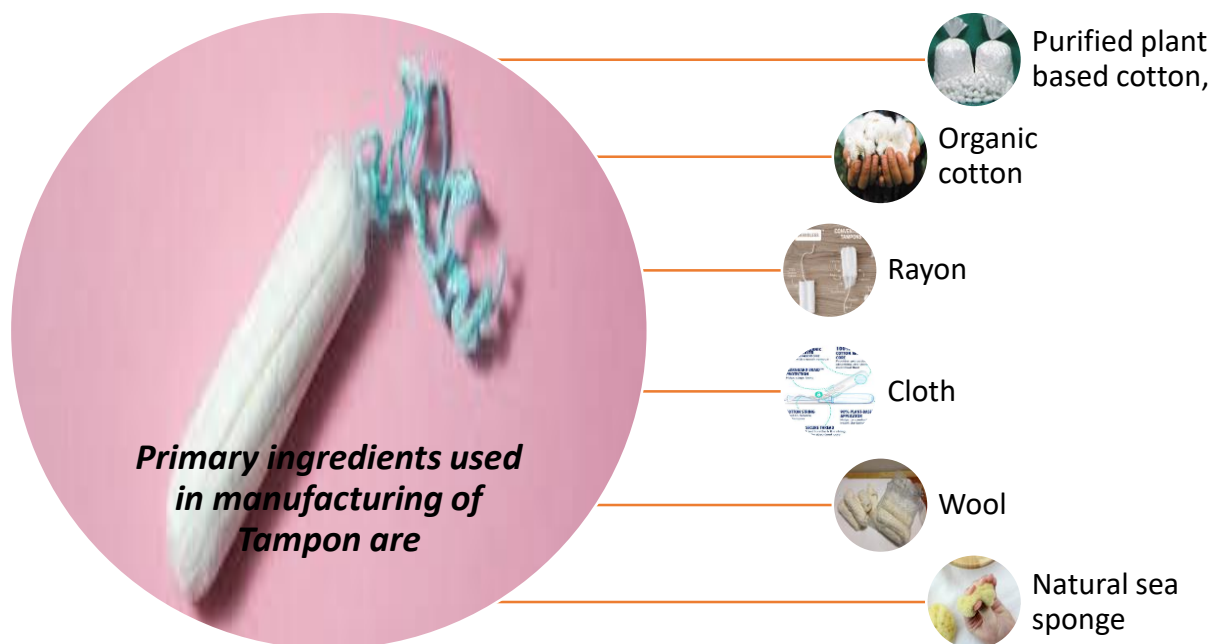


# FEMININE HYGIENE PRODUCT TAMPONS AND ITS SERIOUS HEALTH ISSUES

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Tampons, like pads, are feminine care products used to absorb your menstrual flow. They are made of soft cotton pressed together to form a cylinder-like shape, so that they can be easily inserted into the opening of the vagina which provide anti-leak protection.



**Figure No.01: Common ingredients for tampon[1]**

A tampon absorbs your menstrual flow, or blood, which remove every 4-6 hr which decrease the risk if infection. Tampons come in all different sizes and absorbencies. Various Tampon sizes available in market which correspond the amount of liquid they can absorb depends on this capacity they can be classified as bellow:

1. Junior Slim
2. Regular
3. Super
4. Super Plus
5. Ultra

Tampons are available in various designs in market like:

