



### Performance

Number of pump strokes	n=1
Sampling time	30 seconds per 1 pump stroke (100mL)
Shelf life	1.5 years

### Reaction principle

See the table below

Detecting layer {		1 NH <sub>3</sub> (Purple)	2 HCl (Yellow)	3 H <sub>2</sub> S (White)	4 SO <sub>2</sub> (Blue)	5 NO <sub>2</sub> (White)	6 CO (Yellow)	7 CO <sub>2</sub> (Blue)
No. Name (Original colour)		1 NH <sub>3</sub> (Purple)	2 HCl (Yellow)	3 H <sub>2</sub> S (White)	4 SO <sub>2</sub> (Blue)	5 NO <sub>2</sub> (White)	6 CO (Yellow)	7 CO <sub>2</sub> (Blue)
Reaction principle		3NH <sub>3</sub> + H <sub>3</sub> PO <sub>4</sub> → (NH <sub>4</sub> ) <sub>3</sub> PO <sub>4</sub>	HCl + Base → Chloride	H <sub>2</sub> S + CuSO <sub>4</sub> → CuS	SO <sub>2</sub> + BaCl <sub>2</sub> + H <sub>2</sub> O → 2HCl HCl + Base → Chloride	NO <sub>2</sub> + C <sub>14</sub> H <sub>16</sub> N <sub>2</sub> → C <sub>14</sub> H <sub>14</sub> N <sub>2</sub> O	CO + Na <sub>2</sub> Pd(SO <sub>3</sub> ) <sub>2</sub> → Pd	CO <sub>2</sub> + 2KOH → K <sub>2</sub> CO <sub>3</sub>
Substances & expected concentration	Ammonia, Diethylamine (≥ 25 ppm) (≥ 150 ppm)	Yellow (Inlet) Yellow (Whole layer)						
	Hydrogen chloride (≥ 5 ppm) (≥ 150 ppm) (*)		Red (Inlet) Red (Whole layer)					
	Hydrogen sulphide (≥ 10 ppm) (≥ 120 ppm) (≥ 200 ppm) (≥ 800 ppm)			Brown (Inlet) Brown (Whole layer)			— — Dark brown (Inlet) Dark brown (Whole layer)	
	Chlorine (≥ 5 ppm) (≥ 20 ppm) (≥ 50 ppm)				Yellow (Inlet) Yellow (Whole layer)	— Yellow (Inlet) Yellow (Whole layer)		
	Sulphur dioxide (≥ 10 ppm) (≥ 50 ppm)				Yellow (Inlet) Yellow (Whole layer)			
	Nitrogen dioxide (≥ 5 ppm) (≥ 30 ppm)				Purple (Whole layer)	Yellowish orange (Inlet) Yellowish orange (Whole layer)		
	Acetylene (≥ 200 ppm) (≥ 2,000 ppm)						Dark brown (Inlet) Dark brown (Whole layer)	
	Carbon monoxide (≥ 25 ppm) (≥ 100 ppm)						Dark brown (Inlet) Dark brown (Whole layer)	
	Ethylene (≥ 10,000 ppm)						Dark brown (Inlet)	
	Phosphine (≥ 50 ppm) (≥ 700 ppm)						Dark brown (Inlet) Dark brown (Whole layer)	
	Hydrogen (≥ 50,000 ppm) (≥ 100,000 ppm)						Gray (Whole layer) Dark brown (Whole layer)	
	Methyl mercaptan (≥ 200 ppm) (≥ 1,000 ppm)						Yellowish orange (Inlet) Yellowish orange (Whole layer)	
	Propylene (≥ 10,000 ppm) (≥ 50,000 ppm)						Gray (Inlet) Gray (Whole layer)	
Carbon dioxide (≥ 5,000 ppm) (≥ 20,000 ppm)							Brown (Inlet) Brown (Whole layer)	

Parenthesized values after substances show their concentrations.

(\*) At relative humidity of 50 %. The detecting limit is lowered at a lower humidity or increased at a higher humidity.