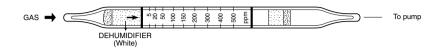
# **FURFURAL**



#### 1. PERFORMANCE

1) Measuring range 2-60 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 3 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 Furfural concentration is determined by using a conversion chart.

8) Colour change : Yellow→Pale blue

## 2. RELATIVE STANDARD DEVIATION

RSD-low: 15 % RSD-mid.: 10 % RSD-high: 10 %

### 3. CHEMICAL REACTION

Chromium oxide is reduced.

$$\begin{array}{c} CH = CH \\ | >\!\!\!\! O \\ CH = C - CHO \end{array} \\ + H_2SO_4 + Cr^{6\,+} \rightarrow Cr^{3\,+}$$

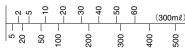
#### 4. CALIBRATION OF THE TUBE

GAS CHROMATOGRAPHY

# 5. INTERFERENCE AND CROSS SENSITIVITY

Substance	ppm	Interference	Coexistence
Alcohols		Similar stains are produced and higher readings are given.	
Toluene	200	Whole reagent is changed to Pale orange.	Unclear stains are produced.

# Furfural (ppm)



No.190U Tube reading (ppm)

#### TEMPERATURE CORRECTION TABLE

Conver.	Corrected Concentration (ppm)						
value (ppm)	0°C (32°F)	10℃ (50°F)	20°C (68°F)	30°C (86°F)	40 ℃ (104 °F)		
60	_	_	60	50	45		
50	_	71	50	45	40		
40	_	53	40	35	35		
30	63	35	30	30	30		
20	25	22	20	20	20		
15	17	15	15	15	15		
10	10	10	10	10	10		
5	5	5	5	5	5		
2	2	2	2	2	2		