

Lovibond®

INSTRUCTIONS FOR TEST KIT 413580

Ammonia using disc 3/113

1. Fit the 3/113 disc into the Comparator.
2. Fill two 13.5mm./10ml. moulded cells to the 10ml. mark with sample and place one cell in the left-hand compartment of the Comparator.
3. To the other cell add one Ammonia No. 1 tablet, crush with a clean stirring rod. Next add one Ammonia No. 2 tablet, crush and continue mixing until both tablets have dissolved. Place the cell in the right-hand compartment of the Comparator and allow to stand for 10 minutes.
4. After standing for the required time, match the colour against the disc by holding the Comparator facing North Daylight* and rotating the disc until the nearest colour match is obtained
5. The figure shown in the bottom right-hand corner of the Comparator is the concentration of Ammonia as N in mg./l..
6. For concentrations of Ammonia higher than 1 mg./l. the sample may be diluted with Ammonia-free deionised water, the test repeated and the resulting reading multiplied by the dilution factor.

Chlorine using disc 3/40A

1. Fit the 3/40A disc into the Comparator. Place a 13.5mm./10ml. moulded cell containing sample in the left-hand compartment of the Comparator.
2. Rinse out another cell with the sample and leave a few drops in the bottom. Add a DPD No.1 tablet, crush with a clean stirring rod and mix to disintegrate. Make the volume up to 10ml. of sample.
3. Place the cell in the right-hand compartment and holding the Comparator facing North Daylight* rotate the disc until the nearest colour match is obtained.
4. The figure shown in the bottom right-hand corner of the Comparator is the concentration of **free chlorine** in mg./l..
5. For **total chlorine** remove the cell from the right-hand side of the Comparator and add a DPD No.3 tablet to it. Crush and mix to disintegrate. Allow to stand for 2 minutes.
6. Replace the cell in the Comparator and match as before. This reading is the **total chlorine** reading in mg./l.. For **combined chlorine** subtract the free chlorine reading from the total chlorine reading.

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Chlorine using disc 3/40HN

1. Fit the 3/40HN disc into the Comparator. Place a 5mm. cell containing sample in the left-hand compartment of the Comparator.
2. Rinse out a 13.5mm./10ml. moulded cell with sample and leave a few drops in the bottom. Add a DPD No.1 tablet, crush with a clean stirring rod and mix to disintegrate. Make the volume up to 4ml., mix to dissolve and transfer to the 5mm. cell.
3. Place the 5mm. cell in the right-hand compartment of the Comparator. Match the colour against the disc by holding the Comparator facing North Daylight* and rotating the disc until the nearest colour match is obtained.
4. The figure shown in the bottom right-hand corner of the Comparator is the concentration of **free chlorine** in mg./l..
5. For **total chlorine** remove the cell from the right-hand side of the Comparator and pour the contents back into the 10ml. cell. Add a DPD No. 3 tablet, crush and mix to dissolve. Pour the liquid back into the 5mm. cell and allow to stand for 2 minutes.
6. Place the cell back in the Comparator and match the colour against the disc as before. This is the concentration of **total chlorine** in mg./l.. For **combined chlorine** subtract the free chlorine reading from the total chlorine reading.

pH using disc 2/1CC

1. Fit the 2/1CC disc into the Comparator. Fill two 13.5mm./10ml. moulded cells to the 10ml. mark with sample and place one cell in the left-hand compartment of the Comparator.
2. To the other cell add 0.5ml. of BDH4080 indicator. Do not immerse the tip of the pipette beneath the surface of the liquid.
3. Carefully mix the indicator and liquid by replacing the cap and inverting a few times or mix using a clean stirring rod.
4. Place the cell in the right-hand compartment of the Comparator. Match the colour against the disc by holding the Comparator facing North Daylight* and rotating the disc until the nearest colour match is obtained.
5. The figure shown in the bottom right-hand corner of the Comparator is the pH value of the solution.

pH using disc 2/1L

1. Fit disc 2/1L into the Comparator.
2. Fill two 13.5mm./10ml. moulded cells to the 10ml. mark with sample and place one cell in the left-hand compartment of the Comparator.
3. To the other cell, add one Thymol Blue tablet. Crush with a clean stirring rod and mix thoroughly.
4. Place the cell in the right-hand compartment of the Comparator. Match the colour against the disc by holding the Comparator facing North Daylight* and rotating the disc until the nearest colour match is obtained.
5. The figure shown in the bottom right-hand corner of the Comparator is the pH value of the solution.

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Nitrite using disc 3/103

1. Fit disc 3/103 into the Comparator.
2. Place a 13.5mm./10ml. moulded cell containing sample in the left-hand compartment of the Comparator.
3. Rinse out another cell with the sample and fill to the 10ml. mark. Add one Nitrite Low Range tablet, crush with a clean stirring rod and mix to dissolve.
4. Place the cell in the right-hand compartment of the Comparator and stand for 10 minutes.
5. After this standing period match the colour against the disc by holding the Comparator facing North Daylight* and rotating the disc until the nearest colour match is obtained.
6. The figure shown in the bottom right-hand corner of the Comparator is the concentration of Nitrite in mg./l. as N.

Permanganate Value using disc 3/3A

1. Add approximately 0.4g. 'Dry Acid' (one spoonful if using the tube with integrated spoon) and exactly 5ml. of M/400 Potassium Permanganate, using the measuring cylinder, to a clean 100ml. shaker tube.
2. Add 5ml. of sample, mix well and allow to stand for 4 hours at 27°C
3. Mix again after 1 hour if the sample contains much suspended matter.
4. At the end of 4 hours add one Potassium Iodide tablet and mix thoroughly.
5. Dilute the contents of the shaker tube to 50ml. with deionised water.
6. Fill a 13.5mm./10ml. cell with the solution. If it is cloudy filter out the suspended matter.
7. Place the cell in the right-hand compartment of the Comparator and another cell filled with just water in the left-hand compartment.
8. Fit disc 3/3A into the Comparator and match the colour of the solution by holding the Comparator facing North Daylight* and rotating the disc until the nearest colour match is obtained.
9. The figure shown in the bottom right-hand corner of the Comparator is the Permanganate Value of the sample in mg./l..

The Permanganate Value test can be used to give an approximation for BOD and COD using the following factors: -

Sewage Effluent BOD = P.V. x 1.5
 COD = P.V. x 7

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Sulphide using disc 3/128

1. Place a 13.5mm./10ml. moulded cell containing the sample in the left-hand compartment of the Comparator.
2. Rinse out another cell with the sample and fill to the 10ml. mark. Add one Sulphide No. 1 tablet and one Sulphide No. 2 tablet, crush and mix very slowly to avoid loss of Sulphide.
3. Continue mixing until both tablets are fully dissolved. Place the cell in the right-hand compartment of the Comparator and allow to stand for 10 minutes.
4. After this waiting period, fit disc 3/128 and holding the Comparator facing North Daylight* rotate the disc until the nearest colour match is obtained.
5. The figure shown in the bottom right-hand corner of the Comparator is the concentration of Sulphide in mg./l. as S.

*NORTH DAYLIGHT

The correct light source must be used when matching colours in the Comparator; North Daylight is acceptable; the portable Lovibond[®] Daylight Unit or the Lovibond[®] Daylight Cabinet are recommended.

Tests conducted in the Southern Hemisphere require South Daylight instead of North Daylight.

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