

- New sample adsorption/extraction technique
- Ideal for volatile and semi-volatile compounds
- Excellent adsorption efficiency
- Variety of sampling methods
- No pre-conditioning required



MonoTrap®, manufactured by GL Sciences, is a state-of-the-art tool for the extraction and analysis of volatile and semi-volatile compounds by MMSE (Monolithic Material Sorption Extraction), in conjunction with GC-MS. It has applications in the perfume and cosmetic, food and beverage, forensic, toxicology, environmental, chemical and biochemical industries.

Table 1. Range of MonoTrap Products

Type	Shape	Dimensions	Target Concentration	Functional Group	Target Compounds
<b>For Solvent Extraction</b>					
DCC18	Disc	10mm diameter, 1mm thick	Low	C18, activated carbon	Non-polar to high polarity, low to medium boiling point
RCC18	Rod	5mm long, 2.9mm diameter, 1mm channel	High		
DSC18	Disc	10mm diameter, 1mm thick	Low	C18	Non-polar to intermediate polarity, medium to high boiling point
RSC18	Rod	5mm long, 2.9mm diameter, 1mm channel	High		
<b>For Thermal Desorption</b>					
RGC18TD	Rod	10mm long, 2.9mm diameter, 1mm channel	All	C18, graphite carbon	Non-polar to high polarity compounds, low to medium boiling point
RSC18TD	Rod	10mm long, 2.9mm diameter, 1mm channel	All	C18	Non-polar to intermediate polarity, medium to high boiling point
RGPSTD	Rod	10mm long, 2.9mm diameter, 1mm channel	All	Graphite carbon, PDMS <sup>1</sup>	High boiling point compounds

<sup>1</sup> PDMS = Polydimethylsiloxane

Conventional media for sample adsorption and extraction exhibit low surface areas and thin polymer coatings. This may lead to poor recovery, low sensitivity and the need for prolonged extraction times. MonoTrap uses a monolithic material on which to trap the compounds of interest. This material has a large surface area due to the pores within the silica skeleton, whilst the through-pores reduce the resistance to flow. The resulting media require no pre-conditioning, exhibit fast adsorption and extraction and offer complete desorption using only small solvent volumes.

**Sample Adsorption**

The network of MonoTrap’s monolith structure is functionalised with either C18 groups only, C18 and activated/graphitic carbon (see Table 1) or graphitic carbon and PDMS, for adsorption of different compound types. For relatively non-polar compounds, both DCC18 and DSC18 have similar enrichment capabilities. For more polar compounds, the activated carbon groups on MonoTrap DCC18 enable better enrichment. Disk and rod formats are available.

Sample adsorption can be achieved by headspace, direct contact stirring and passive sampling techniques.

Headspace sampling



Direct contact stirring

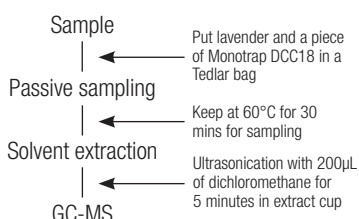


Passive sampling



**Sample Extraction**

Sample extraction can be achieved using either solvent extraction or thermal desorption.



Sample preparation for lavender



Solvent extraction

**Applications**

Application notes are available for aroma components from the following products:

- |              |                      |
|--------------|----------------------|
| Red wine     | Cherry blossom       |
| Tea          | Lavender             |
| Coffee       | Gardenia             |
| Beer         | Lily                 |
| Bread        | Body soap            |
| Mushrooms    | Gasoline             |
| Mango juice  | VOCs in car interior |
| Curry powder | Printed paper        |
| Body odour   | + Many others        |

Please contact Hichrom for MonoTrap technical brochures and application notes.

## MonoTrap® (continued)

In addition to individual packs of MonoTrap® (MT) discs or rods, start up kits, MonoTrap accessories, including sampling bags, and thermal desorption tubes for GC-MS are available.

