

AQUASOL

Analyzing Waters... Anytime... Anywhere...

💧 **EASY TO FOLLOW PROCEDURES**

💧 **COMPACT**

💧 **PORTABLE**

💧 **BASED ON PROVEN METHODS**

💧 **ACCURATE**

💧 **BACKED BY SOUND CHEMICAL RESEARCH**

💧 **ECONOMICAL**

💧 **RAPID**

💧 **RELIABLE**

**AE 106
PURIFIED WATER**



An
ISO 9001:2015
Company

RAKIRO BIOTECH SYSTEMS PVT LTD



COMBI KIT

PURIFIED WATER I.P. (1996)

- ◆ **AQUASOL** systems are extremely convenient, and free you from the tedium of the laboratory, while saving precious time. Now you do not have to bother about reagent preparations and standardization.
- ◆ **AQUASOL** gives you freedom from the need of a laboratory, trained manpower and laborious processes involved
- ◆ Simple, easy to follow procedures, ***Anytime... Anywhere...***
- ◆ Based on proven laboratory methods backed by sound chemical research
- ◆ Rapid, accurate and reliable results are achieved
- ◆ Low cost, user friendly, compact and portable systems

Highly purified water, is an essential component of biopharmaceutical industry. It is used as an ingredient in both research procedures and drug formulations and also for general cleaning, rinsing, etc. In each case the water source must be processed and treated to microbial and chemical contaminants that would otherwise compromise the quality, safety, efficacy and purity of finished product.

AQUASOL AE 106 is specially designed for **Purified Water Analysis (I.P. 1996)**.

Purified Water (I.P. 1996) Analysis

AE 106

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ACIDITY - ALKALINITY

Procedure :

Step A

- 1) Take 10 ml. freshly boiled and cooled purified water in borosilicate glass jar (provided here)
- 2) Add 0.05 ml (2 drops) of Methyl red solution (**ACAL1**).
The resulting solution is not red.

Step B

- 1) Take 10 ml of purified water in jar.
- 2) Add 0.1 ml (3 drops) of Bromothymol blue solution (**ACAL2**).
The resulting solution is not Blue.

Conclusion :

If resulting solution A & B are as per statement, purified water passes the test.

Calcium & Magnesium

Procedure :

1. Take 100 ml of purified water in test flask.
2. Add 2 ml (60 drops) of Ammonium Buffer (**TH2**) pH 10.0. Mix well.
3. Add 50 mg (1 spoonful) of Mordant black II (**TH1S**) mixture Mix well
4. Add 0.5 ml (15 drops) of 0.01 M Disodiumedetate solution (**TH3**). Mix well.

Conclusion :

If pure Blue colour is produced Purified water passes the test.

CHLORIDE

Procedure :

- 1) Take 10 ml of purified water in test jar.
- 2) Add 1 ml (30 drops) of 2M Nitric acid (**CHL1**). Mix well.
- 3) Add 0.2 ml (6 drops) of 0.1 M Silver Nitrate solution (**CHL2**).
- 4) Keep for 15 minutes.

Conclusion :

The appearance of the solution does not change for at least 15 minutes
Purified water passes the test.

SULPHATE

Procedure :

1. Take 10 ml of purified water in test jar.
2. Add 0.1 ml (3 drops) of 2M Hydrochloric acid (**SP1**). Mix well.
3. Add 0.1 ml (3 drops) of Barium Chloride solution (**SP2**). Mix well.
4. Keep for one hour.

Conclusion :

The appearance of the solution does not change for at least one hour purified water passes the test.

AMMONIUM

Procedure :

Step A

1. Take 20 ml of purified water in test jar (Test Solution A)
2. Add 1 ml (30 drops) of Potassium Mercuric Iodide (**NH1**) solution and allow standing for 5 minutes.

Step B

1. Take 2.5 ml (75 drops) dilute Ammonium Chloride (**AMN2**) in another 10 ml test jar.
2. Add 7.5 ml of purified water (up to 10 ml mark) (Control solution B)
3. Add 1 ml (30 drops) of Potassium Mercuric Iodide (**NH1**) solution.

Conclusion :

View the solution vertically.

