



# **UNIPHOS GAS DETECTOR TUBES Stand for Quality, Reliability & Precision**

# GAS DETECTOR TUBES



UNIPHOS Gas Detector Tube which is to be used with a sample draw pump provides an easy, quick and accurate method for a direct on the spot measurement of impurity gases and vapors present in air. The tubes are highly specific to the target gas and are disposable.

### **UNIPHOS Gas Detector Tubes**

- Gas Detector tubes are useful for spot checking of toxic gas concentration at work places
- Available for NH<sub>3</sub>, H<sub>2</sub>S, SO<sub>2</sub>, Cl<sub>2</sub>, PH<sub>3</sub>, HCl, HCN, CO, CO<sub>2</sub>, O<sub>2</sub>, C<sub>6</sub>H<sub>6</sub>, alcohols, amines, mercaptans and many other gases and vapors

### **UNIPHOS Precision Air Sampling Pump**

- Piston and Barrel type vacuum pump
- Light weight, rugged and handy
- Pump operation is simple and reproducible
- Requires only periodic routine maintenance
- Pump can draw sample air of 50 cc, 100 cc or their multiples
- Carries a full 5 year warranty

## **Application Area**

- Confined Spaces
- Fumigation
- Occupational Safety & Health
- Oil & Gas Industry
- Petrochemical Plants
- Process Control
- Research Laboratories



# **UNIPHOS Gas Detector Strips**

They are paper strips impregnated with sensing chemicals by a special process to detect the target gases like PH<sub>3</sub>, HCN, H<sub>2</sub>S, etc. The strip on exposure to the target gas changes its colour. The time it takes to change the colour is related to the target gas concentration.

They provide a simple and cost effective method of gas detection at TLV of the specified gases.





# **UNIPHOS Smoke Tubes**

# **UNIPHOS Charcoal Tubes**



The UNIPHOS Charcoal tubes are sealed glass tubes filled with two columns of accurately weighed, high purity coconut shell charcoal. These tubes adsorb non polar solvent vapors and gases passing through them.

The UNIPHOS Charcoal tubes fit into a variety of holders and are used along with specified air sampling pump & flow meter.

The charcoal tubes are used to monitor personal exposure to organic vapors and aerosols. This is a NIOSH approved method for air sampling.

The UNIPHOS Smoke tubes are sealed glass tubes filled with a pungent gas producing chemical compound loaded on an inert support material. After cutting both the ends of the tube and passing air by using a specified pump or squeezing a rubber bulb attached at one end of the tube, it produces irritant smoke, coming out of the other end.

UNIPHOS Smoke Generation Tubes can be used for tracking low velocity air movements. These tubes are also useful for respiratory fit testing specified by OSHA, for checking air flow direction in mines, testing the performance of fume hoods, exhaust discharge, dryers, stacks etc.

## **Dissolved Ion Detector tubes**

The UNIPHOS Dissolved Ion Detector tube provides a rapid, fully quantitative analysis of the concentration of sulphide/chloride ions in water.

The tube requires no pump because the inherent capillary action of water through the support material provides the driving force for the sample to rise.



**UNIPHOS Envirotonic Inc.** 2245 Texas Drive, Suite 300 Sugarland, TX 77479 USA.

Toll Free No.: 1-844-247-0450



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# **UNIPHOS GAS DETECTOR TUBES**

