Southwest Research Institute® (SwRI®) performs smoke density and toxicity tests to a variety of standard procedures. Standard tests are supplemented for customized procedures to meet client-specific needs. Qualification and verification testing can be provided in support of third-party quality assurance programs.

**Capabilities**

- Smoke density (specific optical density, Ds) and mass loss measurements
- Time evolution toxic gas production
- Gas yield determinations (amount of gas produced per gram of sample consumed)
- LC$_{50}$ and LA$_{50}$ determination
- Collection of gas samples for a variety of chemical analyses

**Related Services**

- Fourier transform infrared (FTIR) quantitative and qualitative gas analysis
- FTIR custom calibration and quantification
- Listing, labeling and follow-up inspection services

Smoke density measurements are made based on the attenuation of a light beam through smoke accumulating within the chamber.

Toxicity of fire effluents is determined by introducing gas samples in an FTIR spectrometer.
Smoke and Toxicity
- ABD 0031
- IMO FTP Code Annex 1 Part 2

Smoke Density
- AITM 2.0007
- ASTM E 662
- ASTM E 1995
- BSS 7238
- ISO 5659-2
- NES 711
- NFPA 258

Toxicity
- AITM 3.0005
- ASTM E 800
- BSS 7239
- EPA TO-15
- NES 713
- SMP 800-C

We welcome your inquiries. For more information, please contact:

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