Electronic Specialty Gases (ESG) Safety -Toxic Gases

Overview:

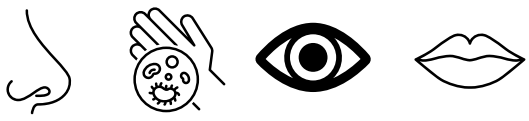
Electronic Specialty Gases (ESGs) are used to manufacture semiconductor, solar cells, liquid crystal displays etc. These gases are supplied either as pressurized gases or liquefied gases. Uncontrolled release of these gases can lead to severe injury and/or property damages. Toxic gases can exist in acidic, alkaline, oxidizers and metal hydride forms.

Understand the Hazards:

Health Hazards (GHS)

Many of these toxic gases possess more than one hazard due to the inherent physical properties, biological and chemical reactivity. *Always refer to Safety Datasheet from the manufacturer to understand the hazards and recommendation for safe handling.*

Route of Entry

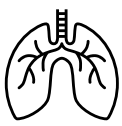


Inhalation | **Absorption/ Skin contact/ Ingestion**

Acute Toxicity

Can lead to rapid death

Chronic Toxicity



Deterioration of health

Safe Storage and Use:

Ventilation

Hazard Class

Gas Leak Detection

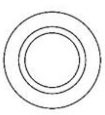
Valve Protection Cap

Use Abatement System/ Exhaust

Security

Restrain Cylinders

Use Cylinder Trolley



Always use new gaskets for connection

Operational Safety for Personnel:

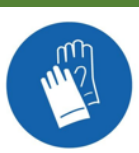
Procedure

Risk Assessment

Training and Competency

Safety Shoes

Safety Glasses



Suitable Hand Gloves

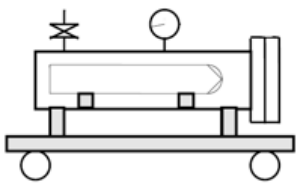
Self Contained Breathing Apparatus

Chemical Protective Clothing

Emergency Response Plan

Emergency Eye Wash & Shower

Portable Gas Leak Detector



Emergency Response Containment Vessel (ERCV)

Refer to AIGA 018 Safe Handling of Electronic Specialty Gases

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