Stand for Quality, Reliability & Precision

| Accadalehyde  | Sr. no.    | GAS / VAPOUR                       | TLV (TWA)PF        | PM RANGE (PPM) | Sr. no. | GAS / VAPOUR                          | TLV (PPM)              | RANGE (PPM)   |
|---|------------|------------------------------------|--------------------|----------------|---------|---------------------------------------|------------------------|---------------|
| Actories  | 01         | Acetaldehyde                       |                    |                | 40      | Diethyl ether                         |                        |               |
| Accolein  | 02         | Acetic Acid                        |                    | 2.5 - 50       | 41      | Diesel                                | 100 mg/m <sup>3</sup>  | 0.1 - 5 mgll  |
| 65         Acid Gases         -         2 - 40         44         1.4 Dixone         20         0.07 - 4%           66         Actylene         -         100 5000         46         Ethanol Inition         30         4.45 - 80           69         Aminest         25 5.50         47         Ethyl Acetate         40         11 - 98           69         Aminest         25 5.50         47         Ethyl Acetate         40         1.5 %           69         Aminest         25 5.50         47         Ethyl Ferrante         100         5.150           10         Aniline         25 5.50         51         Ethyl Ferrante         100         2.5 50           11         Aniline         0.00         2-30         52         Ethylene Dibromide         0.5         1-30           11         Ansine         0.00         1-30         33         Ethylene Olbromide         0.5         1-10           12         AvationGil         0.00         1-30         33         Ethylene Olbromide         0.5         1-10           13         Bertraele         0.00         1-30         33         Ethylene Oldromide         0.5         1-10         0.5         1-10         0.5  |            |                                    |                    |                | 42      |                                       |                        |               |
| Acycleritrie   2   5 - 120   45   Ethanol   1000   0.05 - 5%  |            |                                    | C0.1               |                |         |                                       |                        |               |
| Arrines   |            |                                    |                    |                |         |                                       |                        |               |
| Ammonia   |            |                                    |                    |                |         |                                       |                        |               |
| Ammonia   |            |                                    |                    |                |         |                                       |                        |               |
| 1   |            |                                    |                    |                |         |                                       |                        |               |
| 10 - 300  | 09         | Ammonia                            | 25                 |                |         |                                       |                        |               |
| Solidon   |            |                                    |                    |                | 49      | Ethyl benzene                         | 100                    |               |
| 250 - 5000  |            |                                    |                    |                | 50      | Ethyl Formate                         | 100                    |               |
| 10  |            |                                    |                    |                |         |                                       |                        |               |
| 1 - 30 %   22 - 30  |            |                                    |                    |                | •       |                                       | 0.0                    |               |
| Arsine  |            |                                    |                    | 1 - 30 %       |         |                                       |                        |               |
| AviationOll   0.2 mg/l   0.1 + 5 mg/l   54   Ethylene Oxide   1   | 10         |                                    |                    |                | 52      | Ethylene Dibromide                    | 0.5                    |               |
| Benzene   |            |                                    |                    |                |         |                                       | C:100mg/m <sup>3</sup> |               |
| 14   Bromine  |            |                                    |                    |                | 54      | Ethylene Oxide                        | 1                      |               |
| S - 100   | 13         | Benzene                            | 0.5                |                |         |                                       |                        |               |
| Bromine   |            |                                    |                    |                | 55      | Formaldehyde                          | C0.3                   |               |
| S   | 1.4        | Promino                            | 0.1                |                | 5.0     | E A I                                 | -                      |               |
| 15  | 14         | Bioiiiiie                          | 0.1                |                |         |                                       | 5                      |               |
| 1 - Butanol   20  | 15         | Rutadiene                          | 2                  |                |         |                                       | -                      |               |
| 1 - Butanol   | 15         | batadiene                          | 2                  |                |         |                                       |                        |               |
| 17  | 16         | 1 - Butanol                        | 20                 |                |         |                                       |                        |               |
