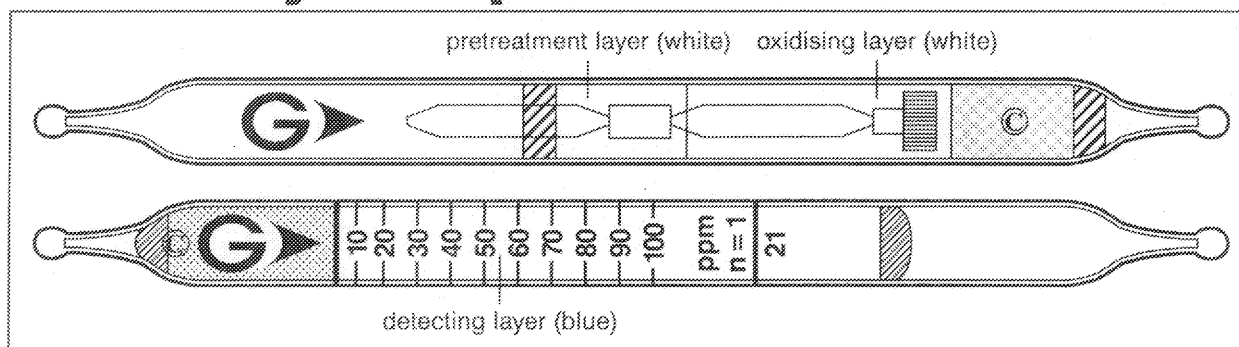


# Carbonyl Sulphide COS

No.21



## Performance

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

Measuring range	5 to 10 ppm	10 to 100 ppm	100 to 200 ppm
Number of pump strokes	2 (200 ml)	1 (100 ml)	1/2 (50 ml)
Correction factor	1/2	1	2
Sampling time	6 min	3 min	1.5 min

Detecting limit : 1 ppm (2 pump strokes)  
 Colour change : Blue → Yellow  
 Corrections for temperature & humidity : Unnecessary  
 Relative standard deviation : 10 % (for 10 to 30 ppm), 5 % (for 30 to 100 ppm)  
 Shelf life : 2 years (in the refrigerator)

## Reaction principle

Pretreatment tube :  $\text{COS} + \text{I}_2\text{O}_5 + \text{H}_2\text{SO}_4 \rightarrow \text{SO}_2 + \text{CO}_2$

Detector tube :  $\text{SO}_2 + \text{BaCl}_2 + 2\text{H}_2\text{O} \rightarrow \text{BaSO}_3 + 2\text{HCl}$

$\text{HCl} + \text{Base} \rightarrow \text{Chloride}$

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

Substance	Concentration	Interference	Changes colour by itself to
Carbon disulphide		+	} Yellow
Sulphur dioxide		+	
Butane	≧ 5000 ppm	-	} No
Propane	≧ 5000 ppm	-	

Up to 500 ppm of hydrogen sulphide is trapped in the white layer in the pretreatment tube.

## Calibration gas generation

High pressure gas cylinder method

Explosive range : 12.0 to 19 %