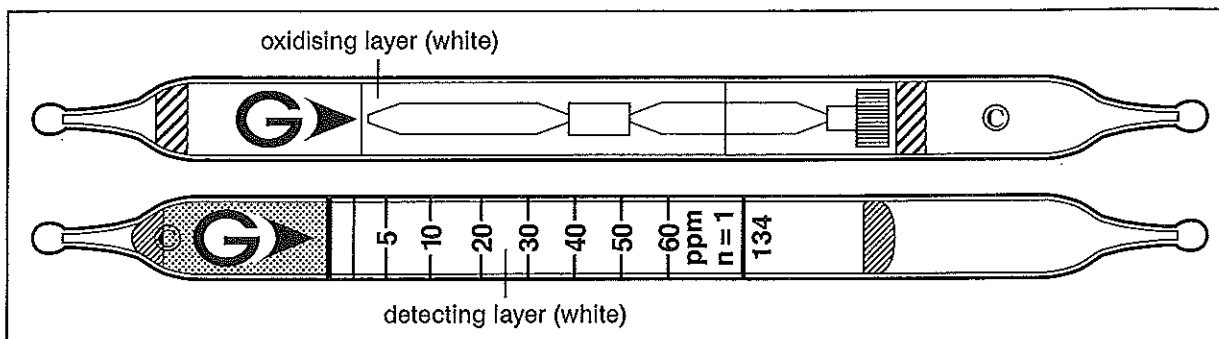


Carbon Tetrachloride CCl₄

No.134



Performance

When used, these tubes are to be connected. See page 2-3.

Measuring range	0.5 to 2.5 ppm	(2.5) to 60 ppm
Number of pump strokes	2 to 5 (200 to 500 ml)	1 (100 ml)
Correction factor	1/2 to 1/5	1
Sampling time	2 to 5 min	1 min

Detecting limit : 0.2 ppm (5 pump strokes)
 Colour change : White → Yellow
 Corrections for temperature & humidity : Unnecessary
 Relative standard deviation : 15 % (for 2.5 to 20 ppm), 10 % (for 20 to 60 ppm)
 Shelf life : 1 year (in the refrigerator)

Reaction principle

Pretreatment tube : $\text{CCl}_4 + \text{I}_2\text{O}_5 + \text{H}_2\text{S}_2\text{O}_7 \rightarrow \text{COCl}_2$

Detector tube : $\text{COCl}_2 + (\text{CH}_3)_2\text{NC}_6\text{H}_4\text{CHO} \rightarrow (\text{CH}_3)_2\text{NC}_6\text{H}_4\text{CHCl}_2$
 $(\text{CH}_3)_2\text{NC}_6\text{H}_4\text{CHCl}_2 + (\text{C}_6\text{H}_5)_2\text{NH} \rightarrow \text{Yellow product}$

Possible coexisting substances and their interferences (NOTE : Page 2-5)

Substance	Concentration	Interference	Changes colour by itself to
Bromine, Chlorine	≥ 50 ppm	+	Yellow
Hydrogen chloride	≥ 100 ppm	+	
Methyl bromide	≥ 100 ppm	+	
1,1,1-Trichloroethane	≥ 100 ppm	+	
Chloroform		No	No
Methylene chloride		No	
Tetrachloroethylene		No	
Trichloroethane		No	
Vinyl chloride		No	

Other substance measurable with this detector tube

Substance	Correction	No. of pump strokes	Measuring range
Chloropicrin	Factor : 1.0	1	2.5 to 60 ppm

Calibration gas generation

Diffusion tube method

TLV-TWA : 5 ppm

TLV-STEL : 10 ppm