| Butyl Acetate   | 17         | 2 - Butanol                        | 100                | 10 - 150       |         | e.ae                                  |                        |               |
| 19  | 18         | Butyl Acetate                      | 150                | 0.005-1%       | 61      | n – Heptane                           | 400                    |               |
| 10  | 19         |                                    |                    | 5 - 60         |         | •                                     |                        | 0.05 - 1.41 % |
| Carbon Dioxide  |            |                                    |                    |                | 62      | Hydrazine                             | 0.01                   | 0.1 - 2       |
| Carbon Disulphide   1   |            |                                    |                    |                | 63      | Hydrocarbon (General)                 | -                      |               |
| Carbon Disulphide   1   | 22         | Carbon Dioxide                     | 5000               |                |         |                                       |                        |               |
| 1 - 20%   5 - 60%   5 - 100   5 -           |            |                                    |                    |                |         |                                       |                        |               |
| 23   Carbon Disulphide   1   2.5 - 50   5 - 100   50 - 1000   50 - 1000   50 - 1000   50 - 1000   50 - 1000   50 - 1000   50 - 1000   50 - 1000   50 - 1000   50 - 1000   50 - 1000   50 - 1000   50 - 1000   50 - 1000   50 - 1000   50 - 1000   50 - 1000   50 - 1000   68   Hydrogen Selenide   0.5   0.5 - 30   0.5 - 7   0.5 - 100   0.5 - 7   0.5 - 100   0.5 - 7   0.5 - 100   0.5 - 7   0.5 - 100   0.5 - 7   0.5 - 100   0.5 - 7   0.5 - 100   0.5 - 7   0.5 - 100   0.5 - 7   0.5 - 100   0.5 - 7   0.5 - 100   0.5 - 7   0.5 - 100   0.5 - 7   0.5 - 100   0.00   0.0          |            |                                    |                    |                | 65      | HydrogenChloride                      | (2                     |               |
| 23 Carbon Disulphide 1 2.5 - 50 5 - 100 50 - 1000 50 - 1000 50 - 1000 50 - 1000 50 - 1000 50 - 1000 50 - 1000 50 - 1000 50 - 1000 50 - 1000 50 - 1000 50 - 1000 50 - 1000 50 - 1000 50 - 100 50 - 1000 50 - 100 50        |            |                                    |                    |                |         |                                       |                        |               |
| Carbon Monoxide   25  | 23         | Carbon Disulphide                  | 1                  |                |         |                                       |                        |               |
| Carbon Monoxide   25  |            | Ca. 2011 2 13 a. p. 11 a. c        |                    |                | 66      | Hydrogen Cyanide                      | C4 7                   |               |
| Carbon Monoxide   25  |            |                                    |                    | 50 - 1600      |         | . iyar egen eyarnac                   | C                      |               |
| 25 - 600  | 24         | Carbon Monoxide                    | 25                 | 1 - 30         |         |                                       |                        |               |
| So - 1000   |            |                                    |                    |                | 67      | Hydrogen Fluoride                     | 0.5                    | 0.5 - 30      |
| 100 - 3000  |            |                                    |                    |                |         |                                       |                        |               |
| 0.01 - 0.7% 0.1 - 7% 0.1 - 7% 2.5 - 60 1 - 20 % 2.5 - 60 1 - 20 % 2.5 - 60 1 - 20 % 2.5 - 60 1 10 - 250 100 - 3000 2.7 Carbonyl Sulphide  |            |                                    |                    |                | 69      | Hydrogen Sulphide                     | 10                     |               |
| Carbon Monoxide in H <sub>2</sub>   25   5 - 100   5 - 100   10 - 250   5 - 100   10 - 250   50 - 800   10 - 2000   26   Carbon Tetrachloride   5   1 - 60   100 - 2000   50 - 800   100 - 2000   27   Carbonyl Sulphide   -   5 - 100   0.5   0.25 - 5   0.5 - 4%   0.2 - 7%   0.2 - 7%   0.2 - 7%   0.5 - 10%   2 - 40% |            |                                    |                    |                |         |                                       |                        |               |
| 1 - 20 %   5 - 100   10 - 250   10 - 250   10 - 250   10 - 250   10 - 250   10 - 250   10 - 250   10 - 250   10 - 250   10 - 250   10 - 250   10 - 250   10 - 250   10 - 250   10 - 2000          |            |                                    |                    |                |         |                                       |                        |               |
| 25  |            |                                    |                    |                |         |                                       |                        |               |
| 100 - 3000   50 - 800   100 - 2000   27   Carbonyl Sulphide   -   | 25         | Carbon Monoxide in H.              | 25                 |                |         |                                       |                        |               |
| 26  |            | carson monomiae                    |                    |                |         |                                       |                        |               |
| 27 Carbonyl Sulphide  | 26         | Carbon Tetrachloride               | 5                  |                |         |                                       |                        |               |
| 2.5 - 50 5 - 100 5 - 500  29  |            |                                    | _                  | 5 - 100        |         |                                       |                        |               |
| Solution  | 28         | Chlorine                           | 0.5                | 0.25 - 5       |         |                                       |                        | 0.5 - 4%      |
| So - 500   Chlorine Dioxide   O.1   O.1 - 5   TO   H <sub>2</sub> S + SO <sub>2</sub>   H <sub>2</sub> S:10,   2.5 - 60 + SO <sub>2</sub> :2   O.5 - 10   |            |                                    |                    |                |         |                                       |                        |               |
