TubeTAG™

Sorbent Tube Informatics
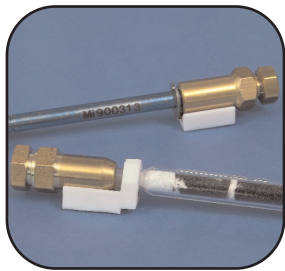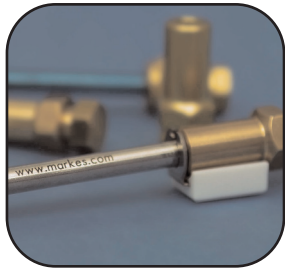
Sorbent tube tagging and tracking for ultimate sample traceability

MARKES
international
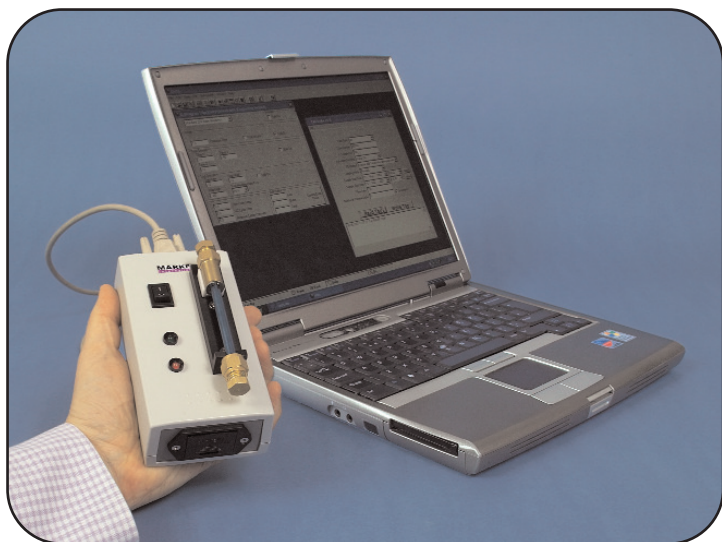
TubeTAG

TubeTAG: A significant advance in sorbent tube informatics

Associating data with thermal desorption (TD) tubes in the past, has relied on manually recording tube serial numbers. Bar code technology has proved difficult to apply to TD tubes because the high temperatures required limit the lifetime of bar code labels. Moreover, bar codes cannot be programmed to record tube history or sample specific information (*e.g.* sampling time and date, *etc.*)

TubeTAG represents a revolutionary advance in sorbent tube informatics. The product consists of RFID tag assemblies for attaching onto individual sorbent tubes, a tag reader / writer (TAG*SCRIBE*) and software.

TubeTAGs can either be used in sample-specific mode (tracking samples from lab to field and back for analysis) or in tube-specific mode (*i.e.* staying on the same tube indefinitely). Both modes of operation offer a significant move forward and a new range of benefits to the chemist.

Using tags in tube-specific mode requires a 'tag-ready' (TagIT™) ULTRA-UNITY system for both analytical thermal desorption and tube conditioning. TagIT ULTRA-UNITY systems are compatible with tagged tubes. Tags can also be removed from the tubes using a tool if required *e.g.* to allow stringent off-line tube conditioning and / or TD analysis on other systems. Removed tags can subsequently be replaced on the same or different tubes.

Keeping the tag on the same tube makes it easy to track the history of that tube – number of thermal cycles, back pressure during sampling, when the tube needs repacking, *etc.* Tags can be re-used indefinitely – more than 500 thermal cycles on a TagIT ULTRA-UNITY system.

TAG*SCRIBE*

Sample and / or tube specific information is entered onto tube tags *via* a PC-controlled, hand-held, battery operated TAG*SCRIBE* (both in the laboratory prior to field sampling and also during field sampling) and is subsequently read by another TAG*SCRIBE* once the sample is received back into the laboratory prior to tube analysis.

