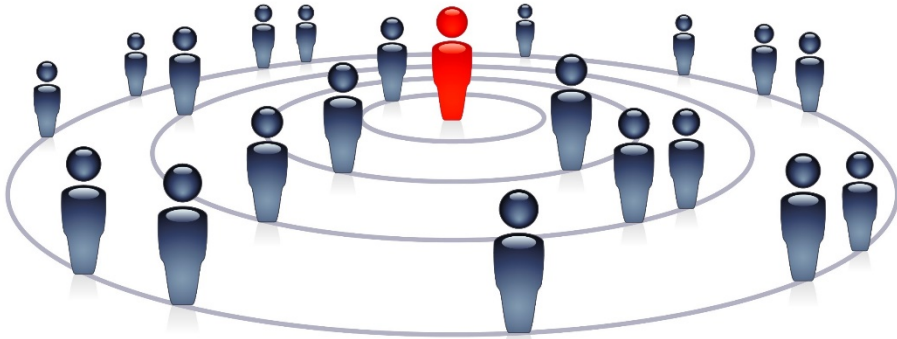


# Who are Shawcity...?



[www.shawcity.co.uk](http://www.shawcity.co.uk)  
01367 241 674



# MultiRAE Benzene

## Up to six gases including Benzene specificity...



# What's New...?

MultiRAE Benzene is an “all-in-one” specific snapshot Benzene and multi-gas monitor. It offers all the benefits and advantages from the proven MultiRAE family of products, from RAE Systems PID technology expertise, and of course from Honeywell ConneXt Safety Solutions.

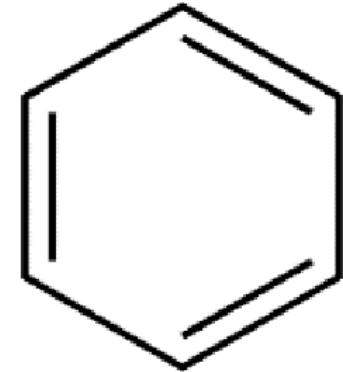
MultiRAE Benzene increases safety for customers in all applications with benzene risks. It allows customers to be more productive not only in daily Standard Operating Procedures related to gas detection, but also during shutdown and turnarounds.

- Up to 6-gas monitor with Benzene
- specific snapshot capability
- ConneXt Safety Solutions compatible
- Man Down alarm with wireless remote notification
- Up to 20 sensor options

# What's Benzene...?

CAS No: 71-43-2

Formula: C<sub>6</sub>H<sub>6</sub>



## Physical Data

Colorless liquid:

Melting Point 5.5°C, Boiling Point 80°C

Vapor Density:

2.1 (air=1)

Ionization energy:

9.25 eV

Molecular Weight:

78.11 g/mol

Conversion:

1 ppm= 3.44 mg/m<sup>3</sup> 1 mg/m<sup>3</sup>≈ 0.3 ppm(0.291ppm)

Lower explosive Limit:

1.2% Vol≈ 12,000 pp

# What's Benzene (Cont'd)...?

- Chemical Characteristics

Belongs to the aromatic hydrocarbon family (Xylene, Toluene & Ethylbenzene)

- Origin:

Derives from coal, crude oil, gas and gas condensate

Is present in most fuel products (gasoline, diesel, jet-fuel)

Is a very important industrial chemical

- Used for:

Used in the manufacture of plastic, detergents, pesticides, medicine & other chemical



# Why measure...?

- Flammability:



Benzene has a relative high vapor pressure. When benzene evaporates, it can become highly flammable in mixtures with air or oxygen. Benzene is flammable in the range from 1.2% to 8.0% by volume (12,000 - 80,000 ppm) when mixed with atmospheric air.

- Toxicity:



Benzene is a carcinogenic compound Long-term exposures may affect bone marrow and blood production Short-term exposures to high concentrations can cause drowsiness, dizziness, unconsciousness, & death.