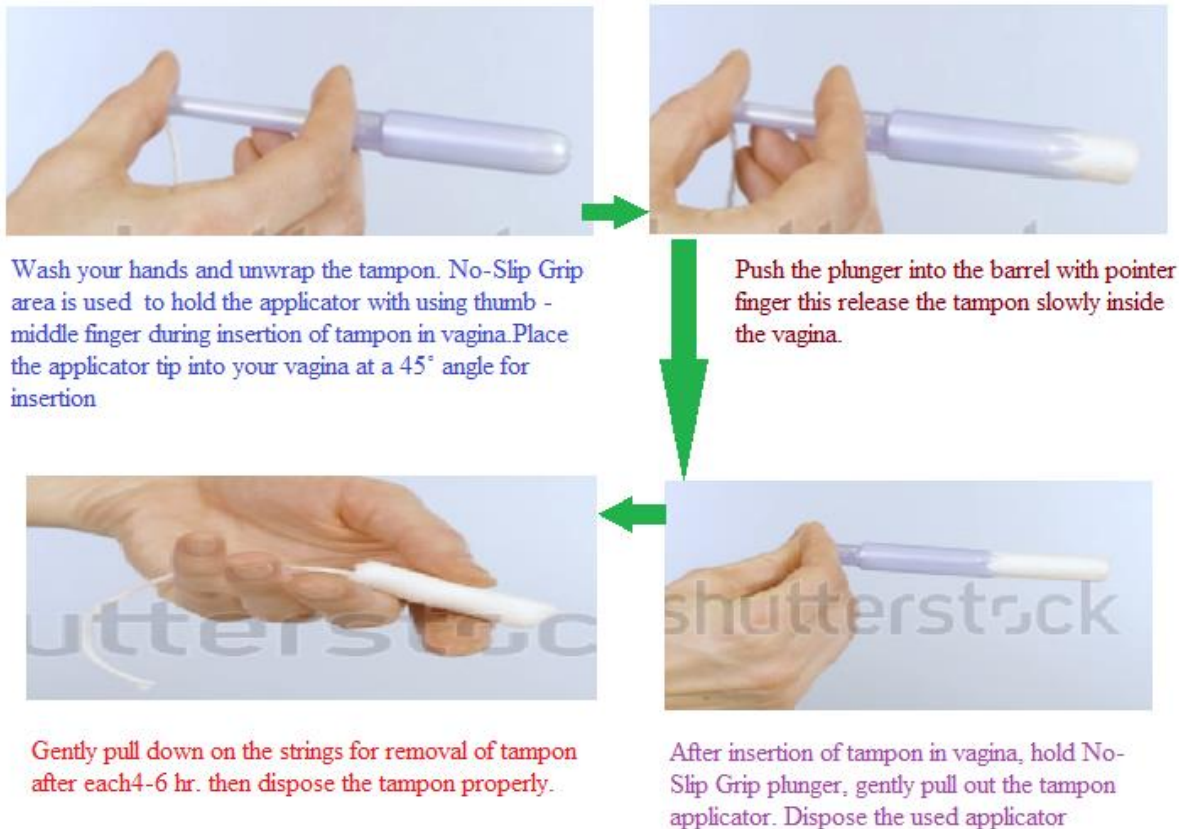
1. Plastic
2. Extendable
3. Cardboard
4. Digital Tampon

Tampon is basically made up of 2 parts: Absorption tampon and applicator.[1,2]