| Chlorine Dioxide Chlorobenzene Chloropicrin Chloropicrin Chloropicrin Cyclohexanoe Cyclohexanoe Cyclohexanoe Cyclohexopicrin C        |            |                                    |                    |                |         |                                       |                        |               |
| Chlorobenzene   10   10 - 200   | 20         | CI . D:                            | 0.1                |                |         |                                       |                        |               |
| 31 Chloropicrin 0.1 0.1 - 16 71 IsopropylAlcohol 400 0.1 - 2.5%   32 o - Cresol 5 1 - 25 72 IsopropylAmine 5 2.5 - 50   33 Cyclohexane 100 10 - 1200 73 IsopropylEther 250 0.013 - 0.34%   0.025 - 0.6% 74 LP Gas 1000 100 - 50000   34 Cyclohexylamine 10 0.5 - 30 76 MaleicAnhydride 0.1 1 - 20   35 Cyclohexylamine 10 0.5 - 30 76 Methanol 200 100 - 5000   36 1,2 Dichlorobenzene 25 10 - 300   37 1,2 Dichloroethane 10 5 - 50 77 Methylamine 5 5 5 - 100   38 1,2 Dichloroethylene 200 20 - 400 78 M.E.K. 200 0.02 - 0.6%   39 DiethylAmine 5 2 - 20 79 M.I.B.K 50 0.02 - 0.6%   |            |                                    |                    |                | 70      | $H_2S + SO_2$                         |                        |               |
| 32       o - Cresol       5       1 - 25       72       IsopropylAmine       5       2.5 - 50         33       Cyclohexane       100       10 - 1200       73       Isopropyl Ether       250       0.013 - 0.34%         34       Cyclohexanone       20       2 - 100       75       MaleicAnhydride       0.1       1 - 20         35       Cyclohexylamine       10       0.5 - 30       76       Methanol       200       100 - 5000         36       1,2 Dichlorobenzene       25       10 - 300       0.05 - 6%         37       1,2 Dichloroethane       10       5 - 50       77       Methylamine       5       5 - 100         38       1,2 Dichloroethylene       200       20 - 400       78       M.E.K.       200       0.02 - 0.6%         39       DiethylAmine       5       2 - 20       79       M.I.B.K       50       0.02 - 0.6%   |            |                                    |                    |                | 7.1     | 101                                   |                        |               |
| 33  |            |                                    |                    |                |         |                                       |                        |               |
| 100   100   50000   100   50          |            |                                    |                    |                |         |                                       |                        |               |
| 34       Cyclohexanone       20       2 - 100       75       MaleicAnhydride       0.1       1 - 20         35       Cyclohexylamine       10       0.5 - 30       76       Methanol       200       100 - 5000         36       1,2 Dichlorobenzene       25       10 - 300       0.05 - 6%         37       1,2 Dichloroethane       10       5 - 50       77       Methylamine       5       5 - 100         38       1,2 Dichloroethylene       200       20 - 400       78       M.E.K.       200       0.02 - 0.6%         39       DiethylAmine       5       2 - 20       79       M.I.B.K       50       0.02 - 0.6%   | 33         | c,                                 |                    |                |         |                                       |                        |               |
| 35  | 34         | Cyclohexanone                      | 20                 |                |         |                                       |                        |               |
| 36       1,2 Dichlorobenzene       25       10 - 300       0.05 - 6%         37       1,2 Dichloroethane       10       5 - 50       77       Methylamine       5       5 - 100         38       1,2 Dichloroethylene       200       20 - 400       78       M.E.K.       200       0.02 - 0.6%         39       DiethylAmine       5       2 - 20       79       M.I.B.K       50       0.02 - 0.6%   | 35         |                                    | 10                 |                |         |                                       |                        |               |
| 37       1,2 Dichloroethane       10       5 - 50       77       Methylamine       5       5 - 100         38       1,2 Dichloroethylene       200       20 - 400       78       M.E.K.       200       0.02 - 0.6%         39       DiethylAmine       5       2 - 20       79       M.I.B.K       50       0.02 - 0.6%  | 36         | 1,2 Dichlorobenzene                | 25                 |                |         | · · · · · · · · · · · · · · · · · · · |                        |               |
| 38 1,2 Dichloroethylene 200 20 - 400 78 M.E.K. 200 0.02 - 0.6% 39 DiethylAmine 5 2 - 20 79 M.I.B.K 50 0.02 - 0.6%   |            |                                    |                    |                | 77      | Methylamine                           | 5                      |               |
|   |            |                                    |                    |                |         | M.E.K.                                |                        | 0.02 - 0.6%   |
| A- Breakthrough column   B - Main Column   C - TLV (Ceiling)ppm   | 39         | DiethylAmine                       | 5                  | 2 - 20         | 79      | M.I.B.K                               | 50                     | 0.02 - 0.6%   |
| A- Breakthrough column     B - Main Column     C - TLV (Ceiling)ppm   |            |                                    |                    |                |         |                                       |                        |               |
| A- Breakthrough column   B - Main Column   C - TLV (Ceiling)ppm   |            |                                    |                    |                |         |                                       |                        |               |
|   | A- Breakth | rough column   B - Main Column   C | - TLV (Ceiling)ppm |                |         |                                       |                        |               |



