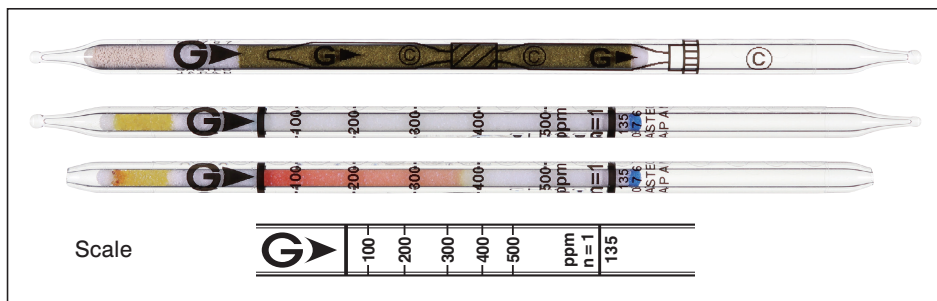# 1,1,1-Trichloroethane CH_3CCl_3　No.135
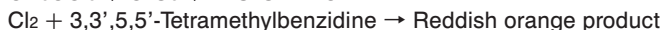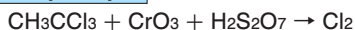

Scale

Performance

When used, these tubes are to be connected.

Measuring range	100 to 500 ppm	500 to 2000 ppm
Number of pump strokes	1 (100 mL)	1/2 (50 mL)
Correction factor	1	4
Sampling time	3 min	1.5 min

Detecting limit :	50 ppm (1 pump stroke)
Colour change :	White → Reddish orange
Operating conditions :	Temperature 0 to 40 °C (32 to 104 °F) correction used
	Relative humidity 0 to 90 % correction not used
Relative standard deviation :	10 % (for 100 to 200 ppm), 5 % (for 200 to 500 ppm)
Tube quantity and number of tests per box :	10 tubes for 5 tests
Shelf life :	36 months

Reaction principle

$CH_3CCl_3 + CrO_3 + H_2S_2O_7 \rightarrow Cl_2$

$Cl_2 + 3,3',5,5'\text{-Tetramethylbenzidine} \rightarrow$ Reddish orange product

Possible coexisting substances and their interferences

Substance	Concentration	Interference	Changes colour by itself to
Chlorine, Bromine, Iodine		+	Reddish orange
Chloroform, Dichloromethane		+	Reddish orange
Carbon tetrachroride		No	No
Methyl bromide		+	Reddish orange
Trichloroethylene, Tetrachloroethylene		+	Reddish orange

Other substances measurable with this detector tube

Substance	Correction	No. of pump strokes	Measuring range
Chlorobromomethane	Factor : 0.22	1	22 to 110 ppm
1,1-Dichloroethane	Factor : 0.9	1	90 to 450 ppm
1,1,2-Trichloroethane	by scale	2	220 to 750 ppm
1,2-Dichloroethane	Factor :4.0	1	400 to 2000 ppm

Calibration gas generation

High pressure gas cylinder method