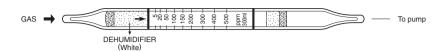
ISOPRENE



1. PERFORMANCE

1) Measuring range : 1-16 ppmNumber of pump strokes $: 3(300\text{m}\ell)$

2) Sampling time : 4.5 minutes/3 pump strokes

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

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 (more than 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

Conversion	Corrected Concentration (ppm)					
Value (ppm)	0 °C (32 °F)	10 °C (50 °F)	20 °C (68 °F)	30 °C (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	