note</b>	<b>Issue</b>
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