



### Specification :

Measurement Range	<b>Qualitative</b>
No. of Pump Strokes	1 (100 ml)
Sampling Time	2 minutes per pump stroke (100ml)
Color Change	Refer chart given below
Shelf Life	2 years
Relative standard deviation	± 10 %

\* Multiply the observed reading by the correction factor (VCF) to obtain the true concentration.

### Concentration Of Gas Versus Colour Change :

Compound	Column No	Reaction Principle	Concentration (ppm)	Colour change / Comments
Ammonia	A	$\text{NH}_3 + \text{HCl} \rightarrow \text{NH}_4\text{Cl}$	≥5	Yellow → Blue
Diethyl Amines	A	$\text{RNH}_2 + \text{HCl} \rightarrow \text{RNH}_3\text{Cl}$	≥10	Yellow → Blue
Hydrogen chloride	B	$\text{HCl} + \text{Base} \rightarrow \text{Chloride}$	≥10	Yellow → Pink
Hydrogen sulphide	C	$\text{H}_2\text{S} + \text{CuSO}_4 \rightarrow \text{CuS}$	≥10	White → Brown
Sulphur dioxide	D	$\text{SO}_2 + \text{BaCl}_2 + \text{H}_2\text{O} \rightarrow \text{HCl}$ $\text{HCl} + \text{Base} \rightarrow \text{Chloride}$	≥10	Blue → Yellow
Nitrogen dioxide	E	$\text{NO}_2 + \text{O Tolidine} \rightarrow \text{Reaction Product}$	≥5	White → Yellow
Chlorine	E	$\text{Cl}_2 + \text{O Tolidine} \rightarrow \text{Reaction product}$	≥5	White → Yellow
Carbon monoxide	F	$\text{CO} + \text{PdCl}_4 + \text{Na}_2\text{S}_2\text{O}_5 \rightarrow \text{Pd}$	≥25	Yellow → Black
Acetylene	F	$\text{C}_2\text{H}_2 + \text{PdCl}_4 + \text{Na}_2\text{S}_2\text{O}_5 \rightarrow \text{Pd}$	≥200	Yellow → Black
Ethylene	F	$\text{C}_2\text{H}_4 + \text{PdCl}_4 + \text{Na}_2\text{S}_2\text{O}_5 \rightarrow \text{Pd}$	≥10000	Yellow → Black
Phosphine	F	$\text{PH}_3 + \text{PdCl}_4 + \text{Na}_2\text{S}_2\text{O}_5 \rightarrow \text{Pd}$	≥50	Yellow → Black
Hydrogen	F	$\text{H}_2 + \text{PdCl}_4 + \text{Na}_2\text{S}_2\text{O}_5 \rightarrow \text{Pd}$	≥10%	Yellow → Black
Propylene	F	$\text{C}_3\text{H}_6 + \text{PdCl}_4 + \text{Na}_2\text{S}_2\text{O}_5 \rightarrow \text{Pd}$	≥10000	Yellow → Black
Carbon Dioxide	G	$\text{CO}_2 + \text{NaOH} \rightarrow \text{NaCO}_3$	≥5000	Blue → White

This tube is not specific to any one particular gas. If gases with similar chemical properties are present along with the gases listed in the chart it can produce colour change due to their interference

### Correction For Environmental Parameters :

Temperature	Not necessary between 0 - 40°C (32 - 104°F).
Relative humidity	Not necessary between 10 - 90 %.