

Chloroform

CHCl₃

No.137



Performance

Measuring Range	4 to 10 ppm	10 to 100 ppm	100 to 400 ppm
Number of Pump Stroke	7	5	3
Correction Factor	0.4	1	4
Sampling Time	2 minutes per pump stroke		
Detecting Limit	1 ppm (n=7)		
Colour Change	White → Orange		
Reaction Principle	Chloroform is oxidized by nascent oxygen to liberate chlorine. It reacts with o-Tolidine to generate orange stain. $\text{CHCl}_3 + \text{I}_2\text{O}_5 + \text{H}_2\text{S}_2\text{O}_7 \rightarrow \text{Cl}_2$ $\text{Cl}_2 + \text{o-Tolidine} \rightarrow \text{Orange product}$		
Coefficient of Variation	15% (for 10 to 20 ppm), 10% (for 20 to 100 ppm)		
Shelf Life	3 Years		
Corrections for temperature & humidity	Humidity correction is necessary		
Store the tubes at cool and dark place.			

Possible coexisting substances and their interferences

Substance	Concentration	Interference	Change colour by itself
Chlorine, Bromine, Iodine	$\geq 1/20$ time	Plus error	Discolours to orange
Unsaturated halogenated HCs	$\geq 1/20$ time	Plus error	Discolours to orange
Saturated halogenated HCs	$\geq 1/10$ time	Plus error	Discolours to orange

Calibration gas generation Diffusion tube method

TLV to TWA	TLV to STEL	Explosive range
10ppm	-	-