Thermal Desorption Treatability Lab Tests

Thermal desorption is an effective method used for treating waste materials. The main principle of this method is desorption of volatile and semi-volatile contaminants out of solid matrices (soils, sediments, sludge etc.) by heating to high temperatures (80 to 500 °C). Desorption can be enhanced by a decreased pressure. Subsequently, the desorbed substances are burned at high temperatures, or condensed and adsorbed. DEKONTA carries out complex treatability testing including analytical evaluation, using two different heating methods – duplicator and microwave. DEKONTA operates laboratory apparatuses for the both methods. The main features of the equipment include:

Duplicator jacket heating:

- Heating in a muffle furnace;
- Sample placed in a glass/quartz/steel cell (up to 500 g);
- Maximum temperature: 700 °C (1300 °F);
- Programmable heating program / heating rate;
- Various residence times – desorption kinetic study;
- Inert atmosphere (optional);
- Atmospheric /decreased pressure down to 200 mbar (abs.);
- Condensation of the desorbed vapours (-70 - 0°C), optional absorption/adsorption to different media (up to 350 °C).

Microwave heating:

- Heating in a laboratory microwave system (Milestone);
- Sample placed in a glass/quartz/PTFE cell (up to 200 g);
- Maximum temperature: 450 °C (850 °F);
- Programmable heating with batch temperature feedback – optic fibre/infrared sensor;
- Various residence times– desorption kinetic study;
- Inert atmosphere (optional);
- Atmospheric /decreased pressure down to 200 mbar (abs.);
- Condensation of desorbed vapours (-70 - 0 °C), optional absorption/adsorption to different media (up to 350 °C).

Lab test duration: 3 – 4 weeks

Price of lab test: Available on request

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