Tube compatibility

The reusable tags are compatible with standard stainless steel , Silcosteel™ , and glass sorbent tubes of the following dimensions:
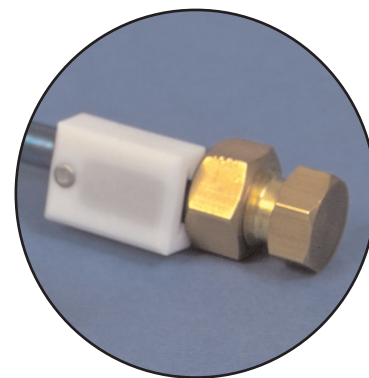
- 3.5-inch (89 mm) long x ¼-inch (6.4 mm) O.D.

- 4.5-inch (115 mm) (DAAMS) with 6 mm ends (straight through or high flow)

TubeTAG is also compatible with Markes SafeLok™ tubes.
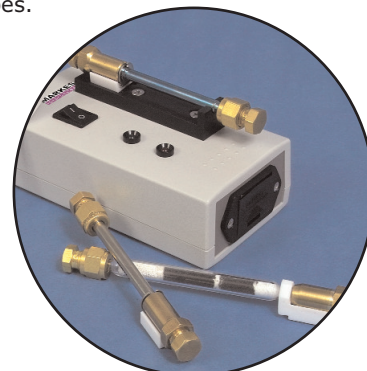
Error-free data logging

*Patent # US 6,446,515 B2

Stores a wealth of tube and sample information

TubeTAG software

TubeTAG software allows the user a high degree of flexibility in operation. There are administrator and user levels for data access, extensive administrator defined editing options and data protection functionality built in. The history of each tag is stored in a database for subsequent data tracking.
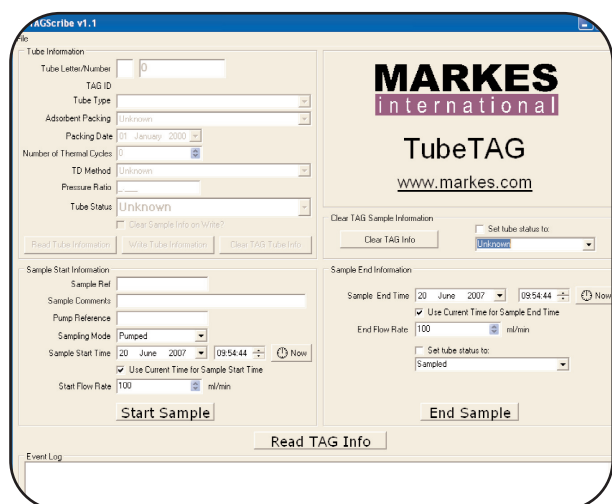
TubeTAG software screen showing example data

TubeTAG: Data entry

The software allows the following information to be entered and tracked:

Unique tube identification

The tube serial number, sorbent packing and packing date together provide a unique identifier for ease of tracking.

Sample-specific information

Sample reference information such as project name and billing code, and optional specification of the thermal desorption method can be entered onto the tag in the laboratory before the tube is dispatched for field monitoring.

Sampling parameters

Sampling related information: The use of either diffusive or pumped sampling (with uptake rate / flow rate information), sample start and end times *etc.* can be entered together with a limited amount of free text.

TubeTAG: Data logging

An optional thermal cycle counter allows the analyst to record the number of times the tube has been analysed as part of a standard operating procedure. Tube back pressure can also be recorded.

Tube status (conditioned, sampled, desorbed) can be entered to aid sample tube tracking within the laboratory.

Whenever a tag is read or written a file is created which can be imported into a local database or integrated with other relevant information as part of a Laboratory Information System (LIMS).

Flexibility in programming

All fields can either be administrator or user edited with own preferences enabling the TubeTAG user inferface to be tailored for individual data protection and / or business requirements.
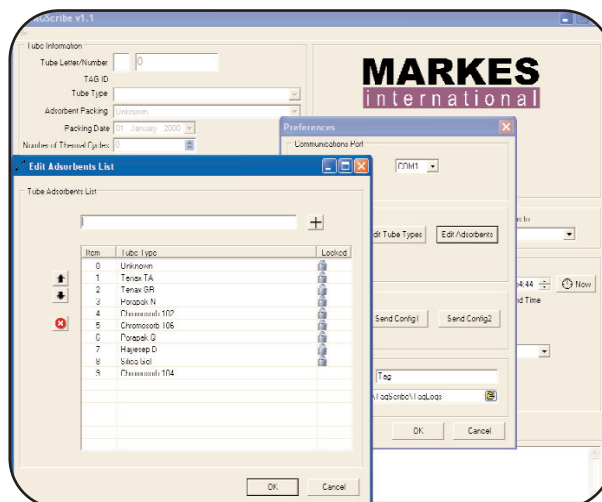
TubeTAG software screen showing example of user defined editing option for sorbent type

