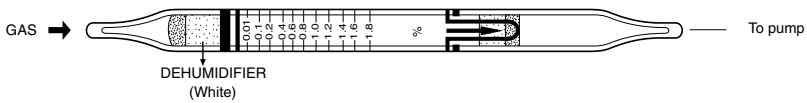
Tube No.
# 122SA ETHYLENE OXIDE




## 1. PERFORMANCE

1) Measuring range : 1.0-4.0 % 0.01-1.8 %
Number of pump strokes : 1/2 (50mℓ) 1 (100mℓ)
2) Sampling time : 1.5 minutes/1 pump stroke
3) Detectable limit : 50 ppm
4) Shelf life : 3 years
5) Operating temperature : 0 ~ 40℃
6) Temperature compensation : Necessary (See "TEMPERATURE CORRECTION TABLE")
7) Reading : Direct reading from the scale calibrated by 1 pump stroke
8) Colour change : Orange → Dark brown

## 2. RELATIVE STANDARD DEVIATION

RSD-low : 10 % RSD-mid. : 5 % RSD-high : 5 %

## 3. CHEMICAL REACTION

Potassium dichomate is reduced.

$$\underline{CH_2CH_2O} + Cr^{6+} + H_2SO_4 \rightarrow Cr^{3+}$$

## 4. CALIBRATION OF THE TUBE

GAS CHROMATOGRAPHY

## 5. INTERFERENCE AND CROSS SENSITIVITY

| Substance | Interference | ppm | Coexistence |
|---|---|---|---|
| Alcohols FIG.1 | Similar stain is produced. | | Higher readings are given. |
| Esters FIG.2 | 〃 | | 〃 |
| Ketones | 〃 | | 〃 |
| Aromatic hydrocarbons | 〃 | | 〃 |
| Halogenated hydrocarbons | Whole reagent is discoloured to Pale brown. | 0.5% | 〃 |

Ethanol is indicated with half the sensitivity, Ethyl acetate has the same sensitivity with Ethylene oxide.

(NOTE)

1) If the discolouration exceeds the scale, replace the tube with new one and pull the handle at half stroke (to 50mℓ line). And read the concentration.
2) Correct the reading value with the temperature correction table first, and convert the value into an actual concentration by using the conversion scale shown in the instruction sheet.

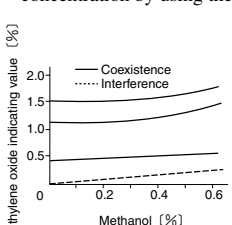


FIG.1 Influence of Methanol

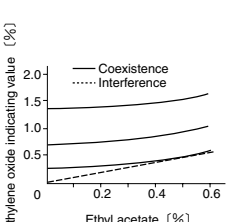


FIG.2 Influence of Ethyl acetate

TEMPERATURE CORRECTION TABLE

| Scale Readings (%) | True Concentration (%) | | | | |
|---|---|---|---|---|---|
| | 0℃ (32˚F) | 10℃ (50˚F) | 20℃ (68˚F) | 30℃ (86˚F) | 40℃ (104˚F) |
| 1.8 | — | 2.00 | 1.80 | 1.70 | 1.64 |
| 1.6 | 2.06 | 1.78 | 1.60 | 1.50 | 1.46 |
| 1.4 | 1.84 | 1.58 | 1.40 | 1.35 | 1.28 |
| 1.2 | 1.60 | 1.34 | 1.20 | 1.14 | 1.09 |
| 1.0 | 1.31 | 1.12 | 1.00 | 0.93 | 0.88 |
| 0.8 | 1.08 | 0.91 | 0.80 | 0.73 | 0.68 |
| 0.6 | 0.86 | 0.70 | 0.60 | 0.54 | 0.49 |
| 0.4 | 0.63 | 0.49 | 0.40 | 0.34 | 0.30 |
| 0.2 | 0.36 | 0.26 | 0.20 | 0.16 | 0.13 |
| 0.1 | 0.20 | 0.14 | 0.10 | 0.08 | 0.06 |
| 0.01 | 0.05 | 0.02 | 0.01 | 0.01 | 0.01 |