



TECHNICAL BULLETIN

SUBJECT Fire Debris Analysis FAQ
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DISTRIBUTION All laboratory clients
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Introduction

Our laboratory staff often receive questions from clients regarding their analysis results. This document aims to compile all of the most common questions we receive into a single FAQ. Use this FAQ document as a quick reference whenever you have additional questions about your sample that are not answered directly on the analysis certificate. If your questions are unanswered after reading this FAQ, feel free to contact the laboratory for more information.

Can you provide more details regarding the analysis?

Yes. Our standard test report is for informative purposes, and only specifies the final analysis result. We can supply more detailed reports if required. Additional reporting fees may apply.

What happens to my original sample?

Unless specific instructions were provided at the time of sample submission, original samples are destroyed. However, an extract of your sample is archived during analysis, which can be used for retesting at a later date, if necessary. We will retain this extract, and all data relating to the sample analysis, for a period of seven years. You may request the return of the archived extract and sample data files at any time.

My analysis result was negative. Does this mean there were no ignitable liquids at the scene?

No. The absence of an ignitable liquid residue in a particular sample does not preclude the possibility that ignitable liquids were initially present at the scene. Ignitable liquids are made up of volatile compounds that may be subjected to evaporation, total consumption in fire, environmental alteration, or other factors that render them indistinguishable from background materials.

My analysis result was positive. Does this mean the fire was deliberately lit?

No. The identification of an ignitable liquid residue in a sample should not necessarily lead to the conclusion that a fire was incendiary in nature. Further investigation may reveal a legitimate reason for the presence of ignitable liquid residues. The laboratory generally cannot comment on the significance of a particular residue being present at the scene, and we cannot specify whether a residue was used as an accelerant.

Are comparison samples necessary?

Yes. Comparison samples should be submitted whenever possible. This allows for the contribution of the substrate to be determined. Comparison samples may allow identification of an ignitable liquid in samples where the data is otherwise inconclusive.

I smelled a particular ignitable liquid at the scene, but the report states a different type. Why?

The human nose is a useful presumptive screening tool for the selection of sampling locations, but it is not as sensitive or selective as a GC-MS, which is a confirmatory test. Hydrocarbon liquids are composed of similar chemical compounds which often cannot be differentiated based on scent.

I used a presumptive test for ignitable liquids at the scene, but my result is negative. Why?

Some presumptive test methods can be quite sensitive, but unspecific. Therefore, they will respond positively to a wide range of volatile compounds. A fire produces a large number of volatile compounds, some of which are common to ignitable liquids. Detection of these compounds may result in a positive presumptive test when there are actually no ignitable liquids at the scene.

I think a specific ignitable liquid is in my sample. Can you specify this on the report?

Yes, in some circumstances. With the exception of petrol, hydrocarbon-based liquids do not have unique chemical compositions, therefore we generally do not report that a residue is representative of a specific ignitable liquid unless we have a comparison sample of that liquid. Liquids in the same class may be indistinguishable from one another, so caution must be exercised when stating a specific liquid is present.