### Ordering Information

A start up kit is an ideal way to evaluate this technique. Kits for both solvent extraction and thermal desorption in conjunction with different GC instrumentation are available.

#### MonoTrap Start Up Kits<sup>1</sup>

Type	Description	Contents	Cat. No.	Price
For Solvent Extraction	MonoTrap Start Up Kit	MT Holder (x5), MT Stand (x1), MT Extract cup with 20ml vial (x5), Clean pin hole septum with 40ml vial (x5), 200µl flat bottom glass insert (x40), MonoTrap DCC18 (x20), MonoTrap RCC18 (x20), MonoTrap DSC18 (x20), MonoTrap RSC18 (x20)	1050-79001	
	MonoTrap TD Start Up Kit (Gerstel-TDS)	MT Holder (x5), MT Stand (x1), 40ml vial pin hole with septum (x5), Gerstel-MT Tube (x3), MonoTrap RSC18TD (x15), MonoTrap RGC18TD (x15)	1050-78003	
	MonoTrap TD Start Up Kit (Gerstel-TDU)	MT Holder (x5), MT Stand (x1), 40ml vial pin hole with septum (x5), Gerstel-MT-U Tube (x3), MonoTrap RSC18TD (x15), MonoTrap RGC18TD (x15)	1050-78005	
For Thermal Desorption	MonoTrap TD Start Up Kit (T-DEX)	MT Holder (x5), MT Stand (x1), 40ml vial pin hole with septum (x5), T-Dex/ATD-MT Tube (x3), MonoTrap RSC18TD (x15), MonoTrap RGC18TD (x15)	1050-78002	
	MonoTrap TD Start Up Kit (Linex)	MT Holder (x5), MT Stand (x1), 40ml vial pin hole with septum (x5), Linex-MT Tube (x3), MonoTrap RSC18TD (x15), MonoTrap RGC18TD (x15)	1050-78001	
For General Use	HS-MonoTrap Sampling Kit	MT Holder (x5), MT Stand (x1), MT Extract cup with 20ml vial (x5)	1050-79002	

<sup>1</sup> Start up kits contain all you need to trial this exciting technology

#### MonoTrap

Type	Description	Cat. No.	Pack Size	Price
	MonoTrap DCC18	1050-72101	50	
For Solvent Extraction	MonoTrap RCC18	1050-72201	50	
	MonoTrap DSC18	1050-71101	50	
	MonoTrap RSC18	1050-71201	50	
	MonoTrap RGC18TD	1050-74201	30	
For Thermal Desorption	MonoTrap RSC18TD	1050-73201	30	
	MonoTrap RGPSTD	1050-74202	30	

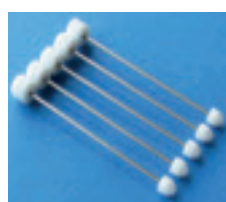


#### Accessories

Description	Qty	Cat. No.	Price
MT Holder	5	1050-79003	
MT Stand	1	1050-79004	
MT Extract cup with vial (20ml)	5	1050-79005	
Clean pin hole septum with vial (40ml)	72	1050-79006	
200µl Glass insert (flat bottom)	500	1030-17211	
Gerstel-MT Tube	1	1003-75003	
Gerstel-MT-U Tube	1	1003-75004	
T-Dex/ATD-MT Tube	1	1003-75002	
Linex-MT Tube	1	1003-75001	



Thermal desorption glass tube



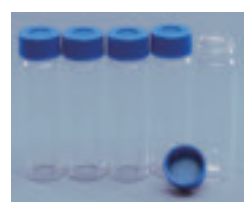
MT holder



MT stand



MT extract cup with vial (20mL)



Clean pin hole septa with vials (40mL)



200µL glass inserts (flat bottom)

Please enquire for ordering information for thermal desorption tubes for GC-MS. See page 316 for further information on Smart Bag sampling products for 'passive sampling'.