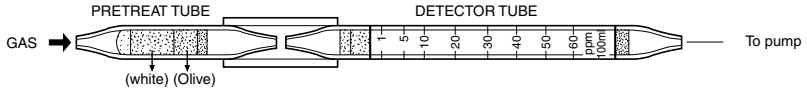
Tube No.
147S

CARBON TETRACHLORIDE



1. PERFORMANCE

1) Measuring range	: 1-60 ppm	0.5-1 ppm
Number of pump strokes	1 (100mℓ)	2 (200mℓ)
2) Sampling time	: 1.5 minutes/1 pump stroke	
3) Detectable limit	: 0.2 ppm (200mℓ)	
4) Shelf life	: 1 year	
5) Operating temperature	: 0 ~ 40℃	
6) Temperature compensation	: Necessary (See "TEMPERATURE CORRECTION TABLE")	
7) Reading	: Direct reading from the scale calibrated by 1 pump stroke	
8) Colour change	: White → Red	

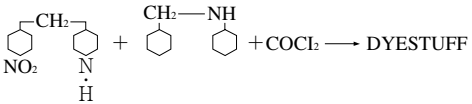
2. RELATIVE STANDARD DEVIATION

RSD-low : 15 % RSD-mid. : 10 % RSD-high : 10 %

3. CHEMICAL REACTION

Carbon tetrachloride is decomposed and Phosgene is produced. By reacting with this Phosgene, 4-(p-Nitrobenzyl)-phridine and Benzylaniline, dyestuff is produced.

$$CCl_4 + I_2O_5 + H_2SO_4 \longrightarrow COCl_2$$



4. CALIBRATION OF THE TUBE

GAS CHROMATOGRAPHY

5. INTERFERENCE AND CROSS SENSITIVITY

Substance	Interference	ppm	Coexistence
Phosgene	Similar stain is produced.	2	Higher reading are given.
Halogenes FIG.1			〃
Halogenated hydrocarbons FIG.2			〃

(NOTE)

When the concentration is below 1 ppm, 2 pump strokes can be used to determine the lower concentration. Following formula is available for the actual concentration.

Actual concentration = 1/2 × Temperature corrected value

6.CAUTION

When high concentration gas (over the full scale) is sampled, the indicator will be discoloured from pale yellow to dark blue. If extremely high concentration gas is sampled, the detecting reagent may be faded and it is not possible to distinguish with original colour.

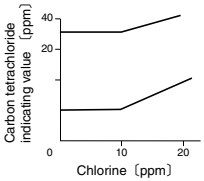


FIG.1 Influence of Chlorine

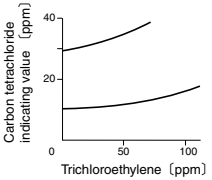


FIG.2 Influence of Trichloroethylene

TEMPERATURE CORRECTION TABLE

Scale Readings (ppm)	True Concentration (ppm)				
	0℃ (32°F)	10℃ (50°F)	20℃ (68°F)	30℃ (86°F)	40℃ (104°F)
60	40	50	60	78	—
50	34	42	50	62	76
40	27	34	40	46	57
30	21	25	30	33	38
20	15	17	20	21	22
10	9	10	10	10	10
5	5	5	5	5	5
1	1	1	1	1	1