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## HYDROGEN SULPHIDE (SO<sub>2</sub>)

Hydrogen Sulphide (SO<sub>2</sub>) is a by-product of all petrochemical processes, sewage systems, mines, and laboratories. It is a highly toxic gas, colourless, heavier than air, flammable, explosive, and corrosive. Its odour is not a reliable warning. Up to 5 ppm, its presence can be distinguished by odour as a rotten egg.

Hydrogen Sulphide (SO<sub>2</sub>) is heavier than air, therefore it accumulates in low-level areas such as excavations, trenches, and oil tanks, all are considered traps for the gas. Hydrogen Sulphide is a combustible gas. It will ignite at 4.6 to 46 % mixture with air, it gives a blue flame when ignited. It produces a toxic gas of Sulfur dioxide (SO<sub>2</sub>) when it burns. Hydrogen Sulphide (SO<sub>2</sub>) corrosion is a factor in the formation of pyrophoric materials.

## CONCENTRATION AND POTENTIAL EFFECTS

### **Concentration: 1 PPM:**

No Significant physical effects. The sense of smell for Hydrogen Sulphide (SO<sub>2</sub>) remains intact and can detect a rotten egg odor.

### **Concentration: 10 PPM:**

Potential Effects: Eye irritation; 10 PPM is the threshold limit value (TLV)-the greatest. Concentration is safe to breathe without respiratory protection for a normal 8-hour work day, and 40-hour work week.

### **Concentration: 100 PPM:**

Potential Effects: Eye inflation; corneal blistering, headache; nausea; cough; and sense of smell become ineffectual within 3-15 minutes.

### **Concentration: 500 PPM:**

Potential Effects: Respiratory disturbances cause breathing difficulties; nervous system impairment can result in tremors, numbness in extremities, and convulsions; the ability to reason is lost.

### **Concentration: 700 PPM:**

Potential Effects: Respiratory failure; unconsciousness; seizures; Loss of bowel and bladder control; fatal in 30 minutes.

### **Concentration: 1000 PPM:**

Potential Effects: Causes immediate unconsciousness and death within minutes.