| Sr. no.                        | GAS / VAPOUR   | TLV (PPM)                        | RANGE (PPM)   |
|--------------------------------|--|----------------------------------|---|
| 80<br>81                       | Mercury Vapour<br>Methyl Bromide   | 0.025 mg/m <sup>3</sup>          | 0.1 - 2 mg/m <sup>3</sup><br>1 - 18<br>10 - 100<br>20 - 300   |
| 82                             | Methylene chloride   | 50                               | 50 -1000<br>50 - 500  |
| 83<br>84<br>85                 | Methyl Cyclohexane<br>Methyl lodide<br>Methyl Mercaptan                                | 400<br>2<br>0.5                  | 30 – 1000<br>100 - 1600<br>500 - 15000<br>1 - 20  |
| 86<br>87                       | Morpholine<br>Nitrogen Dioxide   | 20<br>3                          | 5 - 120<br>10 - 200<br>0.5 - 30   |
| 88                             | Nitrogen Oxides  | NO <sub>2</sub> : 3<br>NO: 25    | 10 - 1000<br>0.5 - 15<br>20 - 250   |
| 89<br>90<br>91<br>92           | Nitric Acid<br>Octane<br>Oxygen<br>Ozone   | 2<br>300<br>-<br>0.08            | 100 - 2500<br>1 - 20<br>3 - 23 mg/l<br>3 - 24%<br>5 - 100<br>25 - 500   |
| 93                             | n – Pentane  | 600                              | 7 – 840<br>0.0085–0.2 %   |
| 94<br>95                       | Phenol<br>Phosphine  | 5<br>0.3                         | 1 - 25<br>0.05 - 2.5<br>0.3 - 5   |
| 96<br>97<br>98                 | Phosgene<br>Pyridine<br>Sulphur Dioxide  | 0.1<br>1<br>2                    | 0.1 - 10<br>5 - 100<br>50 - 1000<br>150 - 3000<br>300 - 8000<br>0.1 - 10<br>1 - 14<br>0.5 - 10<br>1 - 25<br>20 - 300<br>5 - 100<br>500 - 8000<br>0.1 - 3% |
| 99<br>100<br>101<br>102<br>103 | Sulphuric Acid<br>Stoddard Solvent<br>Styrene<br>t – Butyl amine<br>t- butyl Mercaptan | 3 mg/m³<br>100<br>20<br>-<br>0.5 | 0.25 - 5%<br>0.5 - 5 mg/m <sup>3</sup><br>50 - 8000 mg/m <sup>3</sup><br>25 - 250<br>3.9 - 78<br>0.5 - 15 mg/m <sup>3</sup>                               |
| 104<br>105<br>106              | Tetrahydrofuran<br>Tetrachloroethylene<br>Trichloroethylene                            | 50<br>25<br>10                   | 0.5 - 30 mg/m <sup>3</sup><br>5 - 120<br>50 - 800<br>5 - 100<br>1 - 16<br>10 - 250  |
| 107<br>108<br>109              | Triethylamine<br>Trimethylamine<br>Toluene   | 1<br>5<br>20                     | 0.05 - 1%<br>2.15 - 43<br>1.7 - 34<br>2 - 50  |
| 110<br>111                     | UDMH<br>Vinyl Chloride   | 0.01<br>1                        | 10 - 300<br>0.1 - 2<br>1 - 20 ppm   |
| 112                            | Water Vapour   | -                                | 0.05 - 1%<br>2 - 10 lb/MMCF<br>6 - 40 lb/MMCF<br>0.1 - 2 mg / l<br>1 - 18 mg / l<br>1 - 30 mg/l   |
| 113<br>114                     | Xylene<br>Inorganic gases tube   | 100<br>(Multigas tube            | 25 - 1000   |