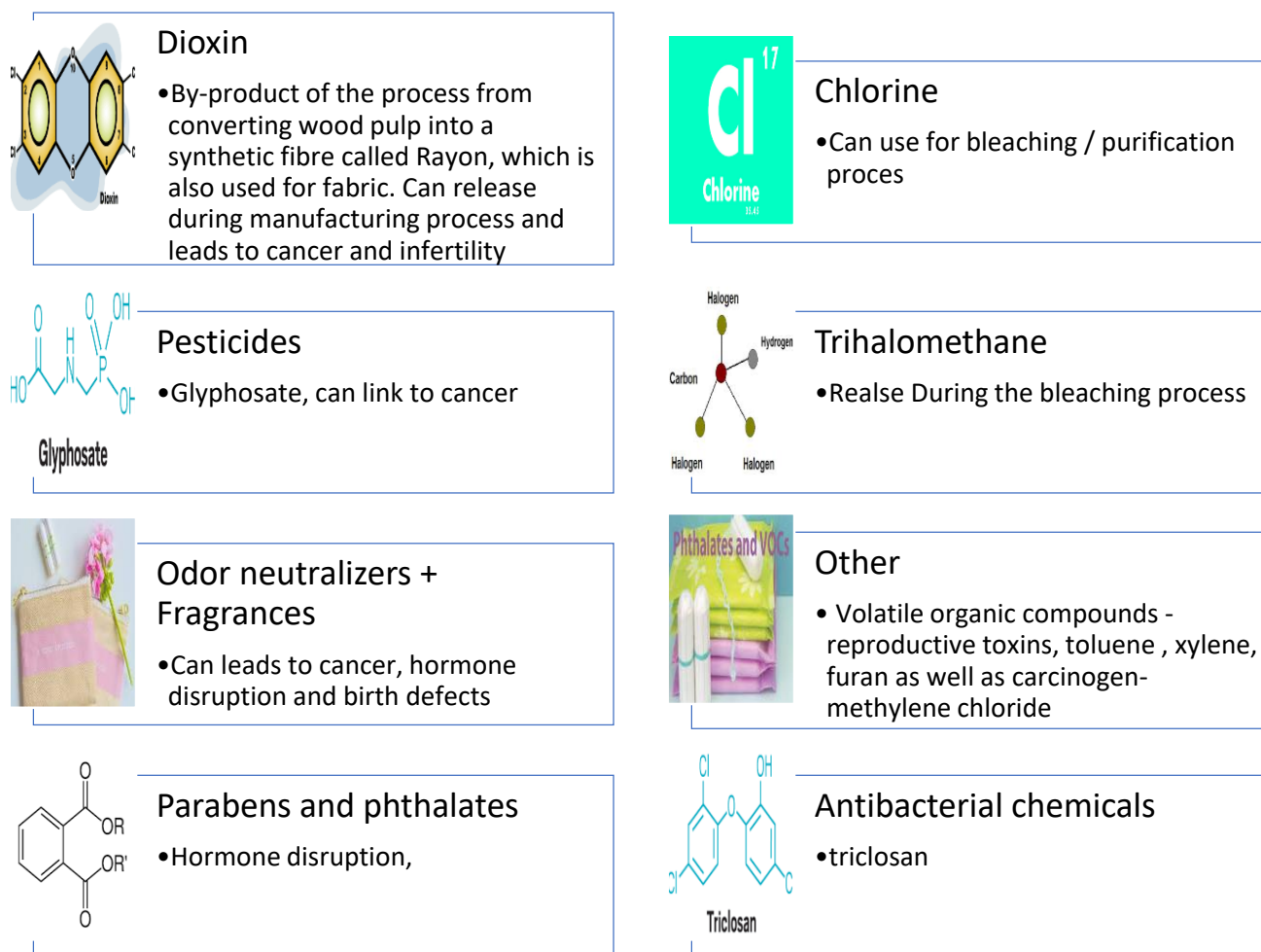
1. Plastic applicator: Which consist of smooth tapered barrel which gives the space for Tampon and it is attached to plunger which helps to insert the tampon in vagina.



