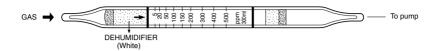
ISOPRENE



1. PERFORMANCE

1) Measuring range ∴ 1-16 ppm Number of pump strokes ⇒ 3 (300mℓ)

2) Sampling time : 4.5 minutes/3 pump strokes

3) Detectable limit 0.5 ppm4) Shelf life 2 years5) Operating temperature $0 \sim 40 \text{ C}$

6) Temperature compensation : Necessary (See "TEMPERATURE CORRECTION TABLE")

7) Reading : Graduations printed on the tube are calibrated by Ethyl cellosolve at 3 pump strokes

and Isoprene concentration is determined by using a conversion chart.

8) Colour change : Yellow→Pale blue

2. RELATIVE STANDARD DEVIATION

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

3. CHEMICAL REACTION

Chromium oxide is reduced.

 $CH = C(CH_3)CH = CH_2 + Cr^{6+} + H_2SO_4 \rightarrow Cr^{3+}$

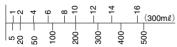
4. CALIBRATION OF THE TUBE

GAS CHROMATOGRAPHY

5. INTERFERENCE AND CROSS SENSITIVITY

Substance	Interference	Coexistence	
Alcohols	Similar stain is produced.	Higher readings are given.	
Ethers	"	"	
Aliphatic hydrocarbons (over C ₃)	Whole reagent is changed to Pale brown.	"	
Aromatic hydrocarbons	"	"	
Esters	"	"	
Ketones	"	"	
Halogenated hydrocarbons	"	"	

Isoprene (ppm)



No.190U Tube reading (ppm)

TEMPERATURE CORRECTION TABLE

Scale	Corrected Concentration (ppm)				
Readings (ppm)	0°C (32°F)	10℃ (50°F)	20°C (68°F)	(86°F)	40°C (104°F)
16	20.5	18.0	16.0	14.5	13.0
14	18.0	15.5	14.0	12.5	11.0
12	15.5	13.5	12.0	10.5	9.5
10	12.5	11.0	10.0	9.0	8.0
8	10.0	9.0	8.0	7.5	6.5
6	7.5	6.5	6.0	6.0	5.0
4	5.0	4.0	4.0	4.0	3.5
2	2.0	2.0	2.0	2.0	2.0
1	1.0	1.0	1.0	1.0	1.0