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Gastec Tube Datasheet

Carbonyl Sulphide COS NO.GAS21

Performance

Measuring Range	5 to 10 ppm	10 to 100 ppm	100 to 200 ppm
Number of Pump Strokes	2	1	1/2
Correction Factor	1/2	1	2
Sampling Time	3 minutes per pump stroke		
Detecting Limit	1 ppm (n=2)		
Colour Change	Blue → Yellow		
Reaction Formula	COS is oxidized by Iodine Pentoxide and Sulphuric Acid to generate SO_2 in primary tube. The SO_2 reacts with Barium Chloride to liberate Hydrogen Chloride which discolours pH indicator (BCG) to yellow. $COS + I_2O_5 + H_2SO_4 \rightarrow SO_2 + CO_2\ SO_2 + BaCl_2 + H_2O \rightarrow BaSO_3 + HCl$		
Coefficient of Variation	10% (for 10 to 30 ppm), 5% (for 30 to 100 ppm)		
Shelf Life	Up to 2 Years (in the refrigerator)		
Corrections for temperature & humidity	Unnecessary		
Store the tubes in the refrigerator to keep at 10°C (50°F) or below.			

Possible coexisting substances and their interferences

Substance	Concentration	Interference	Change colour by itself
Carbon Disulfide	-	Plus error	Produce yellow stain
Sulphur dioxide	-	Plus error	Produce yellow stain
Butane	≥5000 ppm	Minus error	No discoloration
Propane	≥5000 ppm	Minus error	No discoloration

Up to 500ppm of Hydrogen Sulphide is trapped in the white layer in the pretreatment tube.

Calibration gas generation High pressure gas cylinder method

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