**Figure.02: Structure of Tampon with plastic applicator**



**Figure.03: Steps to be followed for insertion of tampon in vagina**

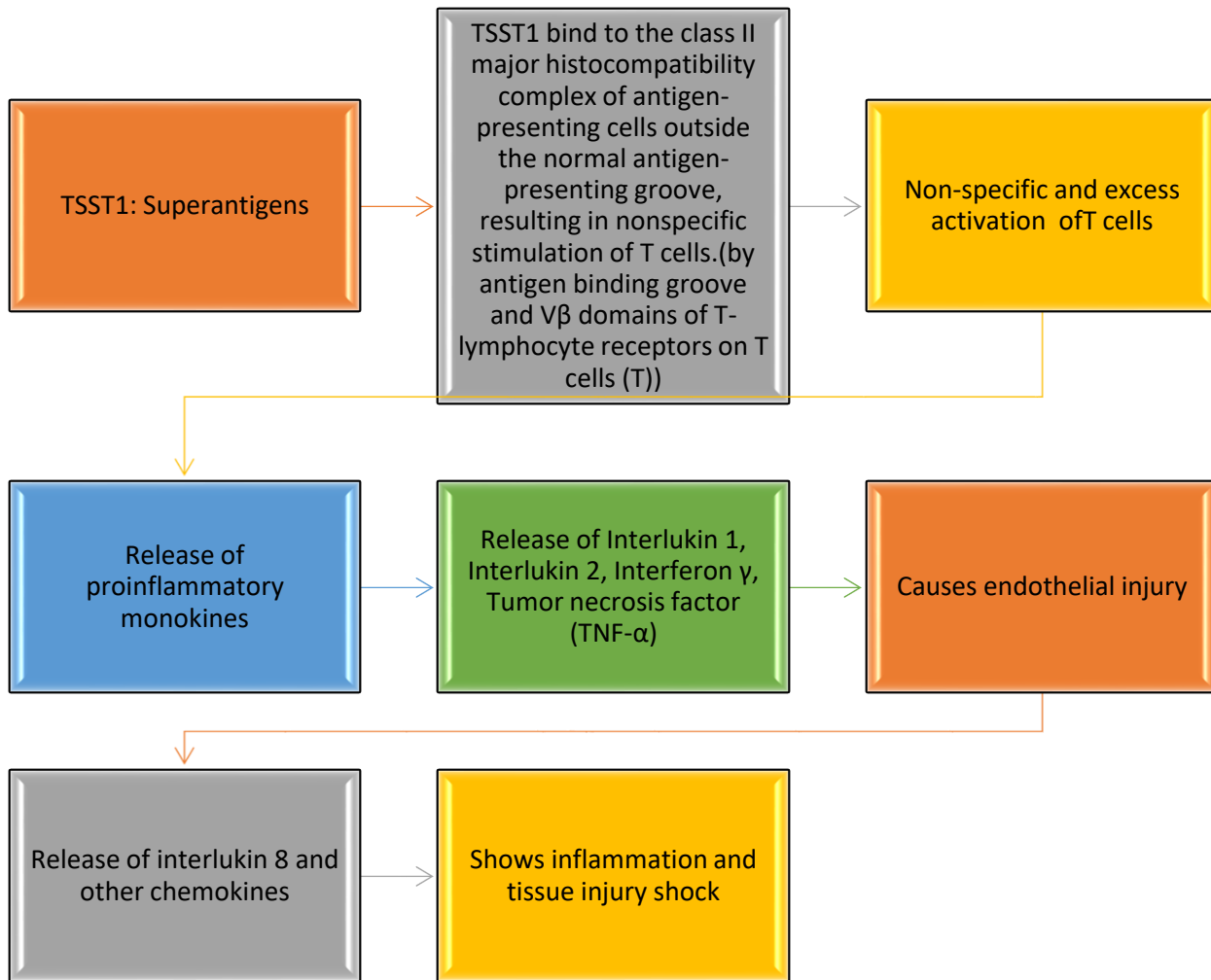


**Figure.No.04: Undisclosed Toxic substances may present / generate in Tampon**

### Risk factors related to tampon[3]

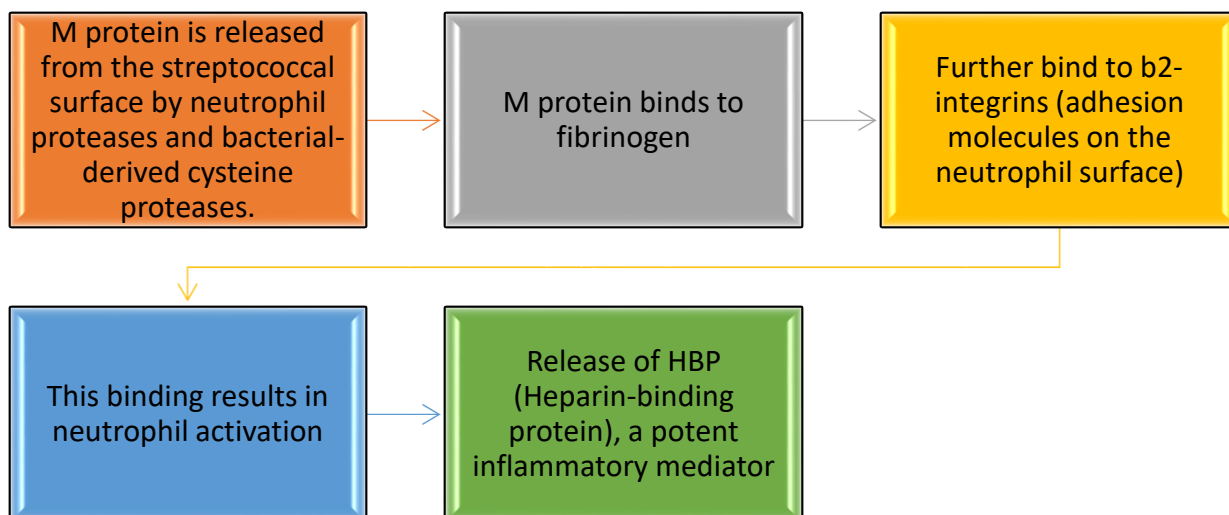
#### 1. Toxic Shock Syndrome (TSS)[4-7]:

Toxic shock syndrome is a hasty, possibly fatal condition. Toxic shock syndrome is caused by exotoxin TSST1 produced by a bacterial infection produced by *Staphylococcus aureus*, *Streptococcus pyogenes* bacteria. TSST1 act as a pyrogenic toxin superantigens and causes cellular destruction of endothelial cells. When tampons are not used as per provided direction and are not regularly changed in every 4 hours, there is high risk of infection. A tampon used in menstruation period saturated with blood which further support for rapid growth of bacteria (which are normal bio-flora but due to over growth they can cause infection). Polyester foam in tampons (High absorbance capacity tampons/superabsorbent tampons) provides suitable environment for rapid growth of *Staphylococcus* bacteria. Toxic shock can produces potentially fatal conditions which include like hypotensive shock (heart and lungs stop working;liver /kidneys may begin to fail), seizures, bleeding. Two major process elaborated in below figure.



