



[www.spermprocessor.com](http://www.spermprocessor.com)

 **Sperm Processor Pvt. Ltd.**

6, Welcome Nagar, Garkheda,  
Aurangabad (MS) - 431005, India.

Ph.: +91 240 6603800

Fax: +91 240 2341694

Email: [info@spermprocessor.com](mailto:info@spermprocessor.com)

## Semen pH

semen pH determination

 SP/SFT/PH-002



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a



product



Turnaround time for test: 1min



Store at: Room Temperature

## Concept

**pH** is Hydrogen ion concentration (**reciprocal logarithmic expression** of Hydrogen ion concentration). It is a **measure of alkalinity** ( $\text{pH} > 7.0$ ) & **acidity** ( $\text{pH} < 7.0$ ).

**Semen pH** is primarily determined by the **ratio** between **seminal vesicle alkaline** secretion ( $\text{pH}$  8.2 - 8.6) & **prostate acid** secretion ( $\text{pH}$  6.8 - 7.2). Therefore, semen pH is **slightly alkaline (pH 7.6 - 8.6)**. pH is also **time dependent** from the moment of collection.

According to **WHO laboratory Manual (2010)**, a reference value for semen pH is **7.2 or more**; however for **clinical purpose** to facilitate interpretation & diagnosis, semen **pH of  $< 7.6$  or  $> 8.6$**  is considered **abnormal**.

**Abnormalities** in pH may be due to **clinical or procedural** factors :

### • Clinical Factors

**pH  $> 7.2$**  - Low semen volume, accompanied by higher pH (above

9.0) is often due to the pathology of the prostate gland.

### **pH $< 7.2$**

- In case of Acute Prostatitis, Vaculities, Bilateral Epididymitis, usually pH is more than 8.0; whereas in case of chronic prostatitis, pH is generally less than 7.2

- Low semen volume accompanied by low pH (below 7.2) is often due to a deficiency in seminal vesicle fluid.

### • Procedural Factors

- **Initial fraction loss** during semen collection may result into **higher pH** (Above 8.6).
- **Incubation** of semen for a **long time**, results in **high pH** (above 8.6) due to breakdown of amines & amides.

The pH of seminal fluid is **best measured** using **litmus paper** with a **pH range** that lies between **6 - 10**. The use of **pH meters** in pH measurement of semen is **not recommended** as seminal fluid, due to its very high protein content, can easily block the meter's probe.

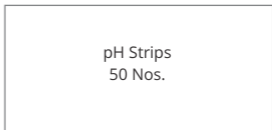
- Semen sample is collected with :
  - **Abstinence period** of **2-7 days**.
  - **Ideal collection** through **masturbation** in sterile container.
  - **Non-spermicidal polyurethane semen collection pouch (Sperm Collect™)** can be used when required.
- Semen sample is allowed to liquefy and then well mixed for performing test.
- Ideally test is to be performed within 30 to 60 min of collection.

### Special Instructions :

- **Hyperviscous** semen sample should be **processed** to bring towards normal viscosity. (**Viscosity-CH™** or **Viscosity-BR™** kit can be used)

- pH Strips : 50 Strips

### Content Box Diagram :



### **Storage Conditions :**

- The kit should be stored in dark at 2°C - 8°C after receiving.
- Bring all the reagents to room temperature before use.
- Once opened, store reagents in the fridge protected from light.
- Expiry date is printed on the out side of the box.

**REQUIRED BUT NOT PROVIDED IN KIT**

- Controlled Temperature 37°C Dry bath (Sperm Warmer™ / Water bath)
- Pipettes Set
- Stopwatch
- Microtip Box

*Disposable Materials***REQUIRED BUT NOT PROVIDED IN KIT**

- Hand gloves
- Semen Collection Container
- Non-spermicidal Semen Collection Pouch (Sperm Collect™)
- Microtips
- Pasteur Pipettes
- Filter Papers

**Step 1 :** Label pH strips with appropriate **Patient ID & Sample ID.**

**Step 2 :** Lay the semen pH strip on a **flat surface** with **yellow circle facing upwards.**

**Step 3 :** Place **10 µL** of semen (liquified & well mixed) sample **on yellow circle** with the help of a **pipette.**

## Quick Glance



## Examination

- Observe **color change** after **45 - 50 secs** of **Step - 3**.
- **Compare color** with adjacent **chart** provided on strip.
- The compared **color match** **denotes** the **pH** of semen sample.

## Result

Semen pH : \_\_\_\_

- **Normal reference value :**  
 $\geq 7.2$

(As per **Fifth Edition** Of **WHO Laboratory Manual** For Examination And Processing Of Human Semen).

## Precautions

- All patient samples & reagents should be treated as potentially infectious & the user must wear protective gloves, eye protection & laboratory coats when performing the test.
- The kit should be discarded in a proper biohazard container after testing.
- Do not eat, drink or smoke in the area where specimens & kit reagents are handled.
- Do not use beyond the expiration date which appears on the package label.
- It is recommended to use of gloves & face mask.

## Safety & Environment

- Do not release the products used into the environment. Follow centre guidelines for the storage & disposal of toxic substances.
- Biological samples must be handled as potentially infectious.

## Description of Symbols



consult instructions of use



product reference



lot number



use by



manufacturer



health surveillance device  
for in-vitro diagnostic



contains sufficient for 'n' tests



temperature limitation



keep dry



CE mark (Conformité Européenne)

## Accreditations & Registered Certificates

- **ISO 13485 : 2003** Certified
- **CE** Certified
- **GMDN** Registered
- **US FDA** Registered

For more information & procedure videos



[www.spermprocessor.com/sft-semen-ph.html](http://www.spermprocessor.com/sft-semen-ph.html)



[www.youtube.com/watch?v=IL-FvnsORHk](https://www.youtube.com/watch?v=IL-FvnsORHk)

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