If the Test Solution 'A' Is less intensely coloured than Control Solution 'B', Purified water passes the test.

HEAVY METALS

Sample Preparation

In evaporating dish, evaporate 150 ml purified water sample to 15 ml on a water bath.

Step A: STANDARD SOLUTION

1. Take 10 ml. of distilled water (lead free) in Test jar.
2. Add 10 drops of Lead standard solution (**HM1**). Mix well.
3. Add 2 ml of Test sample. Mix well.
4. Add 60 drops of Acetate buffer (**HM2**). Mix well.

Step B : STANDARD SOLUTION

1. Take 12 ml of purified water sample in test jar as prepared by evaporation.
2. Add 60 drops of Acetate buffer (**HM2**). Mix well.

Testing Procedure :

1. Take two test jars provided here, one mark as Standard and another Test sample.
2. Add 30 drops of Sodium Hydroxide Glycerin (**HM3**) mixture and 6 drops of Thioacetamide (**HM4**) solution in both test jars. Mix well & warm in water bath. And Cool it.
3. Add Standard solution and Test solution (prepared as above) to respective test jar. Allow to stand for 2 minutes. View downwards over a white surface.

Conclusion :

If colour produced with the Test solution is not more intense than the Standard solution, Purified water passes the test.

Range : 0.5, 1.0, 2.5, 5, 7.5, 10, 20, 30, 40, 50 ppm as NO_3

Directions for Use :

1. Take 5 ml of sample in the test tube provided.
2. Now add one spoonful of **HNT1**, shake well. Keep for 10 minutes, while shaking intermittently.
3. To this now add three drops* of **HNT2**. Mix well. Keep for three minutes, while shaking intermittently.
4. Now add one spoonful of **HNT3**. Shake well. Wait for 5 minutes to allow maximum colour development Dilute to 25 ml mark with DM water.
5. Transfer the content in small comparator tube provided here.
6. Read the ppm Nitrate as follows :
 - a) Place the comparator tube on the small inner (white) circle, on the colour comparison chart.
 - b) View from the top of the comparator tube to compare the sample colour and the colour around.
 - c) Match the colours by moving the tube from one circle to another.
 - d) Read the ppm NITRATE after arriving at the correct match.

* For controlled addition of drops, follow instruction on the dispenser

Aquasol Combi Kits : Application in Different Water Systems

Water Systems	Industries	Applications	Parameters
Boiler	Pulp & Paper, Textile, Steel, Chemical Manufacturing Units, Fertilizers, Refineries, Sugar, Thermal Power, Feed Water,	Raw Water, Softener, Blowdown Water,	Total Hardness, Calcium Hardness, Alkalinity, pH, Silica, Phosphate, Tannin, Iron, Chloride, Sulphite,
Cooling Systems	Pulp & Paper, Textile, Steel, , Chemical Manufacturing Units, Fertilizers, Sugar, Refineries, Thermal Power Stations, Engineering Units	Make-up Water, Recirculating Water, Basin Water	Total Hardness, pH, Chloride, Alkalinity, Calcium Hardness, Silica, Free Chlorine, Nitrite, Phosphate/Phosponate, Zinc, Molybdate
RO Water	Industries having Reverse Osmosis (RO) Plants	Feed Water and Permeate Water	pH, Total Hardness, Calcium Hardness Silica, Sulphate, Iron (Low Level), Nitrate, Nitrite (Low Level)
Swimming Pool	Hotels & Resorts, Houses	Monitoring of Pool Water	pH, Free Chlorine
Metal Working Fluid	Engineering Units	Process / D. M. Water	Total Hardness, Chloride, pH
Potable Water	Universal	Drinking Water	Total Hardness, Alkalinity, Chloride, Fluoride, Sulphate, Calcium Hardness, Nitrite, Nitrate, Free Chlorine, pH
Purified Water	Pharmaceuticals	Purified Water	Acidity, Alkalinity (pH), Calcium, Chloride Magnesium, Ammonium, Sulphate, Heavy Metal as Pb,
Aqua Culture	Fishery	Ponds	pH, Ammonia, Nitrite, Nitrate

