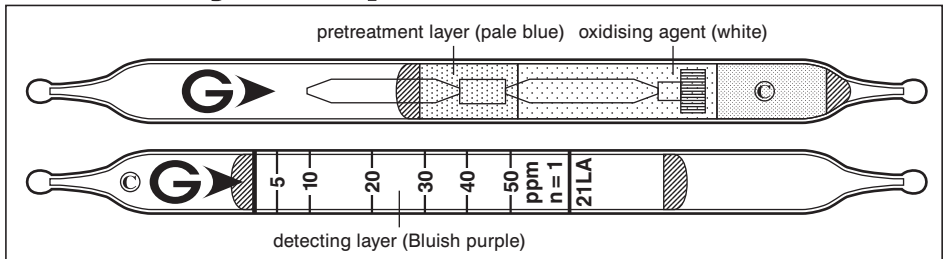


# Carbonyl Sulphide COS

No.21LA



## Performance

When used, these tubes are to be connected.

Measuring range	2 to 5 ppm	5 to 50 ppm	50 to 125 ppm
Number of pump strokes	2 (200 ml)	1 (100 ml)	1/2 (50 ml)
Correction factor	0.4	1	2.5
Sampling time	6 min	3 min	1.5 min

Detecting limit : 0.8 ppm (2 pump strokes)

Colour change : Bluish purple → White

Corrections for temperature & humidity : Temperature correction is necessary.

Relative standard deviation : 10 % (for 5 to 10 ppm), 5 % (for 10 to 50 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 :  $\text{SO}_2 + \text{I}_2 + 2\text{H}_2\text{O} \rightarrow \text{H}_2\text{SO}_4 + 2\text{HI}$

## Possible coexisting substances and their interferences

Substance	Concentration	Interference	Changes colour by itself to
Carbon disulphide		+	} White
Sulphur dioxide		+	
Carbon monoxide	$\geq 500$ ppm	+ (Black)	Black at 500ppm
Nitrogen dioxide	$\geq 2$ ppm	+	Brown at 2ppm
Butane, Propane	$\leq 10$ %	No	Black at the entrance of the detecting layer
Carbon dioxide		No	No
Hydrogen sulphide	$\leq 1000$ ppm	No effect at 1 ppm stroke	※

※If the primary tube is totally discolored, the analyser tube will be discolored white due to the effect of hydrogen sulphide.

## Calibration gas generation

High pressure gas cylinder method