

**Performance**

<b>Measuring Range</b>	2 to 5 ppm	5 to 120 ppm	120 to 360 ppm
<b>Number of Pump Stroke</b>	4	2	1
<b>Correction Factor</b>	0.4	1	3
<b>Sampling Time</b>	1 minute per pump stroke		
<b>Detecting Limit</b>	1 ppm (n=4)		
<b>Colour Change</b>	Yellow → Red		
<b>Reaction Principle</b>	<p>Acrylonitrile is decomposed by acid to liberate hydrogen cyanide which react with mercuric chloride to generate hydrogen chloride. The generated hydrogen chloride discolours indicator to red.</p> $\text{CH}_2:\text{CHCN} + \text{Cr}^{6+} + \text{H}_2\text{SO}_4 \longrightarrow \text{HCN}$ $2\text{HCN} + \text{HgCl}_2 \longrightarrow 2\text{HCl} + \text{Hg}(\text{CN})_2$ $\text{HCl} + \text{Base} \longrightarrow \text{Chloride}$		
<b>Coefficient of Variation</b>	10% (for 5 to 40 ppm), 5% (for 40 to 120 ppm)		
<b>Shelf Life</b>	3 Years		
<b>Corrections for temperature &amp; humidity</b>	Temperature correction is necessary		
<b>Store the tubes at cool and dark place.</b>			

**Possible coexisting substances and their interferences**

Substance	Concentration	Interference	Change colour by itself
Nitriles (≥C3)	≥10 ppm	Plus error	Discolours red stain
Acetone cyanohydrin	≥10 ppm	Plus error	Discolours red stain
Alcohols, Esters, Ketones	-	-	No discoloration
Aromatic hydrocarbons	-	-	No discoloration
Hydrogen chloride, Hydrogen cyanide	-	-	No discoloration

**Other substance measurable with this detector tube**

Substance	Correction Factor	Pump Strokes	Measuring Range
Propionitrile	10	4	50 to 1200 ppm

**Calibration gas generation** Diffusion tube method

TLV-TWA	TLV-STEL	Explosive range
2ppm	-	3 to 17%