



### G4 HPLC Analysis of Benzocaine in “Green Products”

*Harminder S. Bhawara, PhD\*, fsl, S/O Shri A.S. Bhawara, Shanti Nagar, Near Ram Mandir, Raipur (C.G), INDIA*

After attending this presentation, attendees will understand some principles of analyzing condoms that contains benzocaine as a desensitizer. Such a condom is commonly known as a “Benzocaine condom.” Benzocaine is a compound that is prepared from 4- aminobenzoic acid and ethanol. It is also the active ingredient in many over-the-counter anesthetic ointments and is indicated for general use as a lubricant and topical anesthetic on intratracheal catheters, pharyngeal and nasal airways, sigmoidoscopes and vaginal specula.

A benzocaine condom is a completely unique condom in itself. These condoms have a small amount of benzocaine lubricant cream in the tip. This cream helps to disperse the heat of the body. The main role of benzocaine is to desensitize the tip of the penis and prolongs the act of lovemaking between couples. Benzocaine binds to sodium channel and reversibly stabilizes the neuronal membrane which decreases its permeability to sodium ions. Depolarization of the neuronal membrane is inhibited thereby blocking the initiation and conduction of nerve impulses, thus making the sexual encounter last longer.

The condom is a widely used mechanical barrier contraceptive. It is one of the oldest methods of birth control. They are available over the counter as a non-prescription product and are procured very easily by sexual offenders. Sexual offenders often use condoms in the commission of sexual assaults in order to prevent identification through deposited biological material. Even the detection of DNA is inhibited in cases of sexual assault involving condom use. In such circumstances trace evidence, including condom lubricant residues viz. PEG, PDMS, benzocaine, etc. provides the crucial associative evidence. The seminal fluid residue containing sperm, proteins, blood grouping factors, and DNA helps in identification of sexual assault offenders. However, perpetrators of sex crimes using condoms during the commission of sexual assaults prevent identification through deposited biological material. However, when assailants use condoms, they leave behind other valuable evidence.

#### **Benzocaine, HPLC, Condom**