| UNIPHOS CHARCOAL TUBES |                          |                            |  |
|------------------------|--------------------------|----------------------------|--|
| Туре                   | Size (mm)<br>OD x Length | Sorbent<br>weight A/B (mg) |  |
| Standard               | 6 x 70                   | 50 / 100                   |  |
| Large                  | 8 x 110                  | 200 / 400                  |  |
| Jumbo                  | 10 x 110                 | 200 / 800                  |  |
| Open end - Standard    | 6 x 70                   | 50 / 100                   |  |
| Open end - Large       | 8 x 110                  | 200 / 400                  |  |
| Open end - Jumbo       | 10 x 110                 | 200 / 800                  |  |

### **UNIPHOS DISSOLVED ION DETECTOR TUBES**

| GAS                       | RANGE(ppm)          |
|---------------------------|---------------------|
| Sulphide ion Sulphide ion | 0.5 - 20<br>2 - 300 |
| Sulphide ion              | 1-100               |
| Chloride ion              | 5 - 200             |
| Chloride ion              | 10 - 2000           |

### **UNIPHOS DOSIMETER TUBES**

| GAS                    | RANGE(ppm)                                     |
|------------------------|--|
| Phosphine<br>Phosphine | $(1-200) \times 10^3$<br>$(1-200) \times 10^2$ |
| Ammonia                | 25 - 500                                       |
| Carbon dioxide         | $(5 - 120) \times 10^3$                        |
| Oxygen                 | (1 - 100) x 150                                |

### **UNIPHOS TOXIC GAS DETECTOR STRIPS**

| GAS               | RANGE(ppm) |
|-------------------|------------|
| Phosphine         | 0.3 - 10   |
| Hydrogen sulphide | 1 - 20     |
| Hydrogen cyanide  | 1 - 20     |
| Mercaptan         | 0.5 - 10   |
| Arsine            | 0.05 - 3   |