Time saving automation

Convenience of TubeTAG

TubeTAG is an unique sample and tube tracking tool for users of thermal desorption involved in all application areas ranging from conventional air monitoring through to counter-terrorism and military (chemical warfare agent) applications.
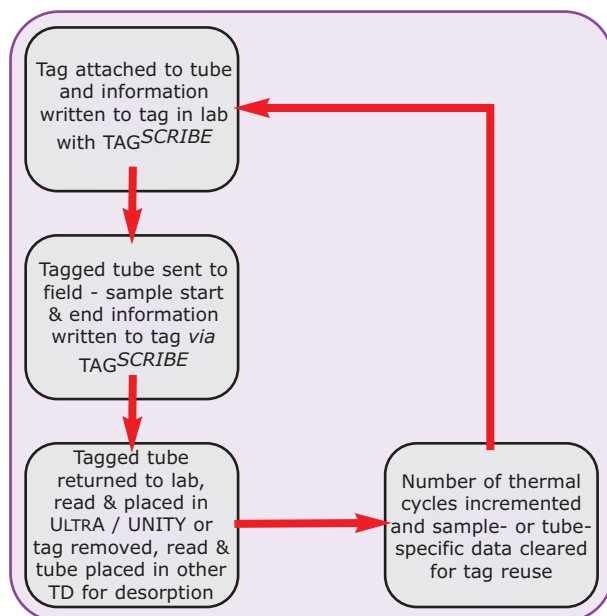
The numerous benefits include:

- Failsafe tracking of samples from field to laboratory and within a laboratory

- Enhanced "monitoring" of individual sorbent tubes for GLP and analytical QA

- Simplified work flow and enhanced productivity

- Reduced risk of error

- Wide range of tube types accomodated
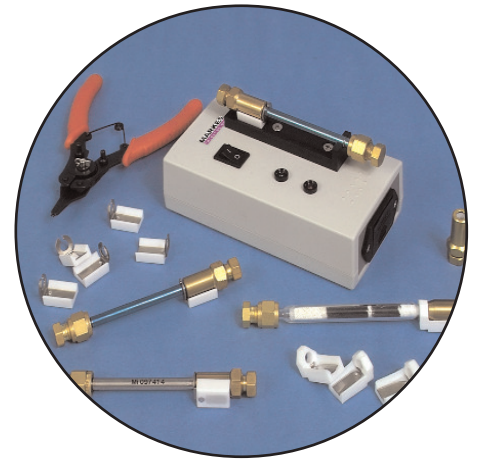
Markes International

TubeTAG is another innovation from Markes International, a single-source leading supplier of thermal desorption instrumentation, accessories and consumables.

TubeTAG: Mode of operation

Tag attached to tube and information written to tag in lab with TAG*SCRIBE*

↓

Tagged tube sent to field - sample start & end information written to tag *via* TAG*SCRIBE*

↓

Tagged tube returned to lab, read & placed in ULTRA / UNITY or tag removed, read & tube placed in other TD for desorption

→

Number of thermal cycles incremented and sample- or tube-specific data cleared for tag reuse

↑

"We have a lot of sorbent tubes lying around our lab. Before TubeTAG there was no fool-proof way of being able to track these tubes; knowing what sorbent is in each, the history of each tube, and so on...TubeTAG has revolutionised the way we work"

Markes International Ltd.

Gwaun Elai Medi Science Campus
Llantrisant
RCT
CF72 8XL
United Kingdom

T: +44 (0)1443 230935   **F:** +44 (0)1443 231531
E: enquiries@markes.com   **W:** www.markes.com