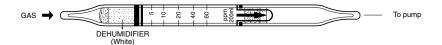
# **ETHYL ACRYLATE**



### 1. PERFORMANCE

1) Measuring range 5-60 ppmNumber of pump strokes  $2(200 \text{m} \ell)$ 

2) Sampling time : 3 minutes/2 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 Methyl acrylate at 2 pump strokes

and Ethyl acrylate 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.

 $CH_2 = CHCO_2CH_2CH_3 + Cr^{6+} + H_2SO_4 \rightarrow Cr^{3+}$ 

## 4. CALIBRATION OF THE TUBE

GAS CHROMATOGRAPHY

FIG.1 Influence of Toluene

## 5. INTERFERENCE AND CROSS SENSITIVITY

| Substance   | Interference                                | Coexistence               |  |
|---|---|---------------------------|--|
| Alcohols  | Similar stain is produced.                  | Higher reading are given. |  |
| Paraffin hydrocarbons (more than C <sub>3</sub> ) | Whole reagent is discoloured to Dark brown. | //                        |  |
| Halogenated hydrocarbons                          | "   | "                         |  |
| Esters  | "   | "                         |  |
| Aromatic hydrocarbons FIG.1,2                     | "   | "                         |  |

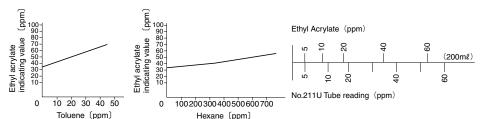


FIG.2 Influence of Hexane

#### TEMPERATURE CORRECTION TABLE

| Scale             | True Concentration (ppm) |                 |                 |                |                  |  |
|-------------------|--------------------------|-----------------|-----------------|----------------|------------------|--|
| Readings<br>(ppm) | 0°C<br>(32°F)            | 10°C<br>(50° F) | 20°C<br>(68° F) | 30°C<br>(86°F) | 40 ℃<br>(104* F) |  |
| 60                | 80                       | 70              | 60              | 52             | 44               |  |
| 40                | 52                       | 46              | 40              | 34             | 28               |  |
| 20                | 27                       | 23              | 20              | 17             | 15               |  |
| 10                | 14                       | 12              | 10              | 9              | 7                |  |
| 5                 | 7                        | 6               | 5               | 4              | 3                |  |