



SALIVA INFORMATION SHEET

Saliva is the watery substance produced in and secreted from salivary glands. Saliva is composed mostly of water, but also contains cellular material and other substances such as electrolytes, mucus, antibacterial compounds, and enzymes, including amylase. As part of the digestive process, the amylase in saliva breaks down some of the starch in food.

TESTS AND LIMITATIONS

Forensic tests for the presence of saliva are based on the detection of amylase activity. Amylase is normally found in high levels in saliva, though levels can vary from person to person and it may be found in other body fluids as well. It is not specific to humans.

Screening items for the presence of saliva normally begins with a visual inspection for staining. Use of an Alternate Light Source (ALS) may assist in localizing candidate stains, prior to the application of an amylase-specific test.

- **Phadebas™ Press Test** This test is used to localize and/or identify stains containing amylase, and is performed using paper that is impregnated with a commercial reagent. The paper is moistened and pressed against an item (either in a location where visible staining exists or where no visible staining is apparent) for a period of time. Where amylase is present, the commercial reagent dissolves and releases a blue dye into the paper.

Perspiration, vaginal secretions, and semen may all be sources of amylase but validation of the Press Test has demonstrated that a colour change within a particular timeframe suggests the presence of saliva. Feces have also been shown to be a source of amylase, at levels sometimes comparable to saliva.

Reporting guidelines have been developed to address these limitations.

DEPOSITION & PERSISTENCE

- Dried saliva stains that have been deposited onto inert surfaces and which are undisturbed and otherwise protected from the elements are stable and detectable for many years.
- Exposure of saliva stains to moisture, sunlight, heat or chemicals will increase the likelihood of degradation, which in turn may render stains undetectable and/or may damage any associated DNA.
- While saliva may be a rich source of DNA, amylase levels do not correlate to the amount of DNA within a stain.
- Saliva / amylase stains are water soluble and may therefore be removed through contact with water (eg. laundering).