



## TOBACCO TESTING

Over the past ten years, the enormous development potential of the tobacco sector has steadily increased and this trend is anticipated to continue. Although tobacco use is a major public health problem, tobacco products are one of the few openly available commercial products that are virtually unregulated in some countries. They are also the only legally available products that kill up to half of their regular users when consumed as recommended by the manufacturers of these products. However, despite the devastating effects of tobacco use, only a handful of countries currently regulate tobacco products, including how the product is made, the contents of the product and the emissions from tobacco products during use, to which users and bystanders can be exposed. This is partly due to the challenges associated with the regulation of tobacco products, the highly technical nature of this policy intervention and the difficulties in translating science into regulation.

In most countries across the world, tobacco use is synonymous with cigarette smoking. In contrast, tobacco use in India takes multiple forms. Broadly, there are two types of tobacco products that are commonly used: smoking tobacco and smokeless tobacco. Smoking tobacco products include bidis,

manufactured cigarettes, hand-rolled cigarettes, pipes, cigars, hookahs, water-pipes and some other smoking tobacco products like chuttas and dhumti and chillum. Smokeless tobacco is used by either chewing, applying to the teeth and gums, or inhaling. Smokeless tobacco products used in India include chewing tobacco items such as betel quid with tobacco, khaini, gutka and paan masala with tobacco.

### REGULATORY BODIES

The Tobacco Control Act gave the FDA broad authority to regulate the manufacture, marketing, sale, and distribution of tobacco products. The FDA is already using its regulatory powers to make important advances in public health.

Tobacco product testing is a crucial component of the Family Smoking Prevention and Tobacco Control Act (FSPTCA), which grants the Food and Drug Administration the authority to regulate tobacco products and was signed into law on June 22, 2009.

- **WHO FCTC (Framework Convention on Tobacco Control)**
- **WHO study group on tobacco product regulation (TobReg)**

- **WHO tobacco laboratory network (TobLabNet)**
- **ISO**

Health warning Labels are pictorial and textual, cover 85 percent of the front and back panels of the tobacco product package parallel to the top edge and are rotated every 12 months. Misleading packaging and labeling, including terms such as "light" and "low-tar," and other signs, is prohibited



### **TOBACCO-SPECIFIC NITROSAMINES (TSNA)**

Tobacco consumption represents an additional source of nitrosamine exposure. Cigarette smoke is a complex mixture consisting of more than 4500 chemicals, including several tobacco-specific nitrosamines (TSNA). The present study describes the development of a liquid chromatography tandem mass spectrometry (LC-MS/MS) technique for the analysis of trace levels of four tobacco-specific nitrosamines (TSNAs): nitrosoanabasine (NAB), nitrosoanatabine (NAT), 4-(methylnitrosamino)-1-(3-pyrid-yl)-1-butanone (NNK), and nitrosonornicotine (NNN). The technique can be applied for the analysis of TSNAs in USP grade nicotine.



### **HOW EUREKA CAN HELP**

Quality testing is essential for the assessment of any product. In consideration of this, we provide a wide range of quality testing criteria for tobacco in terms of

- **The determination of chemical parameters such as**

**Nicotine content**

**Total nitrogen content**

**Nitrogen/Nicotine ratio**

**Reducing sugars**

**Sugars/Nicotine ratio**

**Carbohydrate/Protein ratio**

**Potassium**

- **Pesticides Residues**
- **Determination of visual characters of tobacco leaf, such as colour, body, texture, maturity or degree of ripening, identification of blemishes, graininess, vein colour, leaf colour, leaf size, fluffiness, elasticity, and shatterability**
- **Heavy Metals**
- **PAH**
- **Analysis as per ISO and Standard Method**
- **Nitrosamines**

