SILANE

GAS →   To pump

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1. PERFORMANCE

1) Measuring range ：1-50 ppm　　0.5-25 ppm
　　Number of pump strokes　1（100mℓ）　　2（200mℓ）
2) Sampling time ：5 minutes／1 pump stroke
3) Detectable limit ：0.3 ppm（200mℓ）
4) Shelf life ：1 year（Necessary to store in refrigerated conditions ; 0～10℃）
5) Operating temperature ：0～40℃
6) Temperature compensation ：Necessary（0～20℃）（See "TEMPERATURE CORRECTION TABLE"）
7) Reading ：Direct reading from the scale calibrated by 1 pump stroke
8) Colour change ：Yellow→Red

2. RELATIVE STANDARD DEVIATION

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

3. CHEMICAL REACTION

By reacting with Mercuric chloride, Hydrogen chloride is liberated and PH indicator is discoloured.
　$SiH_4 + HgCI_2 \rightarrow HCI$

4. CALIBRATION OF THE TUBE

STANDARD GAS CYLINDER METHOD

5. INTERFERENCE AND CROSS SENSITIVITY

Substance	Interference	ppm	Coexistence
Phosphine	2 layers of greyish white and red stain are produced.	20	Higher readings are given.
Arsine	2 layers of dark brown and red stain are produced.	50	〃
Disilane	A Similar stain is produced.	2	〃
Diborane	〃	20	〃
Ammonia		100	Lower readings are given.
Sulphur dioxide			Whole reagent is changed to Orange. But the accuracy of readings is not affected by Sulphur dioxide if the maximum end point of stained layer is discernable.
IPA			Not affected.
Hydrogen			〃
Hydrogen chloride		less than 250	Not affected.
Dichlorosilane		less than 200	〃

（NOTE）

In case of 2 pump strokes, following formula is available for the actual concentration.
Actual concentration ＝ Temperature corrected value × 1/2

TEMPERATURE CORRECTION TABLE

Tube Readings (ppm)	Corrected Concentration (ppm)		
	0℃ (32˚F)	10℃ (50˚F)	20-40℃ (68-104˚F)
50	38	45	50
40	30	35	40
30	22	26	30
20	14	17	20
10	7	8	10
5	4	4	5
2	2	2	2
1	1	1	1