**TWA: 1 ppm**

**STEL: 5 ppm**

# Supported Sensors

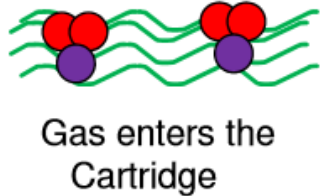
Sensor	Range	Resolution
1. Ammonia (NH <sub>3</sub> )	0 to 100 ppm	1 ppm
2. Carbon Monoxide (CO)	0 to 500 ppm	1 ppm
3. Carbon Monoxide (CO), Ext. R	0 to 2,000 ppm	10 ppm
4. Carbon Monoxide (CO), H <sub>2</sub> -comp.	0 to 2,000 ppm	10 ppm
5. Carbon Monoxide (CO) + Hydrogen Sulfide (H <sub>2</sub> S)	0 to 500 ppm 0 to 200 ppm	1 ppm 0.1 ppm
6. Chlorine (Cl <sub>2</sub> )	0 to 50 ppm	0.1 ppm
7. Chlorine Dioxide (ClO)	0 to 1 ppm	0.03 ppm
8. Ethylene Oxide (EtO-A)	0 to 100 ppm	0.5 ppm
9. Ethylene Oxide (EtO-B)	0 to 10 ppm	0.1 ppm
10. Formaldehyde (HCHO)	0 to 10 ppm	0.05 ppm
11. Hydrogen Cyanide (HCN)	0 to 50 ppm	0.5 ppm
12. Hydrogen Sulfide (H <sub>2</sub> S)	0 to 100 ppm	0.1 ppm
13. Methyl Mercaptan (CH <sub>3</sub> -SH)	0 to 10 ppm	0.1 ppm

# Supported Sensors (Cont'd)...

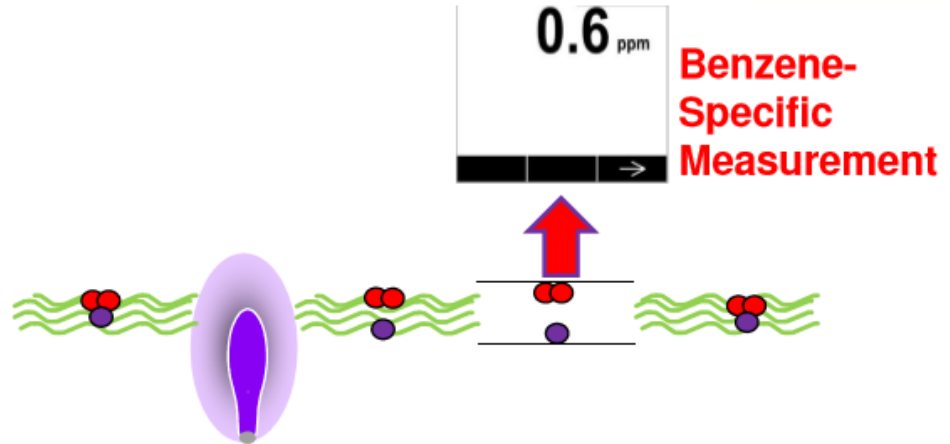
Sensor	Range	Resolution
14.Nitric Oxide (NO)	0 to 250 ppm	0.5 ppm
15.Nitrogen Dioxide (NO2)	0 to 20 ppm	0.1 ppm
16.Oxygen (O2)	0 to 30% Vol.	0.1% Vol.
17.Phosphine (PH3)	0 to 20 ppm	0.1 ppm
18.Sulfur Dioxide (SO2)	0 to 20 ppm	0.1 ppm
<b>19. Catalytic Bead LEL</b>	<b>0-100% LEL</b>	<b>1% LEL</b>
<b>20. PID 9.8eV</b>	<b>Up to 2000 ppm TVOC or Up to 200ppm Benzene</b>	<b>0.1 ppm 0.1 ppm</b>



# How it works...



One-time-use RAE-Sep tube contained in the Cartridge\*



- 9.8eV with Narrow measurement spectrum.
- Specific PID sensor look-up table (Benzene)
- Automatic sampling time (MultiRAE Benzene only)

# How it works (cont'd)...



1

Press cartridge into place with "square" button aligned with arrow on inlet.



2

Turn clockwise to tighten



3

"Arrow" button should align with arrow on inlet



4

Install dust filter



5

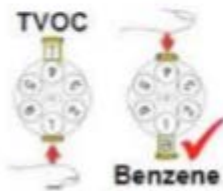
Cartridge is now ready for use



**WARNING**

The RAE-Sep Tube Cartridge should only be used with the MultiRAE Benzene monitor. Using any other monitor, including standard MultiRAE monitors or products from other manufacturers, will result in inaccurate benzene detection or measurement and possible serious injury or death.

**NOTE:** The RAE-Sep Tube Cartridge is warranted by RAE Systems only for use with the MultiRAE Benzene monitor.



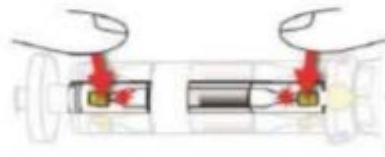
6

Select Benzene mode ("B" is showing)



7

Turn top of cartridge to select tube 1



8

Press yellow buttons at both ends of selected tube to break ends



9

Make sure cartridge is firmly in place and arrows are aligned



10

Make sure Benzene mode is selected

# ConneXT



Echoview Host (FW V2.15)



**CONNEXT**  
COMPATIBLE



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# Any Questions...?

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