

## 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      Acute Toxicity      Chronic Toxicity

Inhalation	Absorption/ Skin contact/ Ingestion	Can lead to rapid death	Deterioration of health
Ventilation	Hazard Class	Gas Leak Detection	Valve Protection Cap
			Use Abatement System/ Exhaust

## Safe Storage and Use:

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 (ERC)			

Refer to AIGA 018 Safe Handling of Electronic Specialty Gases