**Figure No.05: Action mechanism of TSST1[8,9]**

Action of chemicals released streptococcal elaborated in below figure



**Figure No.06: M protein action for inflammatory action[8,9]**

**Common Symptoms** (which usually occurs together and condition progressively worse over time)

- High fever
- Vomiting /diarrhoea
- Severe muscle aches
- Weak /dizzy Feeling
- Sunburn-like rash

**Risk factors**

- Skin Burn/Skin Infection/open skin wound
- Surgery/ Recent Childbirth
- Use of a diaphragm or vaginal sponge to prevent pregnancy

**Preventive measurement**

- Use a tampon with the low absorbency capacity
- Wash / sanitise hands before and after inserting a tampon(follow print guidelines on the boxes for insertion/ removal of tampon)
- Unpack a fresh, clean tampon before insertion
- Change tampons regularly (4-8 hr), do not use tampon for long period.
- Use only one tampon in one use
- Use of alternative option for tampon like reusable silicone menstrual cup / sanitary pads/ mini-pads/ liners
- Follow perineal hygiene practices to reduce risk of infection

**Identification test (Principle: S. aureus gram positive bacteria release coagulase enzyme that causes the blood to clump and clot)**

- Coagulase Test
- Catalase Test

2. **Irritation, Rashes, Burning sensation, Allergic conditions[8-10]:**Tampon is inserted inside the vagina for a long time; which causes irritation and tiny abrasion of the vaginal skin during removal process. Tampons are made up of harsh chemicals like chlorine(Present in cotton which come bleaching process used for purification of rayon which further convert in dioxin), pesticides which can cause irritation. Presence of chlorine is a risk factor for diseases like cancer of the cervix, breast cancer, endometriosis (Due to presence of Dioxin in used cotton/ rayon of tampon), and etcetera. Tampon can leads to bacterial overgrowth and further pH imbalance.

**Common Symptoms:**

- Rashes
- Burning sensation
- Lower abdominal pain, inflammation being spread to the fallopian tubes
- Backache
- Itching or discharge
- Vaginitis (Due to yeast infections or bacterial vaginosis, causes abnormal discharge, itching, and odour.

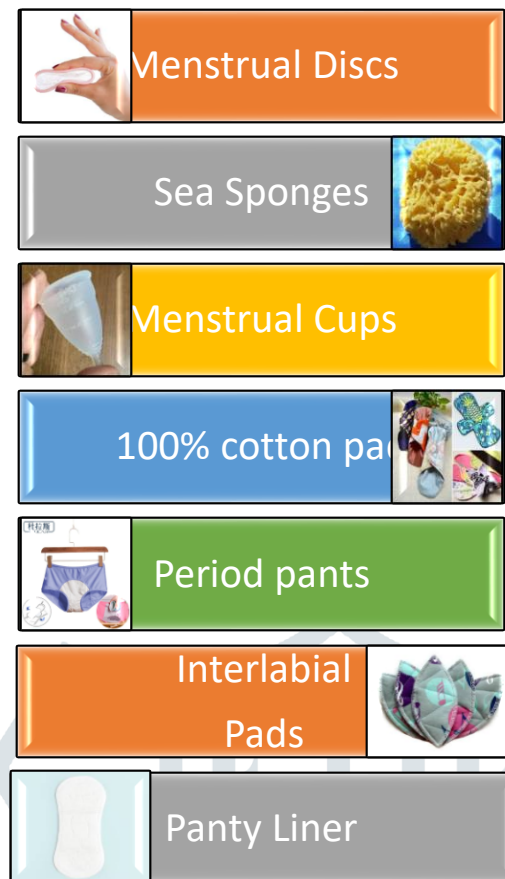
**Preventive measurement**

- Use of alternative option for tampon like reusable silicone menstrual cup / sanitary pads/ mini-pads/ liners
- Follow perineal hygiene practices to reduce risk of infection
- Avoid use of tampon with added chemicals like scented tampons

**3. Dryness**

Tampons are made up of cotton /rayon which are absorbent fibers which further cause excessive dryness in vagina, can leads to friction/ abrasion while removing process of tampon. Due to high absorbance capacity tampon can change natural fluid balance.

**Safer alternative available in market[11-12]**



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