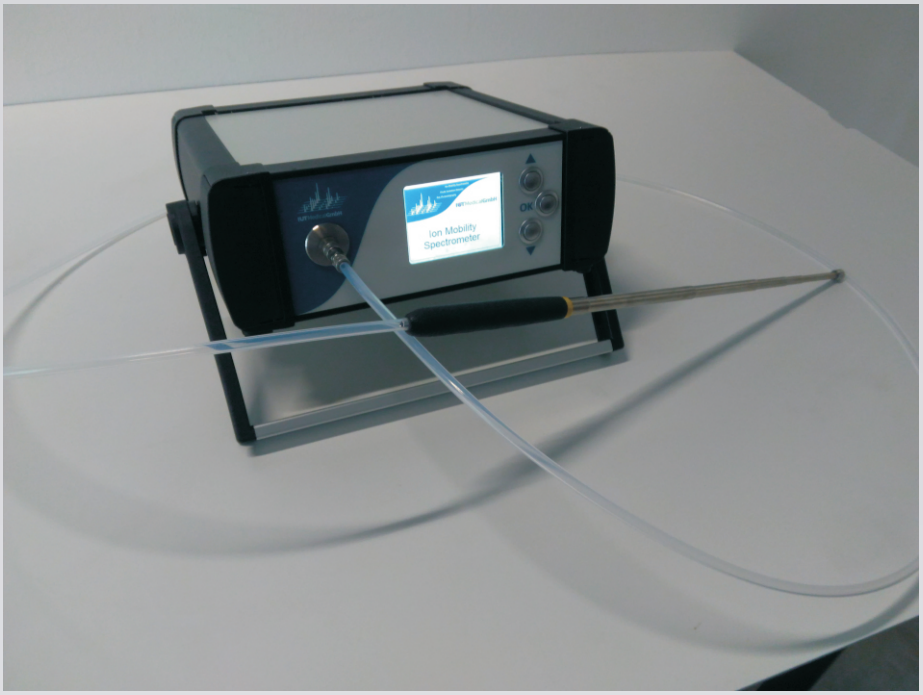
Ion Mobility Spectrometry
Photo Ionization Detector
Gas Chromatography

IUT TechnologiesInc.

Data Sheet

CWAe-Analyzer

The solution for CWA and Homemade Explosions detection in CBRN applications



The **CWAe-Analyzer** is a multi-gas analyzer for the high-sensitive detection and identification of Chemical Warfare Agents (CWAs), Homemade Explosives (E) and/or Toxic Industrial Chemicals (TICs) without any enrichment directly on site already at a very low concentration level. They have been developed by IUT/IUT Medical over more than 20 years. It is best suitable for the use in homeland security, building protection, and general CBRN applications.

The **CWAe-Analyzer** is an Ion Mobility Spectrometer (IMS) (also offered as GC-IMS) with high sensitivity in the lower ppb-range and with high resolution.
Compared with other systems the **CWAe-Analyzer** has the advantage to operate under atmospheric pressure. Therefore no additional consumables like carrier gases are required. This makes it best suitable for mobile applications for on-site measurements in homeland security. Since the **CWAe-Analyzer** is a multi-gas analyzer with single identification, the performance is far beyond the first responder devices.

Analysis Applications

- CBRN application
- Safety and Security
- Navy vessels
- Protection equipment of airports, police, fire brigades, civil protection, military
- Building protection
- Safety at work
- Ambient air monitoring
- Disposal
- Control of filter systems
- Laboratory use

Features

- Real-time analysis of Chemical Warfare Agents (CWAs), Homemade Explosives and other toxic gases
- High sensitivity in lower ppb-range
- Superior selectivity and cross sensitivity rejection
- Enhancement with GC-column coupling (GC-IMS)
- Analysis directly in situ (no Tedlar bag sampling / no lab analysis)
- Operation under ambient air pressure
- Low costs of operation , no consumables, no carrier gas required

Data Sheet

The solution for CWA detection in CBRN applications

CWA-Analyzer

The **CWAe-Analyzer** is an Ion Mobility Spectrometer (IMS) (also as GC-IMS) with high sensitivity in the lower ppb-range and with high resolution. For the enhancement of the selectivity and further reduction of possible cross sensitivities the **CWAe-Analyzer** is also available as GC-IMS, a gas chromato-graphic (GC) column coupled with an IMS.

With this trace-gas analyzer Chemical Warfare Agents (CWAs) as well as other toxic gases can be detected and identified without any enrichment directly on site already at a very low concentration level. The detection including sampling and identification process takes few seconds, depending on the possible GC-Setup.

Compared with other systems the **CWAe-Analyzer** has the advantage to operate under atmospheric pressure. Therefore no additional carrier gas is required. This makes it best suitable for mobile applications for on-site measurements. The powerful rechargeable battery offers an optimal mobile use. Due to the special approach the sensitivity is extremely high. Unlike other IMS systems the **CWAe-Analyzer** does not use dopants and does not use a membrane.

The **CWA-Analyzer** enclosures can range from Class 1 Division 1 to general purpose. Also EX-protection (purge system) is available.

Calibration functions with an additional calibrator for SPAN/ZERO calibration is offered as well as Multi-Point-Sample (MPS) systems, dilution- or even gas probe chiller systems.

Technical Data

Detection principle:	Ion Mobility Spectrometry (IMS), or Gas-Chromatography-IMS (GC-IMS)
Ionization:	Tritium (3H). No license or wipe test required

Measurable compounds (only as example; other compounds possible):

CWA	TIC	Explosives
Sarin (GB)	Hydrogen cyanide	Acetone peroxide (TATP)
Tabun (GA)	Phosgene	
Soman (GD)	Chlorine	
VX	Hydrogen sulfide	HMTD
S-Mustard (HD)	Chlorocyane	
N-Mustard (NH 3)	Carbon disulfide	
Lewisite (L)	Dithiane	

Sensitivity:	Lower ppb range (<= 10 ppb)
Moisture:	0% to 90% RH
Data output: (depending on version)	Integrated GUI 4 - 20 mA (analog) RS-232 (optional) RS-485 (optional) USB (optional) LAN / WLAN (optional) Digital in/out
Warm-up time:	20 minutes
Measuring time:	Seconds to minutes (depending on GC setup)
Power:	100 V - 240 V / 50Hz - 60 Hz mobile: typically 8 hours with Li-ion battery
Carrier gas:	No carrier gas required

Enclosure:	**19" with 3 RU rack mounted**	**Industrial enclosure (NEMA 4)**	**Mobile**
Main body dimension:	W: 483 mm H: 133 mm D: 420 mm	W: 500 mm H: 500 mm D: 210 mm	W: 280 mm H: 100 mm D: 280 mm
Weight:	~10 kg (~22 lbs)	18 kg (40 lbs.)	~7 kg (~15.5 lbs)
Operation temperature:	0°C - 50°C (+32°F - 122°F)	-40°C - 50°C (-40°F - 122°F)	-10°C - 50°C (+14°F - 122°F)
Storage temperature:	-10°C - 50°C (+14°F - 122°F)	-10°C - 50°C (+14°F - 122°F)	-10°C - 50°C (+14°F - 122°F)

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